MoHPC *The Museum of HP Calculators*

HP Forum Archive 15

Welcome!
Since then, no new messages have been posted.

This is an archive of older posts from the HP forum.

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HP34 European decimal change to American, Tim P **2 responses**
OT: PC-100 (A) printers need repair, Marcus von Cube, Germany **1 response**
Merry Christmas, Matthias Wehrli **18 responses**
WHOOPS! Meant to say 49g+ ROM VERSION, Ron Allen **2 responses**
HP9S facelift?, Gene **3 responses**
Alpha Rom from Angel Martin, PeterP **5 responses**
HP48G+ ROM VERSION, Ron Allen **2 responses**
Battery pack hp41 duration, Calc **0 responses**
Clonix-41 Low Power SW update (Xmas gift... again ;-), Diego Diaz **1 response**
Any IRC channel?, Geir Isene **0 responses**
Defective ROM help, Roberto Bazzano **0 responses**
HP-41 Module conflicts or what?, Geir Isene **6 responses**
New Datafile articles, Valentin Albillo **0 responses**

HP75 Internal Design Specifications ?, Edouard Lafargue **9 responses**
HP museum DVD fantastic, Hal **4 responses**
34c hard detents, Hal **3 responses**
1515C calculator, Burhan Ozmat **1 response**
Copies of the hp18c solutions books?, John **2 responses**
HP 3468A US / German voltage selection , gebripe **6 responses**
MLDL2000 Conversation, Jeff D **16 responses**
Calculator Precision, John Limpert **26 responses**
49G+, Chan Tran (USA) **6 responses**
HP48 I/O card, Matti Övermark **0 responses**
Hp48GX, Beast **0 responses**
HP 67 keyboard problem, Jan **1 response**
HP-71B and PC, Fabio Albonico **5 responses**
1980s Vintage computing - new HP-9915 page and disassembler, John **0 responses**
Sticky keys HP 11C, R McBeth **0 responses**
Changed batteries of my 28C without loss of memory, marais **3 responses**
don't let me get this HP-55, cobubba **6 responses**
HP 65 Card Reader, jbssm **1 response**
Repairing HP-85's. , Barrie Carruthers **7 responses**
Best Simulaton for 41, PeterP **15 responses**
RPNglish, db (martinez, ca.) **2 responses**
HP11C commas & period swapped, PJ **2 responses**
HP-75 IL error, Michel Beaulieu **3 responses**
HP 82161A - digital cassette drive, Artur - Brasil **12 responses**
2225B Thinkjet battery pack, Bill Lafferty **3 responses**
Test an HP-97 Card Reader, jbssm **6 responses**
HP 86A/86B/87A/87XM ROM query, john **5 responses**
12c: Anyone have a good way to program this? :-), Gene Wright **12 responses**
hp11c calculator, F Sievenpiper **5 responses**
Christmas wish for HP 33S, brian healy **5 responses**
HP Calculator Featured in EDN Magazine, Tony **2 responses**
Sticky Keys on HP48GX, Stephen Crumley **2 responses**
Think Jet Paper, Larry **2 responses**
Stuck Printer in HP-97, Jorge **2 responses**
HP 41CV, Philip DePasquale **2 responses**
Stuck HP 28, dl **4 responses**
HP 32E on auction, Leszek **0 responses**
HP 97 Printer Advance Switch Color Scheme, Marcus von Cube, Germany **5 responses**
Need 71B Play Testers, Howard Owen **1 response**
TI forum, Michel Beaulieu **11 responses**
How valuable are upgraded HP48G's?, Han **3 responses**
What can I do with an 82937A? (HP-IB interface for series 80), John Ioannidis **2 responses**
Approximating Integrals on the graphing calculator, John Bower **3 responses**
something growing inside 48SX bezel, Jim Rudnick **6 responses**
Integration Times "Old" 33s vs "New" 33s, John Smitherman **21 responses**
Nonpareil news, Eric Smith **21 responses**
41CV display, Stephen Easterling **15 responses**
New HP-15C mini-challenge !, Valentin Albillo **21 responses**
HP48G quick start guide, jose amram **1 response**
lcm program on hp 33s, kevin **4 responses**
49G+ buttons, Chad Wagner **11 responses**
CCD vs PPC, Calcfan **2 responses**
OT: Email Vieira, L. C. (Brazil), Gileno **1 response**
Do you miss the 48GX?, Massimo Gnerucci (Italy) **17 responses**

HP-71B Versions and Bugs, J-F Garnier **2 responses**
Functions/QRF/Manual for CCD Modified, PeterP **8 responses**
NSSBWS (Not-So-Short But Weirdly Sweet) HP-33s SLC (Single-Letter Challenge) # 01, Paul Brogger **10 responses**
Battery for CMT 64k Module for HP-71B, T. Bergemann **2 responses**
after decillion, anna marie **19 responses**
LA Times Article on HP, Katie Wasserman **8 responses**
Size of magnetic cards for cardreader, Robert Graulich **6 responses**
My HP 48GX don't turn on! help me..., Edgar Moraes **1 response**
CY / Rambox 64 rom image, PeterP **1 response**
i lost my program on my 41cx, ross denys **9 responses**
What is the ans. of sin(32 pi) in rad mode, cre **13 responses**
New solution for the corrosion of HP-41 I/O block., Diego Diaz **25 responses**
Creating .ROM files for HP41 ?, Francois **4 responses**
HP48GX -- 2 years not in use -- cant get it run, Pelusa **2 responses**
Theodolites and calculators, Matthias Wehrli **1 response**
Photo-Love-Story, Matthias Wehrli **4 responses**
"Nasty Old HP41C", Howard Owen **1 response**
How to open the HP28, inaki **7 responses**
HP25 Memory, Grahame Sutherland(Scotland) **15 responses**
HP41 Beep sound in a .WAV format file, Andrés C. Rodríguez (Argentina) **7 responses**
Value of Champion case, Samuel Heddle **1 response**
Clonix-41 update (Xmas gift... ;-), Diego Diaz **5 responses**
For those who ordered a 49G+ from Joe Horn..., Wayne Brown **1 response**
Is this an authentic HP product?, Han **8 responses**
HP-21 keybord malfunction, Mike (Stgt) **3 responses**
QRF for ToolBox from Angel Martin?, PeterP **0 responses**
I,Claudius- Plonking is a temporary term of silence..., I,Plonked **2 responses**
82143 Printer Cable for HP41 for I/O, Philip **2 responses**
HP-67 Write Problem, Henning **5 responses**
Increase HP48GX processor speed, George Rose **1 response**
Charger 82002A HP 80 parts, Gerardo Rincon **2 responses**
Creating your own keyboard overlay..., Han **8 responses**
32s2 for 48gx, david bowers **6 responses**
OT: PRM-85 Goodness, Howard Owen **8 responses**
MLDL2000 and HP41X: HEPAX issue solved., Vieira, L. C. (Brazil) **7 responses**
42s - It doesn't need the optional sugar-coating..(A rant), ECL **15 responses**
Synthetic Programming on the HP-9815A/S, John Ioannidis **9 responses**
Is this rare?, Samuel Heddle **3 responses**
MLDL 2000 question, Miki Mihajlovic **7 responses**
Hp-85/9815/9825 tape capstan creation & 9815 installation procedure., Etienne Victoria **3 responses**
OpenRPN Hardware Specifications, Hugh Evans **35 responses**
48GX computing delay, Steve Jirsa **7 responses**
OT: Sharp PC-1600 documentation in english, Gileno - Brazil **4 responses**
Craig Finseth's site is a must-read!, bill platt **1 response**
For what it is worth..., Jordi Hidalgo **10 responses**
OT: Sharp PC-1425 documentation, Juergen Keller **25 responses**
HP48GX crash problems, Jeff **7 responses**
Revisit of "Can't we give HP some credit", ECL **2 responses**
My First HP!, Samuel Heddle (Account Pending) **1 response**
HP-71B HP9114, Justin Stubbs **1 response**
Replacing AC + Battery with DC + Capacitor, Howard Owen **0 responses**
6S Question, Ron **5 responses**
Can I transform a 33S into a 17BII?, Tom Steiner **2 responses**

A little OT: Guidebook Nonsense (TI BA II Plus), Marcus von Cube, Germany **4 responses**
Blanknuts, gifron **4 responses**
49g+ DROP Error (humor), ECL **6 responses**
Stiffness of newer kbds (49g+)?, ECL **1 response**
HP-41CX sun position program., Michel Beaulieu **10 responses**
HP-41 Display and bar code fonts and LaTeX, anyone?, Arne Helme **1 response**
HP 32e , mike_pah **2 responses**
HP 15C Survey Program, F Farner **4 responses**
Uncertainty and accuracy for numerical integration, Karl Schneider **25 responses**
One, count it, one 67/97/41C mag card, Howard Owen **3 responses**
48G(X) serial number vs. ROM version, Bo B(Sweden) **4 responses**
14B Calculator - change # of decial places, T.Ulch **1 response**
HP-38G Emulator for the HP-48GX ?, Joe D. **2 responses**
Heads up: 9815 9825 paper on ebay, John Ioannidis **0 responses**
Analysis of Coburlin, Bill (Smithville, NJ) **10 responses**
HP-41 Ultimate Alarm Clock v.0.6, Geir Isene **4 responses**
VAT calculations with RPN-calculator, Kalevipoeg **3 responses**
HP Codes for other countries, Bill Lafferty **0 responses**
New root-seeking algorithm, Namir **7 responses**
Escape the NCEES grip via Aero?, ECL **2 responses**
49g+ Costco deal, Bobby **20 responses**
Nice 71 for sale on Ebay - anyone interested?, Jim Creybohm **0 responses**
Another Great Coburlin Deal, I, Claudius **15 responses**
HP41CX halfnut circuit diagram, Christoph Klug **4 responses**
Help with charging HP 75D, Bill Lafferty **1 response**
PRM-85 boards for HP-85/87 now shipping, john **2 responses**
Trading calculators, Jim Creybohm **10 responses**
Technical manual for 82240B, inaki **4 responses**
Swap Disk Database Dump, Howard Owen **0 responses**
New "v.80" 49g+ ROM, James M. Prange (Michigan) **4 responses**
evolving attitude towards HP 33S, brian healy **61 responses**
Help with H49G+ Programming, Namir **2 responses**
hp49+ won't power up, tom lianza **5 responses**
Short & Sweet Math Challenge #12: Squaring Cubes !, Valentin Albillo **36 responses**
hp48explorer, Vaczi **0 responses**
Hepax on eV41 emulator, DavidMY **0 responses**
HP 28C, joe attard **1 response**
Help Squeezing some HP67/97 code, Howard Owen **15 responses**
HP 33s vs HP 32sii, Larry McClellan **17 responses**
heads up to Australia, db (martinez, ca.) **5 responses**
Modified HP71B, Rick Meyerson **4 responses**
Standard Function Names - Anyone?, Mike T. **0 responses**
Fullnut 41CX problems, Klaus **0 responses**
Need to fix your HP48 LCD or keys?, Han **4 responses**
MLDL2059 (again): completely built!, Vieira, Luiz (Brazil) **32 responses**
HP-34C repair, Stefan K. **2 responses**
A way to polish aluminium, inaki **11 responses**
41 Help !!! :-), Gileno - Brazil **3 responses**
Power supply for 9114B Disk Drive, inaki **1 response**
HP48GX Hardware Reset, John Kercheval **1 response**
HP48GX and Invalid Card Data Error, John Kercheval **4 responses**
incorrect integral of 1/(sin x), J.C. Boco **9 responses**
41c display angle, Hal **4 responses**
Bargain71 on eBay, Howard Owen **20 responses**

Re: Recovering the data from Series80 tapes, John **1 response**
New HP-33S exam books, Norris **0 responses**
HP modules; owners manuals, Bill Lafferty **1 response**
MLDL2059: a few new pics, Vieira, Luiz C. (Brazil) **0 responses**
HP 48G upgrade - 4mb info, CaribeT **7 responses**
eigen values and eigen vectors, Lorena **2 responses**
weird usages of HP 49 (original), Chris **3 responses**
Lif Files, gileno Brazil **9 responses**
Algorithm used to find Q and Q^-1 on HP32E, Mike T. **9 responses**
41c NiCd Pack drawing needed, Stephen **1 response**
Prices for classic calculators then and now, John Nguyen **20 responses**
HP 48GX program, Mike - uk **8 responses**
NCEES Approved Calcs for 2006, Norris **4 responses**
Keys not registering, Funnel Bunny **2 responses**
How would you price these calculators?, Han **2 responses**
NIB HP 15C on eBay???!!!, Luis **11 responses**
SD card useage - HP49G+, RON **2 responses**
HP41 to PC transfer, Francois **11 responses**
CNG serial numbers?, Scuba Diver **7 responses**
"True" RPN Updated Features?, Howard Owen **30 responses**
New version of SandMath-III, Ángel Martin **9 responses**
HP-65 back label replacement, Thomas **4 responses**
HP 71B factory reset, inaki **3 responses**
HP-85 disassembler?, Vassilis Prevelakis **3 responses**
Weird HP-21S problem, bennyboy6 **3 responses**
Thank you., Geir Isene **1 response**
HP 48g+: How do I solve multiple eqns with multiple variables?, Tiffany **6 responses**
HP 97 card reader rebuild, How many white beads, Frederick Harvie **4 responses**
Update & sales, Matthias Wehrli **0 responses**
Special Functions 2 Finished, Eddie Shore **0 responses**
EPROM module for HP71B, Thomas Falk **4 responses**
nonpareil HP 41 emulator, Guido Ostkamp **2 responses**
So hot!!!! Check out this case!, Han **2 responses**
32sii increased availability on Ebay (?), ECL **5 responses**
41cx on button, Hal **4 responses**
HP 41 number display, Guido Ostkamp **11 responses**
MLDL2000: ROM images and the like, Vieira, L. C. (Brazil) **11 responses**
41Notes - Maintenance, Gileno - Brazil **3 responses**
HP-41's NoV-32 SW update., Diego Diaz **2 responses**
Ultimate Flame Topic, Paul Brogger **20 responses**
HEX <-> Decimal, gileno **6 responses**
Wiring of the 97 paper advance switch, Arnaud Amiel **4 responses**
HP-85 Error 23, Juergen (CH) **10 responses**
Announcement: The HP49g+ / HP48gII Advanced Users Reference Manual now available!, Gene Wright **22 responses**
MLDL2000 assembly pics, Vieira, L.C. (Brazil) **0 responses**
Latitude & Longitude Conversion, Robin **13 responses**
Free manual hp 15c, Carlos **0 responses**
HP Should Really Bring Back The 15C - To Make Money!, I, Claudius **53 responses**
HP49G+, Chris Dean **8 responses**
Access on TOS?, Matthias Wehrli **14 responses**
48Gx Transfer cable serial to USB modification, Will **2 responses**
How can you blame Coburlin..., Massimo Gnerucci (Italy) **12 responses**
IMPORTANT: series80.org -- change of policy, Vassilis Prevelakis **0 responses**

Happy Holidays, Vassilis Prevelakis **0 responses**
VASM, DASM, Juergen Rodenkirchen **4 responses**
41CX Needs Serious Help, Dan Taylor **7 responses**
HP-85 ROM select I/O?, Nelson M. Sicuro (Brazil) **4 responses**
HP-85 Thermal Paper and ThinkJet blotter pads, Vassilis Prevelakis **0 responses**
42s hardcover flip-case, ECL **2 responses**
Holy Cow!!!, Han **2 responses**
New Trigonometric Functions Program for the New 12C Platinum, Gerson W. Barbosa **2 responses**
Gummy Case, Hal **12 responses**
what to do ? 41cx / top or hop, Peter Scheller **3 responses**
Question about HP-41C Serial #, Daniel **6 responses**
Latest 33s Display is Indeed Improved, Paul Brogger **155 responses**
New improved HP 12c platinum - where to find?, Marcus von Cube, Germany **2 responses**
TI & HP related?, NA **6 responses**
ALG/RPN (and more) in the new Platinum, Vieira, L. C. (Brazil) **12 responses**
HP48g - Arithmetic Rounding querry, Caribe T **10 responses**
CalcPro - Buyer Beware!, I, Claudius **9 responses**
tds ranger/off topic a bit, david bowers **3 responses**
HP 34C battery pack, Steve from peru **6 responses**
HP Ports, danny **1 response**
41c 1/2N battery woes, Hal **2 responses**
Angell Martin and SandMath III, PeterP **9 responses**
MLDL - How to convert mod files, PeterP **12 responses**
Batteries for 41CV or 33E, Stephen Easterling **11 responses**
What was the first BASIC programmable CASIO calculator?, Gonzalo Fernandez (Spain) **1 response**
New eBay Price Gouging HP Seller, Howard Owen **2 responses**
Recovering the data from Series80 tapes, Vassilis Prevelakis **0 responses**
Viewing the full mantissa on a 41C, Marcus von Cube, Germany **6 responses**
HP 48g - Screen won't turn on -HELP!!!, Caribe T **17 responses**
Spice battery connection: images, Vieira, L.C. (Brazil) **15 responses**
9815 standard library tapes?, John Ioannidis **1 response**
MLDL2000: something to talk about., Vieira, L.C. (Brazil) **4 responses**
Self-modifying programs for HP-41, Geir Isene **16 responses**
Loading Excel data onto HP 49g+, steve **3 responses**
HP-67/97 Service Manual Sought, Mike DiGirolamo **2 responses**
Website update, Matthias Wehrli **2 responses**
AC Adapter for old HP Calculators, Bruno **3 responses**
HP 39g+ problems, Matthew **0 responses**
Bubba, or someone copying Bubba?, blurdybloop **13 responses**
Paper for 9815, John Ioannidis **4 responses**
Help Lex Files :-(:-(, Gileno **5 responses**
Looking for a friend, Rodrigo Otavio Gondro **0 responses**
Roll call from CURRENT student HP users:, ECL **14 responses**
Pre-loaded EQN in new 33s, ECL **1 response**
Good bargain in Ebay, Gonzalo Fernandez (Spain) **3 responses**
OT: Casio and Product Liability, Howard Owen **4 responses**
49G+-Tracing the work, StephenM. **8 responses**
49G+ Programs, StephenM **0 responses**
HP-41 MCode question, Jeff D **15 responses**
Xpander Connectivity Kit, Wilhelm Loidl **5 responses**
Fixing an hp 16c keyboard, Christophe **0 responses**
HP41CV Memory is not expandable?, Tizedes Csaba [Hungary] **1 response**
Desert island calc?, Thomas Okken **29 responses**
HP Prototypes, Matthias Wehrli **3 responses**

Ebay Seller Gripe!, Ron Ross **18 responses**
[OT] Problem with Sperry calculator, alfredop **1 response**
Free HP 15C Emulator, Bang Bui **5 responses**
HP20s End of Production, Walter B **2 responses**
HP48G - Popping rivets to open, Caribe T **3 responses**
HP collections, Will **78 responses**
HP-42S with HP-82240B Printer, Joe D. **9 responses**
new rpn calcs, brian healy **10 responses**
Connect HP49G+ via IR, Daniel CLEMENT **3 responses**
fair price for an HP-45?, blurdybloop **3 responses**
our favorite bubba is selling the same calculator twice!, blurdybloop **26 responses**
12C Platinum prices around the world, Gerson W. Barbosa **2 responses**
Lex Files !!! Help, gileno **7 responses**
HP25 without or with polar coordinate bug more valuable ?, Bernhard **1 response**
HP 15C Amortization Application Program Listing, steve adams **1 response**
HP 33C & 34C made in USA, Luis **1 response**
scientific notation to fixed integer, Bill **2 responses**
Help!! 9815: Mad at the printer, 9825: Mad at the fan!, Etienne Victoria **16 responses**
i found out a Brand New 48GX lost at book store, Beast **2 responses**
Wanted: English manual for CCD module, Geir Isene **4 responses**
No serial number, Arnaud Amiel **10 responses**
33s CHECKSUM issue: old/new, ECL **11 responses**
"new" and "old hp33s, brian healy **11 responses**
Gummy wheel repair , Need O=-ring size, Frederick Harvie **6 responses**
Unable to transfer data through cables between IBM laptop USB port and HP48 GX Serial Link, Antoine M. Couëtte **1 response**
TI-59 vs HP-41 reviving the old contest, Vassilis Prevelakis **6 responses**
forum message deletion feature considered harmful, Eric Smith **60 responses**
HP Series80 bus expander, Vassilis Prevelakis **0 responses**
typo/overstatement in HP-16c manual?, Mark Crispin **16 responses**
HP 9000 Server for $49 :-), Gileno **1 response**
My First HP!, Samuel Heddle **12 responses**
Rechargeable NiMh 1/2 N Cells for Battery Pack Rebuild, Brian Gladman **4 responses**
Lex Files., Gileno **2 responses**
An argument for simple rpn non-graph in university, ECL **24 responses**
71B HP-IL module, Tomas Fischer **4 responses**
External power for 41C, ivan **7 responses**
Comparing X with Indirect Y, James F. Chumbley **9 responses**
HP41 battery contacts, Bob **9 responses**
MLDL 2000, GE **5 responses**
hp-49G+ better manuals, Miguel **8 responses**
thermal printer HP, Pierre Dutoit **4 responses**
HP35 HP45 battery charger. Random display values., Charles Esson **3 responses**
28S Question, Samuel Heddle **1 response**
Copyright Infringement ..?, Mike T. **1 response**
HP71B <-> HP 41CX (HP-IL), Gileno **7 responses**
41 vs 67 card reading, Jim Creybohm **8 responses**
HP-49G+ - Where is the "last x" key / function?, Miguel **7 responses**
NiMh 500mah 'N' Cell Source, Donald Leonard **9 responses**
Spice for HP48GX and HP48SX, David Houston Thompson **4 responses**
A Worthwhile Strategy?, I, Claudius **6 responses**
41c weak display segments, Hal **5 responses**
Hi definition images of the HP-19C decimal dot, Vassilis Prevelakis **3 responses**
HP 1 Watch, Ralph Bennett **1 response**

How to open a HP32SII, Karl-Ludwig Butte **2 responses**
hp49g+ help with infrared printer, Josef **6 responses**
HP33S simulator/emulator, Valentin Albillo **58 responses**
HG48GX cable plug : where can I get it repaired ?, Antoine M. Couëtte **12 responses**
41Notes (New Version - Search), Gileno **8 responses**
HP39G+ Bug - CN408905807, Eddie Shore **1 response**
Weird, Unintentional "XEQ" out to PPC ROM (HP-41CX), James F. Chumbley **1 response**
HP15C - differences in displays, Artur - Brasil **2 responses**
33s - If a wish-list were solicited.., ECL **5 responses**
**** HELP ** Need HP-67 Card Reader Alignment**, Mike DiGirolamo **4 responses**
Airforce Modules, Matthias Wehrli **0 responses**
newer hp33, david bowers **1 response**
41CV Back from the Dead, Les Bell **10 responses**
ThinkJet 2225B Question, Tomas Fischer **7 responses**
HP 12C Promo Question, Mary **12 responses**
Does anyone know how to open a 38G?, Joao **17 responses**
NiMh 'N' Batteries for the HP-41 Calculator in UK, Brian Gladman **42 responses**
HP-41c 'Special Characters', Brian Gladman **3 responses**
Attaching library on HP48GX, Brian **3 responses**
Check this out - HP-01 going for $1100 !!!, Sean **1 response**
The 9100 and Thomas Osborne, Gunnar Englund (Sweden) **4 responses**
Series 200 software Posted, Howard Owen **2 responses**
HP33S - promts for INPUT, vq **7 responses**
Locked display HP48GX, Roger **2 responses**
CP/M autoload, Jim Rudnick **1 response**
Recognize this HP-87 CATalog?, Howard Owen **16 responses**
HP 48G - PCB for 512K RAM upgrade, Caribe T **0 responses**
HP 12C, Randy **6 responses**
HP15 User mode, Frederick Harvie **3 responses**
48's, Ron **9 responses**
Indirect Addressing, Eddie Shore **3 responses**
HP11, Dave Bleam **8 responses**
Upgrade HP 48G 32K RAM chip , Caribe T **3 responses**
Lead based solder, Arnaud Amiel **35 responses**
AREUH Assembler Document Translation from the French, Howard Owen **2 responses**
Problem printing with a HP2225B, Ronald **10 responses**
41c special alpha characters, Hal **8 responses**
Thomas Okken's HP 42S simulator running on a Fossil wristwatch, Masao Kinoshita **10 responses**
Series 80 Programmable ROM module clone (PRM-85) update, John **1 response**
41Notes (New Version), gileno **4 responses**
49g+ program needs help, joshua williams **2 responses**
New HP-71B Program - YATZ71, Howard Owen **5 responses**
OT: microchip images, Jim Creybohm **5 responses**
3468A Digital Multimeter Service Manual, Gileno **1 response**
3468A Help !!!!, HP3468A **2 responses**
41c card reader no drive, Hal **1 response**
HP11c, Thomas_A **1 response**
Do you want to see something really crazy..., Will **2 responses**
HP 15 C Cancel scientific notation, Richard Messer **1 response**
HP 48SX Display gone Bad, function12 **0 responses**
OT: C= SR4190R needs repair, Thomas Radtke **0 responses**
Identifying HP-71B modules, Simon Williams **5 responses**
Short & Sweet Math Challenge #11: Who's Next ?, Valentin Albillo **28 responses**
41c battery types, Hal **2 responses**

Our favorite bubba has increased his prices, blurdybloop **12 responses**
Can anyone source the 41 xrom 29 contents?, donald wallace **2 responses**
HP 49g+ Graphing Help Needed, John Bower **2 responses**
I just fixed my HP-48G+ ..., HrastProgrammer **10 responses**
OpenRPN Progress, . **17 responses**
Manual of HP92198A, Gonzalo Fernandez (Spain) **4 responses**
HP-12C: Corrosion on Negative Terminal, Mike Brady **1 response**
FORTH41 control program listing, donald wallace **0 responses**
HP Xpander Battery Compartment / Changing, Eric **6 responses**
New HP49g+ ROM operating system!!!!!, Boco **2 responses**
48SX ON/OFF button, Seb **3 responses**
hp 41c battery pack replacement, Russ Henderson **9 responses**
Finding RPN Calulators example program!, peter **2 responses**
HP 19B not working, GChu **0 responses**
HP 12C keypad - loose keys...nonresponsive buttons...aargh, Bubba **4 responses**
HP 34c needs help, David Derrer **6 responses**
improved hp 33s-reason for hope?, brian healy **9 responses**
Minimax Polynomial Fit, Valentin Albillo **8 responses**
HP--01 Pen Refills, Al Schwarz **0 responses**
The NEW Platinum 12C, Just Me **25 responses**
Help requested to restart a severely crashed HP49G, Antoine M. Couëtte **5 responses**
Copy Lif disk (disk copy) Help !!!, Gileno **16 responses**
I've heard my name a few times... Wanna play?? ;-)), Diego Diaz **2 responses**
Series 80 Emulator - File transfer, Juergen (CH) **11 responses**
HP48GX and Windows XP, George Rose **4 responses**
Designing a Logic State Analyzer for calc repairs, don wallace **14 responses**
Nigerian Scam / 2005 Ig Nobel Prize, db (martinez, ca.) **9 responses**
HP 42s Feet-inch-Fractions, Kelley **6 responses**
HP-41C battery contacts, RicDng **3 responses**
Voyager speedup side effects, Gerson W. Barbosa **0 responses**
Stat49Pro+ Impressions Please..., Scott Guth **5 responses**
32S Brightness of the screen, Colin Mahon **2 responses**
MLDL2000 information updated, schematics available, Meindert Kuipers **0 responses**
HP 67/97 Users' Library Solutions: Beams and Columns, Paul **0 responses**
Need help for a 32 e, Jürgen Richter **1 response**
HP-97 Printer Idler Gear Replacements Available Here, Mike DiGirolamo **17 responses**
solar calculator hack a school calculator, bragg g7 **0 responses**
(deleted post), deleted **0 responses**
33s and 32sii keyboard issues, Stan Fuller **8 responses**
Can't remember how to get trig functions to work HP15, Pete Dzwonkas **2 responses**
41Notes !!!!, Gileno **2 responses**
HP 48G Programming with matrices, DBD **4 responses**
Help with HP-97 Soldering Question, Howard Owen **7 responses**
HP 42 manual for Free42, Alister **1 response**
early "OZ" history of hp 41 synthetic programming uncovered!, don wallace **4 responses**
9862+9825, Achim (Germany) **0 responses**
X-Memory and HP-IL, gileno **8 responses**
Another MoHPC picture on eBay (HP-75D), Vassilis Prevelakis **3 responses**
Moon Landing Simulator for HP-12c again, Kalevipoeg **4 responses**
HP-35 & 32S Calculators, Tom Ciborowski **4 responses**
HP 21 replacement cells, Bruce G. **4 responses**
How can i open the case of a HP 32s calculator?, Martin **15 responses**
HP 49G plus, DOMAIN and LIMITS, Slobodan Nikolic **15 responses**
DIRECTIONAL DRILLING PROGRAMS, JAMES DAUGHERTY **1 response**

HP 01 WATCH MODULE REMOVAL, RICK ROAT **8 responses**
Anyone want a rambox (made) for the hp 41?, don wallace **8 responses**
Need help updating ROM on 49G+, Stephen Easterling **13 responses**
HP 48G Directional Force, Joshua Bright **4 responses**
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Source for HP-IL cables?

*Message #1 Posted by **Steve Roberts** on 26 Mar 2006, 9:19 p.m.*

Can anyone suggest a source for HP-IL cables? Thanks!

Re: Source for HP-IL cables?

*Message #2 Posted by **Vassilis Prevelakis** on 26 Mar 2006, 9:47 p.m.,*
in response to message #1 by Steve Roberts

you can try the classified ads section on this web site or eBay

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HEPAX Bidding War

*Message #1 Posted by **Howard Owen** on 26 Mar 2006, 3:30 p.m.*

Up to $510.00 as of post time.

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&rd=1&item=9703515570&ssPageName=STRK:MEWA:IT

Is it about the box?

*Message #2 Posted by **Vassilis Prevelakis** on 26 Mar 2006, 4:10 p.m.,*
in response to message #1 by Howard Owen

I do not recall who hp-collection is, but I think he is participating in this forum, and in any case, anybody with his collection and experience would be aware of the NOVRAM module.

So are they willing to pay $500+ for the box????

zippyanna must be ecstatic

**vp

Edited: 26 Mar 2006, 4:17 p.m.

Question and Answer

*Message #3 Posted by **Howard Owen** on 26 Mar 2006, 4:51 p.m.,*
in response to message #2 by Vassilis Prevelakis

From the auction:

```
Q: Hello, how much $ for a Buy it Now price on this auction? I'll Paypal. Thanks!

    A: There is no Buy It Now price and there is no reserve price. Thank you for your
interest!
```

Sound like someone we know? 8)

Re: Question and Answer

*Message #4 Posted by **Vassilis Prevelakis** on 26 Mar 2006, 5:12 p.m.,*
in response to message #3 by Howard Owen

If I were the seller for this auction I would be thanking my luck for NOT setting a Buy-It-Now price, because it would certainly NOT have been anything like $500.

At this stage I'd consider setting a Buy-It-Now price for smth like $750 because I do not think it would go that high, and it might just get one of the bidders to pay the money to end the suspense.

Having said that, I am surprised that someone with a long eBay record would bid against a bidder with 0 feedback that is so keen to raise the stakes.

```
> Sound like someone we know? 8)
```

Why, do you have someone in mind?

Most eBay auctions are like that (low starting price, no reserve, no Buy-It-Now) and I find that such auctions are more likely to result in a bidding war than auctions with reserve or high starting prices.

**vp

Re: Question and Answer

*Message #5 Posted by **Howard Owen** on 26 Mar 2006, 5:32 p.m.,*
in response to message #4 by Vassilis Prevelakis

A certain eBay seller, often discussed around here, is famous for asking for BIN terms on non-BIN auctions. He thus sometimes succeeds in taking advantage of sellers who are ignorant of the value of the items they are selling.

If we take her statement that she doesn't ".. know much about calculators" to be an indication that she had no idea of what an HEPAX setup was beforehand, then perhaps "zippyanna" was in danger of falling for that sort of thing at one point. Lucky for her, that point is now passed. 8)

"Zippy" indeed!

Regards,
Howard

Re: Question and Answer

*Message #6 Posted by **Eric** on 26 Mar 2006, 7:55 p.m.,*
in response to message #5 by Howard Owen

Not to be ignorant, I'm not familiar with the 41 series...

What is the HEPAX module, and why is it seemingly (from the previous posts) so sought after?

Thanks! Eric (More of a HP48 kind of guy!)

Re: Question and Answer

*Message #7 Posted by **Howard Owen** on 26 Mar 2006, 8:20 p.m.,*
in response to message #6 by Eric

It's a very cool expansion system for the HP-41. It gives you RAM in the calculator's ROM address space, and the tools to manipulate it. That allows you to load any ROM module image you care to into the RAM. So you can run practically any HP-41 module ever made. You can also use the HEPAX to write your own HP-41 modules.

The HEPAX is quite rare. But there are several solutions that let you run the HEPAX code without owning an HEPAX set up. Diego Diaz has his Clonix family of modules. The NovRAM and Nov32 modules will run the HEPAX code. There's also the MLDL2000, by Meindert Kuipers, which also allows you to load the HEPAX code. Also, many of the

simulators of the HP-41, including HP-41X by HrastProgrammer, emu41 by JF Garnier and this, unfortunately unnamable simulator will run the HEPAX code.

So the point is, a technology enthusiast could satisfy the urge to play with the admittedly very cool technology for a lot less money, even for free in the case of some of the simulators. The auction linked to above must have the high price solely due to the rarity of the original HEPAX. One of the participants in the bidding war is a very experienced HP collector, so we can't just chalk the price up to market irrationality.

Regards,
Howard

Re: Is it about the box?

*Message #8 Posted by **Thomas Radtke** on 27 Mar 2006, 2:17 a.m.,*
in response to message #2 by Vassilis Prevelakis

> Quote:
>
> So are they willing to pay $500+ for the box????

Probably, since *The working condition of this item is unknown*. Am I the only one who finds this statement disturbing?

Thomas

Re: Is it about the box?

*Message #9 Posted by **Howard Owen** on 27 Mar 2006, 2:47 a.m.,*
in response to message #8 by Thomas Radtke

It's probably just because the 41CV she's selling in another auction is non-operational, so she couldn't test the module. But if I were in the market for a HEPAX in order to be able to use it, then I would be disturbed by that disclaimer.

However, for collection purposes it might not matter, depending on what slot I was trying to fill in my collection. But another omission that would matter to me in that case is no mention of a manual.

Regards,
Howard

Edited: 27 Mar 2006, 2:49 a.m.

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LX200

*Message #1 Posted by **borgward** on 26 Mar 2006, 12:46 p.m.*

Hi

Is this the correct forum to post HP LX200 Questions

If not where do you suggest

Question is:

Having problem saving memo documents. After following instructions in Help, I get message - Memory error. I think that maybe the instructions are not complete.

Got the LX200 out of trash. Really impressed with its performance.

How do I protect against virus attacts if I go onlin. It's obvious that there is not enough room to install Norton AV.

Has anybody installed Linux on the LX200?

Re: LX200

*Message #2 Posted by **Raymond Del Tondo** on 26 Mar 2006, 4:29 p.m.,*
in response to message #1 by borgward

Hi,

http://www.hplx.net/

and

http://www.palmtop.net/ (currently offline)

are more suitable places for the 200X

HTH

Raymond

Re: LX200

*Message #3 Posted by **Mike (Stgt)** on 27 Mar 2006, 3:24 a.m.,*
in response to message #1 by borgward

Star here and work down.

Ciao.....Mike

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Puzzling HP-49G+ SDEV-function

*Message #1 Posted by **Karl-Ludwig Butte** on 26 Mar 2006, 7:03 a.m.*

Hello All,

I have a difficult question about the SDEV function of the HP-49G+ which puzzles me: There are 4 figures for which I would like to calculate the standard deviation: 6.5 12.1 5.4 -10.3

I've read this excercise in a financial mathematic text book and the author is calculating the standard deviation as follows:

SDEV = SQRT(1/4*(SQR(6.5-3.4)+SQR(12.1-3.4)+SQR(5.4-3.4)+SQR(-10.3-3.4))

SDEV = 8.3

When entered into the HP-49G+ and using the formula above the same result is displayed. But using the predefined function Mean and SDEV the 49 displays: Mean: 3.4250 SDEV: 9.6088

First I thought it maybe because in the textbook the 3rd and 4th decimal isn't used so I recalculated with 3.4250 instead of 3.4 but in vain. Tries with an HP-49G, HP-48G and HP-41 the same differences in results were displayed. So it doesn't seem to be a bug of the HP-49G+ Firmware (Version: HP49-B Rev.: 2.01-2).

Has anyone of you a hint where the difference comes from ? Thank you very much in advance.

Has anyone

Re: Puzzling HP-49G+ SDEV-function

*Message #2 Posted by **Arnaud Amiel** on 26 Mar 2006, 8:03 a.m.,*
in response to message #1 by Karl-Ludwig Butte

If your 4 figures are the whole population then 1/4 should be used in your formula.

However, the 49 is assuming you are using a sample of 4 elements to get an estimate of the standard deviation of a total population in which case it correctly uses 1/(n-1) formula.

If you want to use the 1/n SDEV for a whole population you have to use the PSDEV command. See p584 of the PDF user guide for an hint or look a the very good advanced user guide which has better desciptions p248 and p279.

Arnaud

Edited: 26 Mar 2006, 8:46 a.m.

Re: Puzzling HP-49G+ SDEV-function

*Message #3 Posted by **Karl Schneider** on 26 Mar 2006, 8:12 p.m.,*

in response to message #1 by Karl-Ludwig Butte

Karl-Ludwig --

Arnaud is correct. HP has generally favored providing the function for sample standard deviation (SDEV) instead of population standard deviation (PSDEV).

The workaround for models without a PSDEV function is to enter the mean as an additional datum, and recalculate the sample SDEV.

-- KS

Re: Puzzling HP-49G+ SDEV-function

*Message #4 Posted by **Karl-Ludwig Butte** on 27 Mar 2006, 4:25 a.m.,*
in response to message #1 by Karl-Ludwig Butte

Thank you both for your very good answers. I wasn't aware of this distinction. You helped me a lot - thanks again.

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Free42 for Pocket PC released

*Message #1 Posted by **Thomas Okken** on 26 Mar 2006, 6:03 a.m.*

Hi all,

I released version 1.4.6 of Free42, my HP-42S simulator, today. This latest version now runs on the Pocket PC (as well as all the platforms it ran on before, of course).
You can get it at my Free42 home page.

Enjoy,

- Thomas

Re: Free42 for Pocket PC released

*Message #2 Posted by **Namir** on 26 Mar 2006, 10:14 a.m.,*
in response to message #1 by Thomas Okken

Cool job Thomas. The Free42 works on my Pcoket PC .... Thanks!

Namir

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42s won't turn on

*Message #1 Posted by **Brian D** on 25 Mar 2006, 9:12 p.m.*

I have a 42s that won't come on after I put new batteries into it.

Is there any where to get it fixed?

Re: 42s won't turn on

*Message #2 Posted by **Randy** on 25 Mar 2006, 10:59 p.m.,*
in response to message #1 by Brian D

In all likelyhood, there is nothing wrong with it. It's just stuck in lah-lah land due to the battery change not being fast enough.

If you had any programs in it, kiss them bye-bye, there is no way to save them at this point.

Here's fix #1:

Press and hold the E+ and XEQ keys down. While holding them down, press and release ON then release the E+ and XEQ. You should see Memory Clear and be back to whatever you were doing before you had to key all your programs back in :(

If that doesn't work, here's #2:

Take the batteries out and touch the two terminals in the calculator at the same time with a coin or straighened paper clip. This will remove the residual voltage on the memory back-up capacitor. Put the batteries back in and enjoy.

And #3:

Leave the batteries out overnight. Same result as #2, it just takes longer.

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Anyone have any experience of Lygea calculators?

*Message #1 Posted by **Bruce Horrocks** on 25 Mar 2006, 10:10 a.m.*

I found this bunch by chance: http://www.lygea.com/index.htm

Has anyone tried their products? Any good or bad expereiences to report? How accurate are the emulations?

I did a search on the forum archives for Lygea but turned up nothing - I'm surprised that they haven't been mentioned before.

Re: Anyone have any experience of Lygea calculators?

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 25 Mar 2006, 10:30 a.m.,*
in response to message #1 by Bruce Horrocks

> Quote:
>
> I did a search on the forum archives for Lygea but turned up nothing - I'm surprised that they haven't been mentioned before.

Indeed they were already considered in these past messages about lygea calculators

Greetings,
Massimo

Re: Anyone have any experience of Lygea calculators?

*Message #3 Posted by **Bruce Horrocks** on 26 Mar 2006, 7:45 a.m.,*
in response to message #2 by Massimo Gnerucci (Italy)

Thanks for the pointer. I clearly need to learn how to work the search function. :-(

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Even More Simultaneous Equation Solutions

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 25 Mar 2006, 3:42 a.m.*

In his submission "Calculator Precision: Sure" of December 21 which started all of this Valentin Albillo proposed an investigation of the set of linear equations

1.3 x1 + 7.2 x2 + 5.7 x3 + 9.4 x4 + 9.0 x5 + 9.2 x6 + 3.5 x7 = 45.3
4.0 x1 + 9.3 x2 + 9.0 x3 + 9.9 x4 + 0.1 x5 + 9.5 x6 + 6.6 x7 = 48.4
4.8 x1 + 9.1 x2 + 7.1 x3 + 4.8 x4 + 9.3 x5 + 3.2 x6 + 6.7 x7 = 45.0
0.7 x1 + 9.3 x2 + 2.9 x3 + 0.2 x4 + 2.4 x5 + 2.4 x6 + 0.7 x7 = 18.6
4.1 x1 + 8.4 x2 + 4.4 x3 + 4.0 x4 + 8.2 x5 + 2.7 x6 + 4.9 x7 = 36.7
0.3 x1 + 7.2 x2 + 0.6 x3 + 3.3 x4 + 9.7 x5 + 3.4 x6 + 0.4 x7 = 24.9
4.3 x1 + 8.2 x2 + 6.6 x3 + 4.3 x4 + 8.3 x5 + 2.9 x6 + 6.1 x7 = 40.7

which has the "unique" solution :

x1 = x2 = x3 = x4 = x5 = x6 = x7 = 1.0

Valentin closed with the challenge

"Now, get your preferred HP calc or computer software and try and solve it using limited accuracy, say just one decimal, then four decimals, then eight decimals. See what results you get and how do they compare with the actual, unique solution, and among themselves as the limited accuracy increases."

I solved the problem with a variety of linear equation solvers in my inventory with mantissas ranging from six to fourteen digits.

"Unique" answers as used here are the same as the "exact" answers which can be obtained with machines such as the HP-49G and TI-89. A "unique" or "exact" answer the one that a "calculated" answer from a sufficiently capable solver will approach but, in general, will not equal. Solvers sometimes get the "unique" solution for the kind of innocuous demonstration problems that typically accompany the user instructions. The "calculated" answer from a capable solver for more difficult problems such as the ones considered here will have characteristics such as (a) the signs of the elements of the "calculated" vector will agree with the signs of the corresponding elements of the "unique" vector, (b) the magnitudes of the elements of the "calculated" vector will agree with the magnitudes of the corresponding elements of the "unique" vector, and (c) at least some of the most significant digits of the elements of the "calculated" vector will agree with the corresponding most significant digits of the elements of the "unique" vector. An example of a solution which does not meet those criteria is the solution from the HP-28S for Valentin's original problem where the elements of the solution vector are a helter-skelter collection of numbers where three of the signs are not even in agreement with the signs of the elements of the "unique" solution vector. A second example which does not meet those criteria is the solution to Valentin's original problem from the ML-02 program in the TI-59 Master Library module where one of the signs is not in agreement and several of the magnitudes are in error by a factor of about 1.6 from the "unique" solution of all ones . An example that meets those criteria is the solution to Valentin's original problem from software by Maurice Swinnen operating on the Model 100 where the element of the solution which is furthest from the "unique" answer of one is 1.00339... . We can assign a single number to summarize those characteristics by calculating the RMS of the relative errors of the calculated vector where the relative error, calculated as the difference between the corresponding elements of the "unique" and

"calculated" vectors divided by the corresponding element of the "unique" vector should be a small fraction.

I recently ran Valentin's original problem on the HP-49G (actually on an emulator) with the following results:

INV A * B	B/A	RREF
-1.076	-0.6472	1.00148007239
0.999786	1.00110019	0.999999813411
0.407	-0.7415	1.00131966086
0.144	0.6554	1.00132720057
0.999124	0.9996398	1.00000091517
0.553	1.1592	0.998672819845
0.61	3.5385	0.997223232158

where for the RREF solution the input is a 7x8 matrix with A augmented by B. One sign is incorrect for the INV A * B solution. Two of the signs are incorrect for the B/A solution. The RREF solution was much closer to the "unique" solution where I note that for the first time in all the calculations that I have reported in the series of threads since Valentin's original challenge a solver has performed better than my old Model 100 using the simultaneous equation program by Swinnen and Thomas..

In subsequent threads Rodger Rosenbaum proposed three modifications to Valentin's problem.:(1) with B(1) changed from 45.3 to 45.4; (2) with B(3) changed from 45.0 to 45.1; and (3) with A(3,7) changed from 6.7 to 6.8, A(7,7) changed from 6.1 to 6.0 and B(3) changed from 45.0 to 45.1 ."Unique" solutions for Rodger's modified problems were found using the exact mode of the HP-49G.

The RMS relative errors for Valentin's original problem and for Rodger's three modifications for seventeen solvers which are available in my inventory are

Solver	Valentin	Rodger 1	Rodger 2	Rodger 3
Sharp PC-1261	18.386	9.823E-01	9.673E-01	1.250E-07
Model 100 Swinnen SP	11.506	1.014	9.996E-01	2.832E-04
HP-28S B/A	3.927	13.417	13.220	1.253E-10
HP-41 "seq"	2.371	1.019	1.004	2.445E-07
HP-49G B/A	1.327	1.065E-03	1.080E-03	5.477E-13
HP-49G INV A * B	9.060E-0	1.094E-03	1.080E-03	1.573E-10
Sharp PC-1261 Swinnen	7.664E-01	1.117	1.101	2.647E-09
TI-59 ML-02	7.367E-01	2.464E-02	2.428E-02	9.433E-11
TI-95 Math Module	3.147E-01	2.955E-03	2.906E-03	3.297E-11
HP-41 Math Pac	3.018E-01	1.027	1.008	2.005E-08
CC-40 Math Module	2.260E-01	1.025E-01	1.010E-01	3.202E-10
Model 100 HCN DP	1.214E-01	2.215E-03	2.182E-03	2.321E-11
TI-85 INV B * A	3.582E-02	9.270E-03	9.155E-03	8.683E-12
CC-40 Swinnen	5.125E-03	8.466E-03	8.342E-03	2.701E-12
TI-85 Simul Equations	4.274E-03	9.292E-03	9.155E-03	4.399E-12
Model 100 Swinnen DP	1.799E-03	3.625E-04	3.572E-04	9.217E-13
HP-49G RREF	1.472E-03	8.281E-05	8.352E-05	0

where the solvers are listed in the order of decreasing RMS relative errors for Valentin's original problem. Obviously missing in a forum dedicated to HP products are solutions from the HP-15C and the Advantage module of the HP-41. I don't have those capabilities in my inventory. Perhaps someone else will provide the missing material.

The RMS relative errors for all solvers are substantailly smaller for Rodger's third modification. That modification seems to have dumbed down Valentin's original problem so that almost any solver can succeed. For example, solvers such as the the B/A solution with the HP-28S and the ML-02 routine with the TI-59 which couldn't even get all the signs correct with Valentin's original problem get rather good results with Rodger's third modification. Even the Model 100 solver operating in the single precision mode with a six digit mantissa gets four digits correct for Rodger's third modification.

On machines such as the TI-85 and HP-49G the results indicate that row reduction type software will outperform matrix inversion software. That observation agrees with my experience with linear equation solutions to other problems. I do not claim to know whether the apparently inferior performance is inherent in the matrix inversion

methodology or whether matrix inversion software just tends to be less carefully written.

NOTES ON THE HARDWARE AND SOFTWARE OF THE SOLVERS

1. B/A software uses built-in matrix routines to divide the vector by the matrix. That idea is discussed on page 66 of the *HP-28S Advanced Scientific Calculator Reference Manual* and is expected to yield somewhat better results than multiplying the inverse of the matrix by the vector. I do not know if the idea applies for other machines.

2. Swinnen software uses a solution adapted from the Simultaneous Equation routine on pages 113 ff of the *Mathematics Library: Application Software for the Sharp EL-5500 and PC-1403 Scientific Computers* by Swinnen and Thomas.

3, The Model 100 Swinnen DP solver uses the Swinnen routine and the default mode of the Radio Shack Model 100 which provides a fourteen digit mantissa.

4. The Model 100 Swinnen SP uses the Swinnen program and single precisiion mode of the Radio Shack Model 100 which provides a six digit mantissa.

5. The CC-40 Swinnen solution uses the Swinnen program instead of the CC-40 Math Module solver.

6. The Model 100 HCN DP solution uses an older program derived from a least squares solver which was on the old Honeywell Computer Network (HCN) of the 1960's. It does not allow zeroes in the diagonal elements.

7.. The Sharp PC-1261 solution uses the program on page 264 of the *Sharp Pocket Computer PC-1260/PC-1261 Instruction Manual.*. The program will not work with A(1,1) = 0 and with certain other combinations of the matrix elements which yield a zero divisor..

8. The Sharp PC-1261 Swinnen solution uses the Swinnen program.

9. The HP-41 "seq" solution uses Valentin Albillo's program from pages 63-64 of the V7N5 (June 1980) issue of the *PPC Calculator Journal*. The program shares the same deficiency as the Sharp PC-1261 solution when A(1,1) = 0 and when other combinations of matrix elements yield a zero divisor. Valentin's program detects the zero divisor and allows a rearrangement of the problem without starting completely over.

A MESSY HP-49G PROGRAM

In his submission "More on ill conditioning and calculator precision" on January 23 Rodger proposed "... let's create a 7x7 perturbation matrix consisting of 49 uniformly distributed random numbers varying from about -.5 ULP to about +.5 ULP, and then add that perturbation matrix to the A (call the perturbed matrix A') matrix of Valentin's original system, and solve the perturbed system...". He explained

"The procedure can be done on the HP49 emulator (or a real HP48G or HP49) easily. Assume that the original A matrix and the original column matrix B are stored in variables of those names. Then this program will generate a perturbation matrix, add it to the A matrix, and solve the system.

<< B A RANM 247.487 / A + / -3 RND >>

This can be executed repeatedly to see results such as I gave above.

The constant 247.487 is to cause the perturbation matrix to have a Frobenius norm of about .1414, which is the same as the norm of perturbation matrix used to create the slightly perturbed matrix I suggested and you used in your previous post; the maximum perturbation of an individual element of the A matrix will be about +- .0404, just slightly less than .5 ULP (.5 ULP would be .05)."

When I found that the RREF solver on the HP-49G consistently yielded "calculated" solutions which were closer to the "unique" solutions than the B/A solver I decided to see if I could modify Rodger's program to replace the B/A

solution with the RREF solution. My plan was to follow his program to generate the perturbed matrix, augment the perturbed matrix with the B vector and solve with the RREF routine. I had difficulty doing that because I couldn't get the AUGMENT command to attach the B vector at the right side of the perturbed matrix yielding the 7x8 matrix needed by the RREF routine. No matter what I tried the AUGMENT command would attach the B vector at the top or bottom of the perturbed matrix rather than at the right of the perturbed matrix. Eventually, I transposed the perturbed matrix, used the AUGMENT command to attach the B vector at the bottom yielding an 8x7 matrix, and transposed the 8x7 matrix back to yield the 7x8 matrix I wanted. My complete routine was.

<< B A RANM 247.487 / A + TRAN B AUGMENT TRN RREF ->COL DROP -3 RND >>

There must be an easier way to do what I wanted to do but I couldn't find it. Maybe if I had a manual .... Maybe someone more familiar with the HP-49G can help.

Re: Even More Simultaneous Equation Solutions

*Message #2 Posted by **John Smitherman** on 25 Mar 2006, 1:09 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Hi Palmer. How did you define/calculate the RMS?

Thanks,

John

Re: Even More Simultaneous Equation Solutions

*Message #3 Posted by **Palmer O. Hanson, Jr.** on 25 Mar 2006, 8:36 p.m.,*
in response to message #2 by John Smitherman

I calculate the relative error for each of the seven elements of the solution vector and then find the RMS of the seven relative errors.

Re: Even More Simultaneous Equation Solutions

*Message #4 Posted by **Rodger Rosenbaum** on 25 Mar 2006, 10:02 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Palmer says:

I recently ran Valentin's original problem on the HP-49G (actually on an emulator) with the following results:

INV A * B	B/A	RREF
-1.076	-0.6472	1.00148007239
0.999786	1.00110019	0.999999813411
0.407	-0.7415	1.00131966086
0.144	0.6554	1.00132720057
0.999124	0.9996398	1.00000091517
0.553	1.1592	0.998672819845
0.61	3.5385	0.997223232158

I just discovered something that astounds me in the process of doing your examples. I don't get what you get when I do these tests on my HP49. It hasn't been used for some years, and perhaps the version of the firmware in it has known bugs. My HP49 has version 1.05 firmware--what do you get when you type **VERSION** in your emulator, Palmer?

And, if anybody else has an HP49 with up to date firmware, could you try this and report your results?

Anyway, what I get is:

INV A * B	B/A	RREF
1.00018	1.00018	1.00124
1.9043	1.9043	-33231081.9872
1.3779	1.3779	4704.81157655
1.00065	1.00065	4678.11919981
0.7689	0.7689	6770866.25288
0.553	0.553	-46565.78990985
-0.785	-0.785	-2226.81759925

I have done a little checking, with some anomalous results. The HP49 gives -1.00000533622E-7 for the determinant of the A matrix (Valentin's original), but the HP48G and HP49G+ give 9.98918882E-8.

I've triple checked to make sure that I typed in the matrix correctly. Flag 54 is set on all the machines. I created Hilbert matrices of order 7, 8, 9, and 10, and computed the inverses and the determinants of each. I got the same results on the HP49 as on the HP48G and HP49G+. Something peculiar is going on here; in almost every other test I have tried, my HP49 gets the same result as the HP48G and HP49G+.

The RMS relative errors for Valentin's original problem and for Rodger's three modifications for seventeen solvers which are available in my inventory are

Solver	Valentin	Rodger 1	Rodger 2	Rodger 3
Sharp PC-1261	18.386	9.823E-01	9.673E-01	1.250E-07
Model 100 Swinnen SP	11.506	1.014	9.996E-01	2.832E-04
HP-28S B/A	3.927	13.417	13.220	1.253E-10
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HP-49G B/A	1.327	1.065E-03	1.080E-03	5.477E-13
HP-49G INV A * B	9.060E-0	1.094E-03	1.080E-03	1.573E-10
Sharp PC-1261 Swinnen	7.664E-01	1.117	1.101	2.647E-09
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TI-85 Simul Equations	4.274E-03	9.292E-03	9.155E-03	4.399E-12
Model 100 Swinnen DP	1.799E-03	3.625E-04	3.572E-04	9.217E-13
HP-49G RREF	1.472E-03	8.281E-05	8.352E-05	0

By the way, as I must have mentioned in an earlier posting, the HP48G and HP49G+ solve Valentin's original system exactly using the B/A method. That is, they get [1 1 1 1 1 1 1] for the solution vector.

The RMS relative errors for all solvers are substantailly smaller for Rodger's third modification. That modification seems to have dumbed down Valentin's original problem so that almost any solver can succeed. For example, solvers such as the the B/A solution with the HP-28S and the ML-02 routine with the TI-59 which couldn't even get all the signs correct with Valentin's original problem get rather good results with Rodger's third modification. Even the Model 100 solver operating in the single precision mode with a six digit mantissa gets four digits correct for Rodger's third modification.

Of course, that was the point of that modification; to show that there is a way to solve a badly ill-conditioned system even on a calculator with only a few digits. I got that perturbation by means of the Singular Value Decomposition, and I'll post a note to show how to do it.

When I found that the RREF solver on the HP-49G consistently yielded "calculated" solutions which were closer to the "unique" solutions than the B/A solver I decided to see if I could modify Rodger's program to replace the B/A solution with the RREF solution. My plan was to follow his program to

generate the perturbed matrix, augment the perturbed matrix with the B vector and solve with the RREF routine. I had difficulty doing that because I couldn't get the AUGMENT command to attach the B vector at the right side of the perturbed matrix yielding the 7x8 matrix needed by the RREF routine. No matter what I tried the AUGMENT command would attach the B vector at the top or bottom of the perturbed matrix rather than at the right of the perturbed matrix. Eventually, I transposed the perturbed matrix, used the AUGMENT command to attach the B vector at the bottom yielding an 8x7 matrix, and transposed the 8x7 matrix back to yield the 7x8 matrix I wanted. My complete routine was.

<< B A RANM 247.487 / A + TRAN B AUGMENT TRN RREF ->COL DROP -3 RND >>

There must be an easier way to do what I wanted to do but I couldn't find it. Maybe if I had a manual .... Maybe someone more familiar with the HP-49G can help.

```
  Here's a program to set up and solve using RREF.  Assuming B and A are on the stack (B
in level 2, A in level 1):


<< SWAP { 7 } RDM 8 COL+ RREF >>


  If you want the result to be the solution vector in the form that B/A returns it, then
use:


<< SWAP { 7 } RDM 8 COL+ RREF 8 COL- SWAP DROP { 7 1 } RDM >>


  To get the result of a random perturbation of A, do this (this program assumes that the
A and B matrices are stored in variables of those names):


<<B A RANM 247 .487 / A + SWAP { 7 } RDM 8 COL+ RREF 8 COL- SWAP DROP { 7 1 } RDM >>
```

Re: Even More Simultaneous Equation Solutions

*Message #5 Posted by **Rodger Rosenbaum** on 27 Mar 2006, 5:04 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Palmer said:

I recently ran Valentin's original problem on the HP-49G (actually on an emulator) with the following results:

INV A * B	B/A	RREF
-1.076	-0.6472	1.00148007239
0.999786	1.00110019	0.999999813411
0.407	-0.7415	1.00131966086
0.144	0.6554	1.00132720057
0.999124	0.9996398	1.00000091517
0.553	1.1592	0.998672819845
0.61	3.5385	0.997223232158

I think there is a typo in the 5th entry under RREF; instead of 1.00000091517, it should be 1.00000091577. If you make this change and then premultiply this solution vector (the RREF vector) by the A matrix (using a 12 digit HP calculator such as the HP48G or HP49G+), you will get exactly the B vector. In other words, the RREF solution vector is an "exact" solution, and there is not a unique solution. This can only happen with floating point arithmetic, of course. In infinite precision arithmetic there is only one exact solution, namely {1 1 1 1 1 1 1]. I wonder how many "exact" solutions there are in 12 digit BCD floating point arithmetic using "round to even". The rounding mode will be one factor determining the "exact" floating point solutions.

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thinkjet ink cartridges

*Message #1 Posted by **db (martinez, ca.)** on 24 Mar 2006, 10:47 p.m.*

I found a great deal on slightly out-of-date 51604a cartriges, maybe. If they don't say "plain paper" are they still plain paper? 92261a was the official number for the old jet paper **only** print head.

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82164A as a controller?

*Message #1 Posted by **Steve Roberts** on 24 Mar 2006, 10:07 p.m.*

I have an HP3468B multimeter. I want to talk to it from a PC RS232 port. Can I use the 82164A in this "backward" mode, where the 82164A acts as a controller on the loop? Or, is the 82164A designed only to let you add an RS232 device to the HP-IL loop? Thans very much! -Steve

Re: 82164A as a controller?

*Message #2 Posted by **Eric Smith** on 24 Mar 2006, 10:42 p.m.,*
in response to message #1 by Steve Roberts

The 82164A will not act as a loop controller. If you had an IEEE-488 port on the PC, you could use an 82169A HP-IB to HP-IL interface, which is able to act as a loop controller.

Re: 82164A as a controller?

*Message #3 Posted by **Vassilis Prevelakis** on 25 Mar 2006, 6:20 a.m.,*
in response to message #1 by Steve Roberts

As Eric mentioned the 82164A cannot be a loop controller. However, you can transfer values from the multimeter to your PC by having something like an HP-71B read values from the multimeter and tranfer them to the 82164A.

There **may** be another possibility. You can place the 3468 in TALK ONLY mode in which case it sends a value to the HP-IL bus each time it is triggered.

The manual gives an example where you can use the 82162 printer and the 3468 in a loop without a controller. The 3468 is placed in TALK ONLY mode via a switch in the back and the 82162A in LISTEN ONLY mode by pressing both PRINT and ADV while turning it on.

I am not sure however whether the 82164A can be be configured in this way. Unless someone else on this list can help, you will have to look at the manual.

**vp

Edited: 25 Mar 2006, 6:59 p.m.

Re: 82164A as a controller?

*Message #4 Posted by **Christoph Klug** on 27 Mar 2006, 3:19 a.m.,*
in response to message #3 by Vassilis Prevelakis

Hi Steve,

for controlling the IL-Multimeter by PC you can use the HP-IL/PC-Interface-Card plus EMU41 or EMU71 software from Jean-Francois Garnier.

This setup works great, and EMU41 and EMU71 includes transfer (and storage) features from the meausrement data to other software applications like EXCEL.

This solution only have one diasdvantage : Your PC motherboard needs an ISA-slot for the card, but remember most today industrial PC motherboards support the (old) ISA standard...

Best regards - Christoph Klug

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HP 45 input voltage requirements

*Message #1 Posted by **Bill Smith** on 24 Mar 2006, 6:17 p.m.*

I have been asked to trouble shoot my friends HP 45, because I have a lot of calculators myself. I don't have much electronic expertise or tools.

The calculator worked for years, operated on the AC adaptor with no battery pack installed. It has quit working, and I thought I might figure out if it would work on batteries alone, by connecting some to approximate the original battery pack. If it worked, then I'd know the adaptor wasn't. The battery contacts don't seem to be marked with regard to polarity. The adaptor does have an input voltage switch and is rated at 0.8W (I think, it is not with me at this moment).

Any suggestions are appreciated.

TIA

Bill

Re: HP 45 input voltage requirements

*Message #2 Posted by **Hal** on 25 Mar 2006, 2:40 a.m.,*
in response to message #1 by Bill Smith

Hi Bill. The ac adapter for the classic series (35,45,65,67,etc) actually puts out two DC signals: a 5.4 v signal to power the machine, and a constant current signal (which will read about 16vdc with no load) to charge the battery pack. This of course means that the AC adaptor contains rectifier circuitry. I've heard that the smoothing capacitors in the rectifier can go out which results in excessive ripple voltage, which can cause erratic operation of the calculator.
The bottom battery contact is positive one. Note that you'll need to have the adaptor disconnected from the calc to power it from the battery contacts. Also be sure that those little spring loaded plates in the adapter recepticle are making contact with the two outside pins, shorting them together (this is how battery power is routed to the calculator when the adapter is not connected).
Hopefully it's just a bad adapter...
Best regards, Hal

Re: HP 45 input voltage requirements

*Message #3 Posted by **Bill Smith** on 25 Mar 2006, 1:14 p.m.,*
in response to message #2 by Hal

Hopefully this is just the information I need to find that the 45 itself is OK. Thank you very much.

Bill

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HP 45 input voltage requirements

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Did anyone on this list ever open the HP65 hybrid ?

*Message #1 Posted by **bernhard** on 24 Mar 2006, 6:04 p.m.*

Hi folks,

assuming that there are some defective HP65 out there, where the fault location was in the hybrid, did you ever try to open it ? I'd like to find how many chips are inside and how they are interconnected. Maybe somebody on this list could provide a photo (or a series of photos). Sorry for this curiosity - but all of my attempts to buy a truly defunct HP65 on Ebay have failed, all the electronics were good, and I'm reluctant to kill a perfectly functional HP65 main board just to see what's in the hybrid.

Regards, Bernhard

Re: Did anyone on this list ever open the HP65 hybrid ?

*Message #2 Posted by **Eric Smith** on 24 Mar 2006, 7:06 p.m.,*
in response to message #1 by bernhard

I haven't opened one, but I've seen an xray of it. IIRC it contains six chips. Based on the HP Journal article, these are most probably:

- clock driver
- C&T - control & timing
- A&R - arithmetic & registers
- CRC - card reader control
- program storage circuit (100x6 dynamic shift register)
- data RAM

Outside the hybrid are six additional chips:

- three ROM chips
- card reader analog chip
- anode and cathode drivers for the display

Tony wrote an article on HP-65 internals which gives pinouts etc.

Half of the ROM source code was listed in two US patents. It may not have been the production release.

The operation of the program storage chip is partially described in the patent, but not in enough detail to write a simulation. A lot of experimentation would be necessary, probably by replacing ROM 0 with a ROM emulator and running custom test programs.

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HP-97 Card Reader - Only works sometimes

*Message #1 Posted by **jbssm** on 24 Mar 2006, 6:29 a.m.*

Hi all again,

I've cleaned the card reader of my HP-97 from the gummy well and replaced it by O-rings.

Now the card passes ok, but most of the times it says "Error" only about 1 in every 5 times it reads correctly.

How can I solve this? Does this have anything to do with those screws that are holding the golden metal plate inside, how should I proceed?

Best regards and thank you all for this fantastic forum, jbssm

Re: HP-97 Card Reader - Only works sometimes

*Message #2 Posted by **cmj** on 24 Mar 2006, 11:43 a.m.,*
in response to message #1 by jbssm

Hi,

I just received an HP97 today with the card reader defective. So I hope the problem is only the capstan. I will try to repair it very soon, so if I experience problems like you have got, I will let you aware.
I have changed in the past the clock inductance on an HP67 just to speed up the machine about 20%, the card reader was not affected with already written cards.
As far as I remember the aspect of the magnetic surface was very important, I mean it should not be glossy or with finger prints. Let me time to analyse the things.

Regards Christian

Re: HP-97 Card Reader - Only works sometimes

*Message #3 Posted by **Vieira, L. C. (Brazil)** on 24 Mar 2006, 12:20 p.m.,*
in response to message #1 by jbssm

Hi, jbssm;

> Quote:
>
> Does this have anything to do with those screws that are holding the golden metal plate inside, how should I proceed?

Most certainly. Also, you should check if the heads are cleaned. It would bve a better idea to check the heads, firts. If not, go to the adjustments.

When I got the HP97 I have now, it had the following sympton: everytime it was turned on, the card reaedr started working and the message Error was shown in the display. After that, all of the calculator functions

worked except the ones related to the card reader. It could not read from neither write to cards.

All I did was to adjust the screws. Each of the three screw adjust a thin (and very sensitive) metal blade that act as a contact. Each blade is moved by a tiny plastic wheel Their functions are as follows:
detect when a card is inserted (and turn the pulling motor on)
detect it is in position to be read/written and
detect if the card is either protected or 'written-free'.

Without any card inserted in the card-reader, all of these contacts must be in open position, then they might close, each one at a time, when a card is inserted. Tony Duel once post that the suggested adjustment is to turn each screw in at a time till the very moment that the corresponding contact is closed, then turn it back 1/8 of a turn and check if the contact is open. As we have three contacts, there are three screws.

In the same printed board (I have some pictures at home, if needed I post them later) you can see four soldering contacts alined with each other, each one with a different leter closed to it. These are the 'testing points' for the contacts, being the fourth point the common one. You can use an electronic ohmmetter and verify each contact status through these contact points.

Hope this helps for now. If needed, let me know and later I'll post some pictures showing these 'elementes'...

Cheers.

Luiz (Brazil)

Edited: 24 Mar 2006, 12:26 p.m.

Re: HP-97 Card Reader - Only works sometimes

*Message #4 Posted by **David Smith** on 24 Mar 2006, 12:22 p.m.,*
in response to message #1 by jbssm

Most likely you need to clean the head. The best way to clean the head is to disassemble the reader. Or you can use the red cleaning card. If you dont have the cleaning card you can wet a card with 91%+ isopropyl alcohol and feed it through the reader several times (it will probably slip and need to be pulled through manually). Then wait for the alcohol to dry.

Another problem could be a failing tantalum filter capacitor on the power lines to the card reader chip. It is a dipped tantalum cap that is usually blue in color that fails.

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RPN calc 4 Google desktop?

*Message #1 Posted by **Mike (Stgt)** on 24 Mar 2006, 5:48 a.m.*

Is there something similar to this 4-banger for Google desktop already? I only found this AOS type yet. TIA.

Ciao.....Mike

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HP-41 rubber feet replacements

*Message #1 Posted by **Donald Leonard** on 24 Mar 2006, 4:24 a.m.*

Does anyone know of a source for replacement HP-41 rubber feet? I would like to add them to my new MLDL2000 and don't want to steal them from my Card Reader. If no one knows of a source, I may have to try some thin bicycle inner tube material.

Donald

Re: HP-41 rubber feet replacements

*Message #2 Posted by **Klaus** on 24 Mar 2006, 9:48 a.m.,*
in response to message #1 by Donald Leonard

Someone sells them on eBay, or have a look in the classified section on this site.

If you just need one, and you can't find any other source, I might have a spare one I can give away for free.

Have a nice weekend! Klaus

Re: HP-41 rubber feet replacements

*Message #3 Posted by **Donald Leonard** on 24 Mar 2006, 3:05 p.m.,*
in response to message #2 by Klaus

I checked the ads, and only one poster (a WTB) was listed and unanswered.

One rubber foot would work fine as this is all the Card Reader case needs. And I have a roll of double backed tape. I'll try to contact you by e-mail. If I can't find your e-mail address, please contact me through donald18NOSPAM@sonic.net with the usual removals.

Re: HP-41 rubber feet replacements

*Message #4 Posted by **David Smith** on 24 Mar 2006, 12:24 p.m.,*
in response to message #1 by Donald Leonard

You can use EPDM sheet roofing rubber available at home supply stores (but you may gavce to buy a 1x12 foot piece). Also good hardware stores have rubber sheet gasket material in smaller sizes in the plumbing area.

Re: HP-41 rubber feet replacements

*Message #5 Posted by **David Smith** on 25 Mar 2006, 5:33 p.m.,*
in response to message #4 by David Smith

BTW, the best tape for sticking feet is 3M OUTDOOR carpet tape. It is black in color and slightly textured.

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replacement backlabels

*Message #1 Posted by **Matthias Wehrli** on 24 Mar 2006, 12:26 a.m.*

A while ago there was someone selling rebuilded backlabels for the classic serie. Do you remember the email of that person?

Re: replacement backlabels

*Message #2 Posted by **Etienne Victoria** on 24 Mar 2006, 2:45 a.m.,*
in response to message #1 by Matthias Wehrli

Hallo Matthias,

IIRC, his ebay ID is obh8899. I have purchased perfect replicas from him, coming from Malaysia.

Through Ebay, you can send him a message.

Etienne

back label

*Message #3 Posted by **marais** on 24 Mar 2006, 2:04 p.m.,*
in response to message #2 by Etienne Victoria

I purchased to 67 labels and can confirm the high quality of the labels. They are slightly thicker than the original, but it really doesn't show. The print quality is excellent.

Andreas

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HP 97 Self Diagnostics

*Message #1 Posted by **Brian Blackwell** on 23 Mar 2006, 9:08 p.m.*

I have an HP 97 which I retired many years ago in working order. Online I recently found and purchased new batteries and awaiting delivery. I would like to test the calculator once the batteries arrive. Does anyone know if there is a self diagnostics built into the calculator and how to activate it. Thank you in advance for any advice.

Re: HP 97 Self Diagnostics

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 23 Mar 2006, 10:22 p.m.,*
in response to message #1 by Brian Blackwell

Hi, Brian;

I have a working HP97 and, for as long as I know, these calculators have no specific buitl in, self-test feature. Anyway, their original Service Manual includes two programs that are used to test their features and locate, if applicable, in which ROM does the problem occur, I mean, if there is any problem with the calculator.

Anyway, if you make sure the batteries are fully charged and you place them correctly, simply turn it on, check if the display showns 0.00, try a few calculations, read/writ a magnetic card, print something and go ahead. (good) Chances are that your 'retired' HP97 becomes active in a heart beat. These small 'beasts' come from a time when daring was not exactly dreamming...

Success!

Luiz (Brazil)

Re: HP 97 Self Diagnostics

*Message #3 Posted by **Klaus** on 24 Mar 2006, 2:23 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Hi Luiz, hi all!

My HP-67 has a magnetic "diagnostic" card, it was in the standard pac. If the card reader does not work, there is the printed program in the standard-pac manual.

Best wishes! Klaus

You're right! (was: HP 97 Self Diagnostics)

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 24 Mar 2006, 2:23 p.m.,*
in response to message #3 by Klaus

Hallo, Klaus;

You made me remember about the Diagnostic Card and the program listing, you are right. I forgot

about that. Mainly because mine has none... There is also a specific, 'red label' card for cleaning the card reader head.

BTW: in my name, C stands for Claudio, the Portuguese equivalent to the German Klaus.

Cheers.

Luiz (Brazil)

Re: You're right! (was: HP 97 Self Diagnostics)

*Message #5 Posted by **Trent Moseley** on 24 Mar 2006, 4:24 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Luiz,

I remember someone mentioned at one time that is wasn't a good idea to use that abrasive card for cleaning the recording head. What's your opinion?

tm

Red abrasive card for cleaning the recording head

*Message #6 Posted by **Vassilis Prevelakis** on 24 Mar 2006, 4:46 p.m.,*
in response to message #5 by Trent Moseley

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 Trent Moseley wrote:

> I remember someone mentioned at one time that is wasn't a good
> idea to use that abrasive card for cleaning the recording head.
```

Why then would HP put it there in the first place?

Its not a good idea to **overuse** the card, because it is abrasive.

Think of it as prune juice, helpful in small quantities, but you should not overdo it :-)

**vp

Re: Red abrasive card for cleaning the recording head

*Message #7 Posted by **Vieira, L. C. (Brazil)** on 24 Mar 2006, 5:05 p.m.,*
in response to message #6 by Vassilis Prevelakis

Hi;

I second Vassilis. The manual states that one should use the abrasive cleanning card only when the card reader shows some specific behavior.

Cheers.

Luiz (Brazil)

Re: Red abrasive card for cleaning the recording head

*Message #8 Posted by **Brian** on 26 Mar 2006, 8:31 p.m.,*
in response to message #7 by Vieira, L. C. (Brazil)

Wow, thank you all for your help. I found my cards and the diagnostic card. I forgot all about that. Thanks.

While online I found good info about the gummy wheel condition. So I ordered the gummy wheel repair kit. Before I test the reader I will do the repair.

The new battery did bring it to life. And seems to work good.

Any comments or advice on the wheel kit process?

Again thanks for the help.

Re: You're right! (was: HP 97 Self Diagnostics)

*Message #9 Posted by **Klaus** on 27 Mar 2006, 2:14 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Hi Luiz,

amazing coincidence with our names. I think americans are joking that every German's name is either 'Klaus' or 'Fritz', although these name are not so common anymore.

About the red label card: I agree that moderate use will not do any harm (the surface of the dard is rather smooth), but I think for experienced users it is better to take the whole thing apart and clean the head manually. This is because not only the head will be dirty, but also the rubber wheel and the contact balls.

Have a nice week! Klaus

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How do I open an HP-45?

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 23 Mar 2006, 8:41 p.m.*

I bought an HP-45 at a garage sale for two dollars. I inserted a good battery pack from my inventory and the display wouldn't come on. I connected a charger and the calculator works. I looked in the charger connector and saw that the spring switches that are supposed to connect the left and right terminals when a charger isn't connected aren't making contact. I tried to take the back off the calculator to see if I could repair the spring switches. I removed the screws in the battery compartment and the screws under the feet but can't get the cover off. Something near the center of the calculator seems to be holding the cover to the calculator body How do I do get the cover off?

Another question: Can I damage an HP-45 if I connect a charger without a battery pack in place?

Re: How do I open an HP-45?

*Message #2 Posted by **Gerson W. Barbosa** on 23 Mar 2006, 9:08 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

There are two other screws under the back label. I don't know exactly where but comparing with my HP-35 I'd guess it's close to the the TTs in LOW BATTERY in the upper left corner and above the 'T' in FUNCTION in the upper right corner. Some people detach the back label and other people drill it to access the screws. It appears the first method is better (mine has been drilled which means it was serviced at least once).

About the second question, the answer is no by what I know, but you should wait for other replies.

Best regards,

Gerson.

Oops! and two other screws under the bottom rubber feet.

Edited: 23 Mar 2006, 9:10 p.m.

Re: How do I open an HP-45?

*Message #3 Posted by **Thomas Radtke** on 24 Mar 2006, 3:12 a.m.,*
in response to message #2 by Gerson W. Barbosa

You're right with the positions of the screws. I too think that it is a bad idea to drill through the label as it can be detached from the back cover easily (with some patience). If you warm up the label with a hair dryer, the label can be peeled of. When I did this, I made a bad mistake: I peeled just to the position of the screws but no further. Unfortunately, my screw driver touched the label and bent it a little thus leaving a kink in it:(. Anyway, thats still better than to have holes in it!

I have no answer to the second question. When I got my -45, I already had a self-made replacement

battery pack at hand. They are easy to make if you find two thin brass plates that can be angled like the original contact stripes (I can make a picture of it if you need it).

Thomas

Edited: 24 Mar 2006, 3:17 a.m.

Re: How do I open an HP-45?

*Message #4 Posted by **Thomas Radtke** on 24 Mar 2006, 3:15 a.m.,*
in response to message #2 by Gerson W. Barbosa

> Quote:
>
> Oops! and two other screws under the bottom rubber feet.

Ah, I forgot one important thing: That feet can be lifted from the _outside_ to access the screws, no need to take them off!

A picture (NT)

*Message #5 Posted by **Gerson W. Barbosa** on 24 Mar 2006, 4:44 p.m.,*
in response to message #4 by Thomas Radtke

http://www.geocities.com/gwbarbosa/HP-35_back.JPG

Re: How do I open an HP-45?

*Message #6 Posted by **David Smith** on 24 Mar 2006, 12:28 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

The HP35/45/55/70 can work just fine on the charger alone. This should not be done for the HP65 and is very iffy for the HP67.

Many chargers have a bad main electrolytic filter capacitor. It should be replaced whenever you service a new machine.

Re: How do I open an HP-45?

*Message #7 Posted by **Palmer O. Hanson, jr.** on 24 Mar 2006, 9:03 p.m.,*
in response to message #6 by David Smith

Thanks to all for identifying the screws under the label.

Next question: Has anyone tried to repair the spring switches in the charger connector, say by bending them. My experience with other hardware such as the battery connectors is that once the springs have been improperly bent there is no real chance of returning them to original stiffness.

Re: How do I open an HP-45?

*Message #8 Posted by **David Smith** on 25 Mar 2006, 5:37 p.m.,*
in response to message #7 by Palmer O. Hanson, jr.

Yes, you can bend the charger strap. Try not to overdo it. One thing you should do is clean it well and also the charger pins. Often invisible gunk is the cause of a lot of problems. I use some 2000 grit

sandpaper and tweezers. I also treat the pins and strap with some Caig Gold Pen or Deoxit Pen fluid.

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HP41CV/Kern Surveying Instruments

*Message #1 Posted by **William Lafferty** on 23 Mar 2006, 4:45 p.m.*

I am trying to construct a display showing the advancements made by the now defunct Swiss surveying firm Kern with electronic theodolites some time ago. I have an E2 electronic theodolite and EDM, and the DIF41 attachment which enables the theodolite to send data to and receive data from a HP41CV.

I can transfer data from the E2 into the HP41CV registers fine, but I cannot seem to transmit data from the HP41CV to the E2. The instructions in the manuals do not help. They simply refer to a "HP41 program on magnetic card" but to date I have been unable to locate such a program. And the only instructions given seem to be in BASIC language. They are <STX>T172+45.2234<CR><LF><ETX> where STX means start, T1 is the theodolite, 72 is a code number for horizontal circle orientation, 45.2234 the value of the horizontal bearing and LF and ETX are end of transmission protocols.

The manual also says that anything transmitted to the E2 from the HP41 must be in the X register.

If anyone has any knowledge of this, could they please contact me direct on wjlafferty@ozemail.com.au

thanks .....Bill Lafferty

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HP 35 adapter 03502A

*Message #1 Posted by **Michael** on 23 Mar 2006, 3:28 p.m.*

I have the old 03502A adapter for the HP 35 calculator. It doesn't work correctly: when connected to the calculator, then after switching the calculator ON the display lights just for a split second and then the display switches off. Does anbody know, how to open this adapter? There are no visible screws.

Thanks

Michael

http://members.chello.cz/eckstein/adapter.jpg

Re: HP 35 adapter 03502A

*Message #2 Posted by **Frank Boehm** on 23 Mar 2006, 4:41 p.m.,*
in response to message #1 by Michael

it's sealed - you can only crack it open (which is btw not easy...)

Re: HP 35 adapter 03502A

*Message #3 Posted by **Ronald** on 23 Mar 2006, 4:56 p.m.,*
in response to message #1 by Michael

Hi Michael,

Did you check if it the problem is not in the wire itself, I think that is a common problem ?

Ronald

Re: HP 35 adapter 03502A

*Message #4 Posted by **Michael** on 23 Mar 2006, 6:10 p.m.,*
in response to message #3 by Ronald

Voltage between the center pin and the left pin is cca 4.2V, the same 4.2V is between the center pin and the right pin.

Re: HP 35 adapter 03502A

*Message #5 Posted by **Frank Boehm** on 24 Mar 2006, 10:05 a.m.,*
in response to message #4 by Michael

That's only the off-load voltage. I'd suggest checking the voltage again with the calculator plugged in - it's probably well below 4.2V, which hints at a defect (capacitor?)

Does the calculator work with another charger?

Re: HP 35 adapter 03502A

*Message #6 Posted by **Michael** on 24 Mar 2006, 2:33 p.m.,*
in response to message #5 by Frank Boehm

One voltage stays ar 4.2V during load, the second drops to cca 3.3V. I mean that the voltage between the center pin and one of the outer pins should be 16V though. The calculator works well with an another adapter.

Re: HP 35 adapter 03502A

*Message #7 Posted by **Dave Shaffer** on 24 Mar 2006, 5:10 p.m.,*
in response to message #6 by Michael

Even though you say the calculator works with another charger, you might want to check the ON/OFF switch.

On my '35, the switch is rather intermittent, and one of the symptoms seems to be that the calculator switches ON but then goes off immediately. Wiggling the switch (i.e. jiggling the slider back and forth a bit in the on position) will confirm a problem: the LEDs will blink on and off. Spraying some electronic contact cleaner into the switch (be careful, don't overdo it!) may help.

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HP 41C Display Window Replacement

*Message #1 Posted by **Mitch Sisak** on 23 Mar 2006, 12:39 p.m.*

Hello,

I have an HP 41C fullnut with a damaged plastic display window over the LCD. It is badly crazed and I would like to replace it and was wondering if anyone can offer advice on how best to remove the old window and install a new one. As well, any sources of a replacement window would be appreciated. Window from a parts unit? A piece of suitably machined plexiglas? Thickness?

Thanks in advance for your time,

Mitch

Re: HP 41C Display Window Replacement

*Message #2 Posted by **Artur - Brasil** on 23 Mar 2006, 3:55 p.m.,*
in response to message #1 by Mitch Sisak

Hi,

I believe you could begin removing the display module from calculator. This will give you access to the protective plastic. As replacement, I have used for 11C, 15C a piece cutted from CD cases. For glueing it to the case, I believe you could use small quantities of liquid Epoxi or that glue watchmakers use to glue the watches glasses. Good luck in your services! Artur

Re: HP 41C Display Window Replacement

*Message #3 Posted by **Vassilis Prevelakis** on 24 Mar 2006, 9:06 a.m.,*
in response to message #1 by Mitch Sisak

If its only scratched, can't you polish it? its MUCH easier than replacing it.

**vp

Re: HP 41C Display Window Replacement

*Message #4 Posted by **mitch sisak** on 24 Mar 2006, 9:48 a.m.,*
in response to message #3 by Vassilis Prevelakis

Hi,

Thanks for the responses.

As to polishing, that will not work as the crazing of the window actually seems to be within the plastic. This resulted when I tried to remove some dust from the LCD with "canned air", tipped the can too far over and blew propellant onto the plastic window. The cold blast left the crazing... so, replacement seems to be

the only option. Again, any idea about how best to remove the window which is currently in place?

Thanks,

Mitch

Re: HP 41C Display Window Replacement

*Message #5 Posted by **db (martinez, ca.)** on 24 Mar 2006, 10:31 p.m.,*
in response to message #4 by mitch sisak

You can desolder and remove the screen on the older models. That lets you replace the window out through the back. On the halfnuts you'll have to cut each heat stake and take out the pcb, or bust/cut the top of the case to slip it out in the direction that the roms slip in. Both of the latter sound like fingernails on a blackboard to me. Two years ago, Mike S. Davis (not the pale imitation without the S) had a couple of new windows in his spares box. You can contact him through msdsite.com. Good luck.

Re: HP 41C Display Window Replacement

*Message #6 Posted by **Klaus** on 27 Mar 2006, 7:19 a.m.,*
in response to message #4 by mitch sisak

The HP-41C/CV/CX service manual has a section (3.4) about display replacements. Have a look on TOS!

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Twenty-three year battery life in 15c?

*Message #1 Posted by **S.B.** on 23 Mar 2006, 11:46 a.m.*

I have an HP-15c that I purchased in 1983. To the best of my recollection I have never changed the batteries, and it's still running on its originals. I have a friend who says the same thing about his HP-15c.

Is this at all possible? I've used it very little in the past fifteen years, but I do use it on occasion.

Re: Twenty-three year battery life in 15c?

*Message #2 Posted by **bill platt** on 23 Mar 2006, 11:50 a.m.,*
in response to message #1 by S.B.

Yes it is possible.

My wife has a Sharp Elsi-mate with an aa (aaa?_) cell that is still good after over 20 years.

Re: Twenty-three year battery life in 15c?

*Message #3 Posted by **Richard Garner** on 23 Mar 2006, 12:32 p.m.,*
in response to message #1 by S.B.

Yes, this is very possible. I owned a 15C for 20 year and only changed the batteries once. That was only because the batteries in my 42S were low and I hadn't used the 15C in about 5 years so I swapped the batteries. The 42S ran for another year before replacing them. One thing to note, they were Silver Oxide batteries.

Re: Twenty-three year battery life in 15c?

*Message #4 Posted by **David Smith** on 24 Mar 2006, 12:32 p.m.,*
in response to message #1 by S.B.

You should change them regulalrly even if they are still good. Otherwise you wake up one day with a machine damaged by leaking batteries.

Re: Twenty-three year battery life in 15c?

*Message #5 Posted by **John Smitherman** on 24 Mar 2006, 2:33 p.m.,*
in response to message #4 by David Smith

> Quote:
>
> You should change them regulalrly even if they are still good. Otherwise you wake up one day with a machine damaged by leaking batteries.

You make an important point about routine calculator maintenance. One action that I have taken to address

this issue is to open up the battery compartment of my calculators and other electronic devices yearly to inspect the condition of the batteries. I have a 15c running on 19 year old batteries.

Regards,

John

Re: Twenty-three year battery life in 15c?

*Message #6 Posted by **bill platt** on 24 Mar 2006, 3:09 p.m.,*
in response to message #5 by John Smitherman

Two general questions.

1. Has anybody ever seen a *Silver* cell leak (type 357)?

2. How can my wife's Elsi-mate run on a AAA for 20 years without leaking? Were there non-alk non-carbon AAA cells?

Re: Twenty-three year battery life in 15c?

*Message #7 Posted by **John Limpert** on 24 Mar 2006, 9:41 p.m.,*
in response to message #6 by bill platt

I've never seen a leaking silver oxide cell.

I've used lithium AA cells. According to Google, they also make lithium AAA cells.

Re: Twenty-three year battery life in 15c?

*Message #8 Posted by **David Smith** on 25 Mar 2006, 5:40 p.m.,*
in response to message #7 by John Limpert

ALL cells will eventually leak. ALL seals will eventually fail. Particularly in a mass produced $1 consumer item.

Twenty-three year battery life in my 11c?

*Message #9 Posted by **Palmer O. Hanson, Jr.** on 25 Mar 2006, 8:32 p.m.,*
in response to message #1 by S.B.

I purchased my HP-11C in December 1982. The batteries have never been changed. It still runs properly. I removed the batteries. The no-load output voltage has dropped to 1.4 volts.

Re: Twenty-three year battery life in 15c?

*Message #10 Posted by **John Kercheval** on 26 Mar 2006, 11:24 a.m.,*
in response to message #1 by S.B.

Yes, that is possible. A colleague of mine has a 41CV and has not changed the batteries since 1984.

John Kercheval Washington, DC

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Twenty-three year battery life in 15c?

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screen contrast 41cx

*Message #1 Posted by **don** on 23 Mar 2006, 11:37 a.m.*

Is there a way to adjust screen contrast on 41cx? Cannot find any reference in my manuals and ran a search on this forum.

thanks

don

Re: screen contrast 41cx

*Message #2 Posted by **Richard Garner** on 23 Mar 2006, 12:43 p.m.,*
in response to message #1 by don

There is no direct or indirect way to change the contrast on a 41CX Fullnut. The 41CX Halfnut (black band around the display) however has additional coding that can be accessed using M-Code to change the screen contrast, but I have never seen any code that actually did this.

Re: screen contrast 41cx

*Message #3 Posted by **jbssm** on 23 Mar 2006, 12:44 p.m.,*
in response to message #1 by don

Hi Don,

unfortunately it's not possible to adjust contrast on the HP 41C Series.

But in my units it's always pretty good ... perhaps you need new batteries.

Regards, jbssm

Re: screen contrast 41cx

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 23 Mar 2006, 12:46 p.m.,*
in response to message #1 by don

Hi;

there is a way to adjust contrast only in halfnut HP41's, and it is necessary to have at least one ROM module with such feature/function. If I am not wrong, Angel's Toolbox has this feature. There are others I do not know by heart, though.

The main difference between the halfnut and the fullnut may be observed in the shape of the digit segments and in the LCD frame.

This is an image available at the MoHPC:

Hope this helps.

Luiz (Brazil)

Re: screen contrast 41cx

*Message #5 Posted by **don** on 23 Mar 2006, 2:08 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Thanks, all. Mine is the original screen and tried the battery change routine and there are still problems. The alpha-numeric output is very readable and dark enough.....the problem is there is some faint images behind the alpha-numeric output. This faint output is on the bottom line (shift, bat, ect) and also on the line above that. It is intermitent, not constant.

I actually have 2 41cx's so I can compare the two and am quite sure it is a calculator display problem and not a problem with my expectations.

many thanks

don

Re: screen contrast 41cx

*Message #6 Posted by **Miki Mihajlovic** on 23 Mar 2006, 11:56 p.m.,*
in response to message #5 by don

Sandbox (CTRST, CTRST?, CNT+, CNT-) and Hepax (HEPAX 005) are the only two modules that have functions to adjust the contrast of LCD. On halfnut models only, though.

Re: screen contrast 41cx

*Message #7 Posted by **don** on 24 Mar 2006, 4:51 p.m.,*
in response to message #6 by Miki Mihajlovic

thanks Miki, I'll just live with the display as is.

don

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power adaptor/charger

*Message #1 Posted by **richard ask** on 23 Mar 2006, 6:38 a.m.*

what do I need for the "vintage series" HP35,45,55,65 AC or DC output ? Voltage? max current?

(Of course I could buy an original charger on eBay such as the 82002A I guess, but I have almost 20 different chargers for old dead cellphones, so I want to save me that expense.)

Re: power adaptor/charger

*Message #2 Posted by **Tony Duell** on 23 Mar 2006, 6:50 a.m.,*
in response to message #1 by richard ask

The charger for these machines has 2 outputs (with a common -ve connection on the centre pin).

One output is 4.2V regulated, DC. This is used to run the calculator logic when the charger is connected.

The other output is constant _current_, 55mA with an open-circuit voltage of about 15V. Note this is not the same as a 15V adapter, it must be constant current since it's directly connected to the NiCd battery when the charger is connected. This is used, of course, to charge the battery.

On the 65 and 67, the card reader sense amplifier chip is connected to the battery connections. You need to take care not to damage that if you use a non-standard charger. This chip is HP-custom, and the one in the 65 is supposed to be more fragile (electrically) than the one in the 67 and later machines.

There's an ASCII-art schematic of the HP charger over in the Articles Forum. And a hand-drawn one on the HPCC schematics CD-ROM (at the 'back' of every classic-series schematic IIRC). If you want to build something, that would be a good starting point. The transistors are all pretty generic types, nothing critical.

But I doubt any other charger will work without damage!

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Ram card on HP48GX

*Message #1 Posted by **sarkiss** on 22 Mar 2006, 6:18 p.m.*

I have a 48GX. I bought a 512KB ram card to expand my memory. Later I stored a library on that card. I put the ram card on slot #1. I can access the library and use the programs in the library, but when I check my available memory it's barly over 90KB. If I take out the ram card and check the memory , it's still 90 KB. Why I don't see the expanded memory. I know that on slot # 1 the calculater sees only the first 128KB and cannot use the rest, but no matter if I put the card on #1 or #2 slot,the memory is always 90KB. One other ? I have is that I get error massege now when I want to add another library to that ram card.

Re: Ram card on HP48GX

*Message #2 Posted by **bill platt** on 22 Mar 2006, 6:40 p.m.,*
in response to message #1 by sarkiss

Look up the manual.

I think you are getting port meory confused with merged memory. But you cannot merge anything more than a 128 kb card, and so the 512 will always be port memory.

Merged memory takes the card and "merges" it with onboard system memory. At that point, it is no longer port memry--and removing the card is like taking part of the brain out.

**If you put your 512 kb card into slot 2* it will show up as port 1, 2, 3, etc. Without the card, you only have port 0.

Putting a card into slot 1 does not automatically merge it. You have to ask for that. This is on purpose--for some configs, a person doesn't need extra system memory--but does need storage. The merge feature enables the user to configure this aspect.

Edited: 22 Mar 2006, 10:04 p.m.

Re: Ram card on HP48GX

*Message #3 Posted by **bill platt** on 22 Mar 2006, 10:06 p.m.,*
in response to message #2 by bill platt

I forgot to mention orginally (editd in now) that you can used the 412 card--but only in slot 2. You do not need to have a card in slot 1 in order to use a card in slot 2. You just don't have the merge1 available.

Re: Ram card on HP48GX

*Message #4 Posted by **sarkiss** on 23 Mar 2006, 1:27 a.m.,*
in response to message #2 by bill platt

> Quote:
>
> Look up the manual.

Thank you for your comment. As you and Han have recommended, I took the 512 ram card from slot 1 and put it

in slot 2. When I turn it on it gives me Warning "Invalid Card Data" but it works after that ,I checked my library on that card, everything is accessable. Now I have downloaded another library from Hpcalc.org, based on instruction i have to put the # of port on stack and install it on that port which is port 2 now, but it gives me STO Error " Bad Argument Type". How can I check on a ram card what available memory is? I personally don't think it's not enough memory on that card, bacause the library sitting on my computer before installation was 80KB. Another question: I have bought a library on a memory card, I don't know what the size of the card is. I can access the card with right shift and Library key, do you think it's OK to leave this one on slot 1?

Edited: 23 Mar 2006, 1:28 a.m.

Re: Ram card on HP48GX

*Message #5 Posted by **Han** on 23 Mar 2006, 2:09 a.m.,*
in response to message #4 by sarkiss

To clarify, allow me to make a few definitions.

Card slot: the physical slots into which a ROM or RAM card is inserted. The HP48GX has two such slots. Card slot 1 can only recognize 128KB of RAM. Inserting a RAM card with a larger capacity could possibly damage the card and/or card slot.

Port: this is an HP48 object, very much like a library or variable or program are all HP48 objects. The HP48GX can have up to 33 ports (0 through 32). Port 0 is the same as user memory. Port 1 is the port associated to card slot 1. Ports 2, 3, 4, ... and higher are associated with card slot 2. Each port has a maximum size of 128KB.

Memory Bank: a subsection of memory. As an example, your 512KB RAM card consists of 4 banks of memory, each of size 128KB. Each recognized bank of RAM creates a port. Card slot 1 only recognizes one bank; card slot 2 recognizes all banks.

Merged Memory: user memory combined with the memory in card slot 1. You can have a maximum of 256KB memory by using the MERGE1 command with a 128KB RAM card inserted into card slot 1. (Remember that card slot 1 only sees 128KB of RAM.) This plus the default 128KB of user memory produces 256KB of merged memory. Card slot 2 cannot be merged.

There are two types of 512KB RAM cards: The 1x512KB type which, when inserted into card slot 2, produces Ports 2, 3, 4, and 5; the 4x128KB type is, practically speaking, four 128KB RAM cards in one. On the 4x128KB card, there is a switch that allows you to manually "change" to one of the four virtual RAM cards.

Re: Ram card on HP48GX

*Message #6 Posted by **Howard Owen** on 23 Mar 2006, 2:45 a.m.,*
in response to message #4 by sarkiss

> Quote:
>
> I took the 512 ram card from slot 1 and put it in slot 2. When I turn it on it gives me Warning "Invalid Card Data" but it works after that

That error is due to the fact that 1 or more of the banks on your card are uninitialized. That makes sense if you were using it in port 1. Run PINIT and that error should go away, and you should also be able to use the rest of your memory in slot 2. (Ports 2, 3, 4 and 5.)

> Quote:

> I checked my library on that card, everything is accessable. Now I have downloaded another library from Hpcalc.org, based on instruction i have to put the # of port on stack and install it on that port which is port 2 now, but it gives me STO Error " Bad Argument Type". How can I check on a ram card what available memory is? I personally don't think it's not enough memory on that card, bacause the library sitting on my computer before installation was 80KB.

The procedure is 1) put the library on the stack, 2) enter the port number, for example 2, 3) Press the STO key. That error implies that the object on the stack is not the correct type. On the stack, the library should look like 'Library nnn abcd..' where 'nnn'is the library number and 'abcde..' is its text description. So you should have that on stack level 2 and the port number in level 1 before pressing 'STO'.

To see what is in a particular port. Put the port number on the stack and execute 'PVARS'. This will return a list of library addresses in level 2 and the free memory in the port on level 1.

> Quote:
>
> Another question: I have bought a library on a memory card, I don't know what the size of the card is. I can access the card with right shift and Library key, do you think it's OK to leave this one on slot 1?

Odds are it is a 128K card that will do just fine in slot 1. What is the card?

Regards,
Howard

Edited: 23 Mar 2006, 2:50 a.m.

Re: Ram card on HP48GX

*Message #7 Posted by **sarkiss** on 23 Mar 2006, 1:38 p.m.,*
in response to message #6 by Howard Owen

> Quote:
>
> Odds are it is a 128K card that will do just fine in slot 1. What is the card?
>
> Regards,
> Howard

Regarding the card in slot 1, it's a collection of land surveying equations programmed into a plug-in library card. When I used the PVARS command following was on stack 2:
:1:995.0000:1:991.000:1:989.000:1:997.000:1:987.000:1:985.000:1:1001.0000:1:993.0000:1:983.0000:1:981
On Stack 1 was showing "ROM". I have a question, I had a library on that 512 card, now I finally managed to add the other library, old one on port 4 and new one on port 2, but when I go to left shift "alfa" and hit CST I only can access the new library. What happend to the old library sitting on port 4? It is still there, because when I check with PVARS on stack 2 I have :4:1013.000 and on stack one I have 48,369.000 which shows there is some memory taken.

Re: Ram card on HP48GX

*Message #8 Posted by **Howard Owen** on 23 Mar 2006, 5:41 p.m.,*
in response to message #7 by sarkiss

OK, so that ROM card is probably quite happy sitting i slot 1.

> Quote:
>
> .. but when I go to left shift "alfa" and hit CST ..

Left-shift-alpha gives you user mode. User mode CST doesn't produce anything on my machine. So someone is defining a custom menu on the CST key for you. (Perhaps more experienced 48G folks can elaborate.) The way you get to libraries generically is to press right-shift-2 (LIBRARY). This brings up a menu with softkeys for each installed library. (Left-shift 2 gets you a menu of useful commands for use with libraries, including PVARS.)

Regards,
Howard

Edited: 23 Mar 2006, 5:42 p.m.

Re: Ram card on HP48GX

*Message #9 Posted by **sarkiss** on 23 Mar 2006, 9:15 p.m.,*
in response to message #8 by Howard Owen

> Quote:
>
> OK, so that ROM card is probably quite happy sitting i slot 1.
>
> Left-shift-alpha gives you user mode. User mode CST doesn't produce anything on my machine. So someone is defining a custom menu on the CST key for you. (Perhaps more experienced 48G folks can elaborate.) The way you get to libraries generically is to press right-shift-2 (LIBRARY). This brings up a menu with softkeys for each installed library. (Left-shift 2 gets you a menu of useful commands for use with libraries, including PVARS.)
>
> Regards,
> Howard

Thanks Howard, Your advise helped me alot. As you said I can access libraries with right shift LIBRARY.

Re: Ram card on HP48GX

*Message #10 Posted by **Han** on 22 Mar 2006, 7:30 p.m.,*
in response to message #1 by sarkiss

In order to expand user memory on an HP48GX, you must use the MERGE1 command with a 128KB RAM card in card slot one. This "merges" the memory in the RAM card with the default 128KB user memory.

I do not recommend using a 512KB RAM card in slot one. While the HP may see one of the banks on the 512KB RAM card, it is not clear that it is always the same bank. In fact, there are various pins in card slot one which correspond to the LCD signals. If these are read as input for the 512KB RAM chip, you may end up corrupting the data on your RAM card. Also, if you merge memory with a 512KB RAM card in slot one, the HP may use the wrong bank the next time you turn on the calculator or re-insert the card.

I recommend re-reading your user's manual and try to abide by the rules set out by HP regarding card slots.

Best of luck, Han

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A fine, but pricey HP-12C

*Message #1 Posted by **Karl Schneider** on 22 Mar 2006, 3:23 p.m.*

Here's a link to a recent auction for a first-year (1981) HP-12C in mint condition -- first time I've seen one go for > US$500.

The seller certainly knew which significant points to emphasize...

A fine, but pricey HP-12C

-- KS

Re: A fine, but pricey HP-12C

*Message #2 Posted by **bill platt** on 22 Mar 2006, 3:45 p.m.,*
in response to message #1 by Karl Schneider

Now *that* is a nice auction. It pays off to do a good job.

Interesting to note that his 11c got exactly half of the 12c value:

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&category=58039&item=5881343614

Counterintuitive perhaps?

Edited: 22 Mar 2006, 3:48 p.m.

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opening Woodstock calculators

*Message #1 Posted by **Matthias Wehrli** on 22 Mar 2006, 11:43 a.m.*

I need some advice (text, pictures, ..) how to open these sort of calculators.. not the simplest thing, but to repair a HP-29C or HP-27A it is worth that time ;)

Matthias

Re: opening Woodstock calculators

*Message #2 Posted by **Bernhard** on 22 Mar 2006, 6:28 p.m.,*
in response to message #1 by Matthias Wehrli

The procedure I use on the HP21...HP29C series:

Remove battery. Pull out the two topmost rubber feets (i.e. using a dentist's hook). Remove the two screws now visible. Gently apply some pressure to the charger contacts until the keyboard comes out of the shell by about 2...3 mm. Now the trick: turn the unit upside down and stick a thumb's fingernail between the keyboard and the shell near the point (*) on the label with "Hewlett * Packard". There should be a snapping sound and the keyboard now is free from the shell. The whole assembly (keyboard + electronics) now is loose and can be removed from the shell (gently, gently, remember those battery contacts that protrude into the battery compartment).

During reassembly, it is important to snap keyboard + electronics plugged together into the shell. If you put in the electronics first and then try to snap the keyboard in, some of the connector spikes most likely will be bent.

(No warranty implied and no liability taken especially for broken fingernails. Note that a metal blade etc. might damage the plastic).

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Corbulin bargain :-)))

*Message #1 Posted by **gileno** on 22 Mar 2006, 11:38 a.m.*

Corbulin bargain

Re: Corbulin bargain :-)))

*Message #2 Posted by **bill platt** on 22 Mar 2006, 12:38 p.m.,*
in response to message #1 by gileno

Let's start a flame war...

Here's another:

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&category=80345&item=5877997477

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&category=55808&item=7598249851

Gee, what do you know--coburlin *buys* things for a lot of money as well as *sells*

Hmmm, that seems *so* unethical...NOT.

Can we cut this crap out already!

Re: Corbulin bargain :-)))

*Message #3 Posted by **Howard Owen** on 22 Mar 2006, 12:53 p.m.,*
in response to message #2 by bill platt

He actually is very good at finding bargains. I suspect he's using some sort of automation.

Not that either of those things are unethical, just annoying.

Regards,
Howard

(Yes, "I wish I'd grabbed *that* one" is a big part of my annoyance. 8)

Re: Corbulin bargain :-)))

*Message #4 Posted by **Namir** on 22 Mar 2006, 2:31 p.m.,*
in response to message #3 by Howard Owen

Ask me if I even remmtely care!

:-)

Namir

Corbulin bargain :-)))

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Repair help

*Message #1 Posted by **Julio Ponce** on 21 Mar 2006, 3:17 p.m.*

Hi all: I have a hp-11c and a hp-25, with the 11c once I changed batteries and my calculator was dead. Until yesterday using a small 10 cents coin, sliped the sides of the coin between both sides of the battery spring clips, at the same time with the coin, then reinstalled the batteries (LR-44), and turned it on but I did not see a " Memory Clear ", "Pr Error" or similar message. What I saw is a permanet: - 8,8,8,8,8,8,8,8,8,8 user f g begin grad dmy c progm and it turned off until removed the batteries out.

With the hp-25 I had a battery leakage and never noticed until I changed the batteries, the new radio shack batteries charged but, the calculator doesn´t work; with the battery charger conected, the display turns on all digits, varying the brightnees of the leds continously, but doesn´t works proper. I ask for help to fix these problems.

Thanks a lot .

Re: Repair help

*Message #2 Posted by **George Rose** on 21 Mar 2006, 7:43 p.m.,*
in response to message #1 by Julio Ponce

I'm sure you'll receive lots of help from more informed persons than myself. My guess for the 11C is that with the new batteries the contrast needs to be turned down. I no longer have a Voyager series, but I believe with the calculator on, press and hold the on button and press the minus button several times to keep decreasing the contrast setting to the desired level.

Re: Repair help

*Message #3 Posted by **Gerson W. Barbosa** on 21 Mar 2006, 8:39 p.m.,*
in response to message #2 by George Rose

The ON/- procedure would only clear the memory on a working Voyager. There is no way to adjust the contrast of the display on the Voyagers, but there is no need to as the constrast is always very good.

Re: Repair help

*Message #4 Posted by **Karl Schneider** on 21 Mar 2006, 11:14 p.m.,*
in response to message #1 by Julio Ponce

Julio --

> Quote:
>
> ...What I saw is a permanet: - 8,8,8,8,8,8,8,8,8,8 user f g begin grad dmy c progm and it turned off until removed the batteries out.

If I understand that correctly, all LCD display segments and annunciators showed, then you turned it off and

removed the cells?

That display is the conclusion of a successful ON/X self-test. Hitting the backarrow (<-) key should display zero in the chosen or default display format.

-- KS

Re: Repair help

*Message #5 Posted by **Hal** on 22 Mar 2006, 12:28 a.m.,*
in response to message #1 by Julio Ponce

Hello Julio,
On your hp25, please, please don't try to run it with the AC adapter connected, untill you are sure the battery pack is making good contact. The battery pack also acts as the voltage regulator when the AC adapter is connected, and without it, the calculator IC's may be damaged by excessive voltage.
I would suggest carefully cleaning the calculators battery contacts, the ends of the batteries, and the spring that connects the batteries in the battery pack (I'm assuming since you've replaced the batteries, the soldered on strap is no more). To clean, polish until shiny with a pencil eraser, then gently rub with a q-tip moistened with alchohol. I would then suggest charging the batteries out of the calculator, with a commercial ni-cad/nim-h charger, then trying it again with only the battery pack. Let us know how it works, and best of luck.
Hal

Re: Repair help

*Message #6 Posted by **David Smith** on 22 Mar 2006, 4:41 p.m.,*
in response to message #1 by Julio Ponce

While the batteries ARE installed in the 11C, short across the stack of battery cells with a paper clip for a couple of seconds. This is mentioned in the back of some of the manuals.

Re: Repair help

*Message #7 Posted by **Laurent** on 24 Mar 2006, 5:30 a.m.,*
in response to message #1 by Julio Ponce

As hal said, be very careful when connecting a charger on the HP25. I have one whose battery contacts were so much corroded that I had to solder a small piece of electrical wire to ensure the contact between the two printboard tracks which go from the contact. Again, thoroughly clean up the contacts before connecting the charger.

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Cover for HP 9G?

*Message #1 Posted by **Bruce Baier** on 21 Mar 2006, 10:30 a.m.*

Hi everyone,

I just bought a used HP 9g (used) very inexpensively, but it didn't come with the protective hard case / cover. Anyone know where to find a spare one? I think the same cover is used by the HP 9g, 9s, and 30s calculators. Please email me if you have any information. Thanks very much.

Bruce Baier baierb@hotmail.com

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Ultrasonic cleaning? Any experiences?

*Message #1 Posted by **Jim Creybohm** on 21 Mar 2006, 9:31 a.m.*

Hi all.

I read a note posted by another reader on using an ultrasonic cleaner to clean his HP calcs. I am curious to know from others with more experience in this what kind of cleaning fluid they are using.

Are the calcs dismantled? I would think that cleaning some circuit boards might be OK, but certain mechanical things such as solder connections would or could break down? I can definitely see grime being taken off the keypad, for example thus perhaps eliminating the nasty wipe lines that you often see around the keys.

Are you using deionized water or something more exotic? I would think only water would be preferable?

And last, what calcs have you cleaned using this procedure?

Re: Ultrasonic cleaning? Any experiences?

*Message #2 Posted by **Frank Boehm** on 21 Mar 2006, 2:59 p.m.,*
in response to message #1 by Jim Creybohm

I purchased such a cleaner 15 years ago or so (when they were really expensive <g>) - the results were not too impressive. It's a nice thing for removing dust from small parts. A different story for 30 years old fat (fingerprints plus dirt) on plastics though - you can't use any aggressive solvents. The HPs are made of "good" plastics, still the prints might fade or the plastics might suffer when cleaned with the wrong stuff. I'd suggest to disassemble the calculator; keys (2-shot-molds) are well suited for the cleaner, using some standard detergent. For the case, I'd suggest to use hot (warm) water with dishwashing detergent and a mostly-soft sponge. Don't clean the printed parts this way, only the plastic ("rough") parts... For everything else, I'd suggest using window cleaner (without ammonia and without solvents) and q-tips. Be *very* careful, as you still could easily ruin the surface or printing. Better test this in advance. It's usually not necessary to clean the electronics; window cleaner works well if desired. Be sure to dry the parts before using the calculator again.

So, if you can get your hands on a cheap cleaner - go for it, it might be useful. It's not suited for a whole calculator though - you nede to disassemble it....

Re: Ultrasonic cleaning? Any experiences?

*Message #3 Posted by **Thomas Radtke** on 22 Mar 2006, 6:52 a.m.,*
in response to message #1 by Jim Creybohm

> Quote:
>
> Are the calcs dismantled? I would think that cleaning some circuit boards might be OK, but certain mechanical things such as solder connections would or could break down?

Recently I cleaned a -45 purchased from a heavy smoker. I completely dismantled the machine and applied

the german cleaner 'Sidol Küchenkraft' on all parts, including PCBs. It is not very agressive but as soon as you spray it on the parts, you see the tar running down with the cleaner. After that treatment, I applied lots of warm water (beware, if too hot, some plastic parts may deform!). There was still some dirt under the key contact arcs which I had to remove by hand (with a wooden toothpick thinned to less than 500 microns). I wonder how it could get there since the plastic sheet was still intact.

> Quote:
>
> Are you using deionized water or something more exotic? I would think only water would be preferable?

This 'Sidol' works great, have used it for several calcs, including a TI-66 and a Casio. Unfortunately, no ingredients are given on the bottle:(.

About the ultrasonic bath, I have used them in the lab but never tried to clean something in them. If I got this right, Randy is using this method to not have to dismantle the calcs. In this case, no cleaner should be applied as it would be nearly impossible to get it out afterwards. At least, my 'Sidol' can be quite sticky if not washed away _very_ thoroughly.

Good luck,

Thomas

(Edited: You find a picture of that shiny 45 in the 'how to open 82001A battery pack' thread)

Edited: 22 Mar 2006, 7:30 a.m.

Re: Ultrasonic cleaning? Any experiences?

*Message #4 Posted by **David Smith** on 22 Mar 2006, 4:47 p.m.,*
in response to message #1 by Jim Creybohm

When I have to use ultrasound on a machine, I use three cycles of distilled water, shaking as much as possible out between cycles. I have added some window cleaner in the first cycle and some Kodak PhotoFlo wetting agent in the last one. You can then dry the thing in a LOW oven or hot car.

I had a MINT HP-55 with a bad power switch and some flakey keys. I tossed the whole thing in the ultrasound since I did not want to mess with the rear label. It came out working perfectly. Also has worked wonders on HP42's that were dropped in mud and rivers.

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HP-28S Clock Accuracy

*Message #1 Posted by **Juan J** on 21 Mar 2006, 2:00 a.m.*

Although it is not mentioned in the manual, it is possible to set up a clock in the HP-28S using a set of programs.

A while ago I got two 28S and loaded the programs. I do not use a watch, and I always find out what time is it with a check on one of my calculators or PDAs.

Because of some unfortunate events I had to put both 28S in storage two years ago, with batteries. Last weekend I got them out of storage and checked them. Fortunately, the batteries did not leak and the battery compartment was intact. Then I checked the clock. It was fifteen minutes past the current time on one of the calculators, and fourteen minutes before on the other. Other than this, the two 28S were fine and now have new batteries.

I have checked about the accuracy of the program on the documentation I have but there is not much. Does anybody have any experience on this?

Thanks in advance.

Re: HP-28S Clock Accuracy

*Message #2 Posted by **Eric Smith** on 21 Mar 2006, 2:39 a.m.,*
in response to message #1 by Juan J

I am surprised that you would be concerned about it. An error of 15 minutes in 2 years is only 28 parts per million, which is well within spec for an untrimmed 32 KHz crystal oscillator such as the one in an HP-28S. Few pieces of consumer electronics can achieve any better, aside from devices which depend on an external frequency source such as GPS, time broadcast by radio, or power line frequency. Certainly PDAs rarely have better timing accuracy.

Assuming that the storage was not temperature controlled, that's actually quite good. A wristwatch can do better (while on your wrist) only because it is operating at a much more stable temperature than it would in free air.

When you also consider that neither the HP-28C nor the HP-28S were specifically design with timekeeping in mind, and that the documentation on how to access the internal clock was only released as an afterthought, I think you should be quite happy with how well they work.

Eric

Re: HP-28S Clock Accuracy

*Message #3 Posted by **Juan J** on 21 Mar 2006, 9:22 a.m.,*
in response to message #2 by Eric Smith

Hello Eric,

Thank you for your explanation.

Quote:

> When you also consider that neither the HP-28C nor the HP-28S were specifically design with timekeeping in mind, and that the documentation on how to access the internal clock was only released as an afterthought, I think you should be quite happy with how well they work.

Indeed I am happy with the clock application of the HP-28S. It is a testament to the quality of HP. My concern was rather curiosity on how well the clock performed, and it is impressive how well it does. I am amlso surprised by the battery life. According to the manual, alkaline batteries would last 180 days on an HP-41, and about the same time in an HP-28S. I have seen 41s going on the same battery set for three years of sustained use (not including the card reader) and now almost the same time for the 28S. An HP-48GII is expected to drain its batteries in two months, as per specifications; I have no idea of the figure for a 49G+ Again, HP did know how to build fine instruments.

I remember I was concerned about the hinge contacts of the Clamshells when I got the first 28S. Time has proved me wrong.

Quote:

> Assuming that the storage was not temperature controlled, that's actually quite good.

Yes, they were stored in a friend's warehouse without temperature control.

The 28S is powerful and handy when you get used to the keyboard layout. No Alpha toggle to deal with, just typing in the object name. I think it was conceived for use at a flat surface (like a desk or a table) only, and for quick calculations away from it (and folded as the manual suggests for "field use")

Re: HP-28S Clock Accuracy

*Message #4 Posted by **Ed Look** on 21 Mar 2006, 10:40 a.m.,*
in response to message #2 by Eric Smith

This is slightly off topic, but I now wonder about the precision of the clocks in the HP 48G's and HP 49G+.

Re: HP-28S Clock Accuracy

*Message #5 Posted by **Geir Isene** on 21 Mar 2006, 11:55 a.m.,*
in response to message #4 by Ed Look

I ported my UAC to my 48GX and the clock proves useless. Indeed, there is a program to correct this: Adjustment program for the 48 clock.

Re: HP-28S Clock Accuracy

*Message #6 Posted by **Gerson W. Barbosa** on 21 Mar 2006, 7:30 p.m.,*
in response to message #5 by Geir Isene

For the HP-49G/G+, I would suggest Prof. Dr. Wolfgang Rautenberg's Timeman (Timeman.zip).

Re: HP-28S Clock Accuracy

*Message #7 Posted by **Ed Look** on 22 Mar 2006, 12:30 a.m.,*
in response to message #6 by Gerson W. Barbosa

To Messrs. Isene and Barbosa, thank you very much for pointing out to me these programs! I remember going through 48G and 49G+ files, but there are actually so many. Believe it or not, there are few times I actually have had to depend on my 48G/G+ for timekeeping... thank God it wasn't too critical an application.

Re: HP-28S Clock Accuracy

*Message #8 Posted by **John Limpert** on 21 Mar 2006, 2:42 a.m.,*
in response to message #1 by Juan J

Fifteen minutes over two years is well within the frequency tolerance that can be expected from ordinary quartz crystal oscillators.

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Updates From OpenRPN

*Message #1 Posted by **Hugh Evans** on 20 Mar 2006, 11:34 p.m.*

First, I would like to appologize for the main site experiencing extended downtime. Our hosting is in transition, but when the dust settles we will have a much more stable site. We will also gain CVS and Subversion servers, which will give our programmers a nice playground at last! There is a lot of unpublished code for the *fix core, which I look forward to making public.

The other piece of news I have to report is that, my cohort, Chad and I have initiated the process of registering an LLC as well as multiple domain names. Indeed, we are preparing for production and distribution.

Thank you to everyone who has followed and supported our project as we approach our second anniversary. Naysayers mean nothing to me... I have a dream and it will be realized.

Re: Updates From OpenRPN

*Message #2 Posted by **.** on 21 Mar 2006, 1:27 a.m.,*
in response to message #1 by Hugh Evans

Hi,

Glad to see the website will finally be stable from now on.

I'm interested in how you are preparing for "production and distribution." The last I heard, you'd gone from making a whole new calculator to a retrofit kit for the HP49g plus. So is the design work almost complete? I'd love to know how your retrofit kit is getting on. I'm confident that you are making real progress.

.

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Page moved to <www.hrastprogrammer.com>

*Message #1 Posted by **HrastProgrammer** on 20 Mar 2006, 1:49 a.m.*

I just want to inform you that I, at last, hosted my homepage on a proper server (without ads, etc.) so the new URL is:

http://www.hrastprogrammer.com

The new e-mail address is:

http://www.hrastprogrammer.com/mail.jpg

Beside all other info from old pages, you can find keyboard layouts for all my emulators there (in Word 2000 format).

Best regards.

Re: Page moved to <www.hrastprogrammer.com>

*Message #2 Posted by **Mike (Stgt)** on 20 Mar 2006, 4:16 a.m.,*
in response to message #1 by HrastProgrammer

Congratulation!

Just saw your IR-Printer emulation - one question: may you use -PRINTER 3B- in your HP41-emulation?

Ciao.....Mike

Re: Page moved to <www.hrastprogrammer.com>

*Message #3 Posted by **HrastProgrammer** on 20 Mar 2006, 4:29 a.m.,*
in response to message #2 by Mike (Stgt)

Printer 3B is IR printer, right? No, it cannot be used for several reasons, mainly because I don't have any info about insights of HP-41 IR module and because this ROM is bank switched 8Kwords ROM for which I don't have enough space inside HP41X library.

My IR printer emulation is based on the Helios printer module.

Best regards.

Edited: 20 Mar 2006, 4:31 a.m.

Re: Page moved to <www.hrastprogrammer.com>

*Message #4 Posted by **Mike (Stgt)** on 20 Mar 2006, 11:22 a.m.,*
in response to message #3 by HrastProgrammer

Tnx, I asked as I am still looking for more information about that "Blinky", it loops in my emu.

Ciao.....Mike

Re: Page moved to <www.hrastprogrammer.com>

*Message #5 Posted by **Vieira, L; C. (Brazil)** on 21 Mar 2006, 6:37 p.m.,*
in response to message #1 by HrastProgrammer

Hey, Hrast;

good news! I hope you are in better hands.

Best regards and congrats.

Luiz (Brazil)

Re: Page moved to <www.hrastprogrammer.com>

*Message #6 Posted by **HrastProgrammer** on 22 Mar 2006, 1:22 a.m.,*
in response to message #5 by Vieira, L; C. (Brazil)

I hope you are in better hands.

I am now finally "ads free" :-)

Re: Page moved to <www.hrastprogrammer.com>

*Message #7 Posted by **Namir** on 21 Mar 2006, 7:16 p.m.,*
in response to message #1 by HrastProgrammer

I can relate to your move. I started my own web site with a free ad-based site and got feedback saying that the ads were too distracting. I decided yo give my borther in Cananda a call, since he owns an ISP service. He was more than happy to set me up and I moved my site that day! I also use it to store large file size scans of calculators that I sell on eBay.

Namir

Re: Page moved to <www.hrastprogrammer.com>

*Message #8 Posted by **HrastProgrammer** on 22 Mar 2006, 1:14 a.m.,*
in response to message #7 by Namir

Now I really don't know why I was waiting so long because the hosting costs me about 3 USD/month (together with domain registration). I moved the whole site in less than a hour because my site is very simple and I just had to FTP the directory to the server.

Hrast

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Rechargable AAA cells on HP-71B?

*Message #1 Posted by **Karl Schneider** on 19 Mar 2006, 8:16 p.m.*

Hello, all --

I recently got an 82059D "Battery Charger" and AC Adaptor. Only my HP-71B can use it, but I may acquire other devices that can.

It seems as though the 82059D will not charge the cells in a HP-71B, so there is no particular benefit to installing four expensive rechargable AAA cells in a 71B. ($13 for 4x NiCd @ 300 mAh ; $20 for 4x NiMH @ 700 mAh).

The HP-71 owner's manual states the following on p. 271:

"When connected to a power outlet, the HP-71 uses the batteries as a backup power supply and normally doesn't draw any power from them."

"You won't damage the HP-71 by using the computer without batteries..."

This is quite different from the early HP calculators with rechargables. I'd even doubt that rechargable AAA cells were available in 1984, when the HP-71 was introduced. One certainly wouldn't want the HP-71 to try to recharge the cells, if disposables were installed as originally intended.

I measured about 3.6 Vdc across the battery terminals with no battery installed, and the 82059D connected and energized. That's less than what a dead 4-cell battery would register, and below the minimum operating voltage.

So, does anyone see any value in powering an HP-71B with rechargable AAA cells, besides not having to replace disposables, or possibly dealing with alkaline-cell leakage?

Also, how do the mAh ratings of AAA alkaline disposables compare to those of the rechargables? I've never seen ratings printed on the packages of disposable AAA cells.

Thanks in advance,

-- KS

Re: Rechargable AAA cells on HP-71B? (and others...)

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 19 Mar 2006, 10:11 p.m.,*
in response to message #1 by Karl Schneider

Hello, Karl;

since I got the chance to have an HP71B, I use it with rechargeables manily because I thought I'd have to buy disposable batteries too regularly. In fact, I do not use it very often, so I have no comparison base to offer.

The ones I used first were only 250mAh NiCads, and after they were fully charged, the HP71B was able to keep memory contents for about three months without being used. I only checked for battery status in a regular

two-week basis. Six months ago I decided to power it with a pack of four 850mAh NiMH, and although I am using it a bit more for these days, it did not show any 'low battery' sign so far. I also have some 1100mAh NiMH that I use with the 48/49 series, because it seems to me they consume significant more power when communicating.

In fact, except for the HP28S and the HP17BII, I use rechargeables in all my HP's with AAA and N cells, and I have not spent any money with regular alkaline nor regular batteries since then. What I also take into account is that I am not disposing batteries, too...

Cheers.

Luiz (Brazil)

Re: Rechargable AAA cells on HP-71B?

*Message #3 Posted by **Museum** on 20 Mar 2006, 12:40 a.m.,*
in response to message #1 by Karl Schneider

Hi As the HP-71B does not have a recharge function you will not be able to charge rechargeable batteries in it. It is true, that the HP-71B prefers the adapters power 8if plugged in). Then your batteries will not discharge. You have to charge the rechargable AAA´s in an external charger...

Re: Rechargable AAA cells on HP-71B?

*Message #4 Posted by **Garth Wilson** on 20 Mar 2006, 3:06 a.m.,*
in response to message #1 by Karl Schneider

I don't remember for sure, but it seems my 71 went nearly a year on a set of alkalines even when I was using it a lot, in spite of the five extra modules (HPIL, 96KB RAM, 64KB RAM, Forth/Assembler, and Math) and heavy use of HPIL. I fully trust rechargeables not to ever leak when the low-battery indicator is still off and the "Install by..." label on the battery gives a date that is still well into the future.

The reason others have given here for using rechargeables in the 41 was the card reader with its motor and the bar code wand with its light. (Hmmm... I think there was an IR printer-interface module too.) The 71's card reader however has no motor, and no one here has mentioned having a bar code reader that plugs into their 71 so I assume almost none were sold.

Edited: 20 Mar 2006, 3:08 a.m.

Re: Rechargable AAA cells on HP-71B?

*Message #5 Posted by **hugh steers** on 20 Mar 2006, 8:55 a.m.,*
in response to message #1 by Karl Schneider

hi karl,

for some reason, i've been unable to run my 71b at all on rechargables. it must be that these cells don't make the voltage and my 71 is sensitive enough for it to make a difference.

Re: Rechargable AAA cells on HP-71B?

*Message #6 Posted by **Karl Schneider** on 20 Mar 2006, 3:49 p.m.,*
in response to message #5 by hugh steers

Hi, Hugh --

> Quote:
>
> For some reason, I've been unable to run my 71B at all on rechargables. It must be that these cells don't make the voltage and my 71 is sensitive enough for it to make a difference.

You have probably stated the best reason not to use rechargable AAA cells on the HP-71B. I'm fairly sure that standard ones are 1.2 Vdc. However, I got intermittent "BAT" warnings when powering it up recently, then got a "Memory Lost" after installing the HP-IL.

Each of the "old" cells measured 1.42 Vdc.

So, I can't explain how Luiz has been successful, unless his 71B is more tolerant or his rechargable cells are 1.5 Vdc.

As for the other contributors, I concur with the assessment of non-rechargability by the 71B.

-- KS

Re: Rechargable AAA cells on HP-71B?

*Message #7 Posted by **Vieira, L. C. (Brazil)** on 20 Mar 2006, 4:50 p.m.,*
in response to message #6 by Karl Schneider

Hi Karl, all;

I'll check the serial # and post about it later (I'm at the University right now, will be back home after 11:30PM today). Maybe my unit belongs to a lote that has a different power supply circuitry. Based on manual contents, the HP71B can use rechargeables, so I did not consider it failling in this case. And the ones I use are indeed in the 1.2Vcc range, but I'll also measure the batteries today later.

Cheers.

Luiz (Brazil)

Edited: 20 Mar 2006, 4:52 p.m.

Re: Rechargable AAA cells on HP-71B?

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 20 Mar 2006, 11:51 p.m.,*
in response to message #7 by Vieira, L. C. (Brazil)

Hi all;

After getting back home: serial# is **USA 2711A0****** The unit is complete with extra 2×4KRAM modules, card reader and HPIL unit (I keep the IL unit in off state.). The batteries measured in the range 1.21Vcc to 1.25Vcc. And I thought I kept the NiMH, 1100mAh pack in the unit, but I actually did not. I remember now that a month ago I bought a Sony 'intelligent charger', and I decided to give the litle NiCads 250mAh a last shot. It is now going to the second month, and the BAT annunciator is still off.

Cheers.

Luiz (Brazil)

Edited: 20 Mar 2006, 11:53 p.m.

HP-71B: versions and info

*Message #9 Posted by **Karl Schneider** on 21 Mar 2006, 4:17 a.m.,*
in response to message #8 by Vieira, Luiz C. (Brazil)

Hi, Luiz --

> Quote:
>
> serial# is USA 2711A0**** The unit is complete with extra 2×4KRAM modules, card reader and HPIL unit...

The 1987 serial number indicates that it is newer than mine, which lacks a serial-number stamp, but has the September 1983 "1BBBB" ROM, and came with Ver. C manuals printed in April 1984.

Yours is probably the 1985 "2CDCC" ROM; this is revealed by the VER$ command. More info about HP-71B ROM versions is found at http://membres.lycos.fr/jeffcalc/bug71.html

Valentin has ardently claimed that an 71B is not truly "complete" without its Math ROM, and can make a solid case for that, based upon developmental history. Unfortunately, the 71B was sold without them. Mine has one 4 kB RAM (82420A), the Math ROM Ver. 1A (5061-7226), Surveying ROM Ver. A (5061-7238), and HP-IL Ver. 1B (82401A).

I'm missing the manual for the Surveying ROM, and it's not included in the MoHPC scans.

I found one minor curiosity: There is an "AC" annunciator that p. 30 the HP-71 Owner's Manual states is "reserved for future use". It does not display when the AC adaptor (82059D) is plugged in. Does the "AC" show when yours is plugged in?

Does anyone own an "HP-71" (not HP-71B) that was depicted and referenced as such in manuals? Maybe that was a pre-production version that was developed further, prior to commercial release.

One final note about this thread: I misspelled "rechargeable"! It didn't look quite right with the first "e" omitted, but I wasn't sure and didn't look it up. My apologies for the bit of misinformation to those whose first language is not English...

-- KS

Edited: 21 Mar 2006, 4:22 a.m.

Re: HP-71B: versions and info

*Message #10 Posted by **Vieira, L. C. (Brazil)** on 21 Mar 2006, 12:41 p.m.,*
in response to message #9 by Karl Schneider

Hi Karl, all;

I forgot to check the ROM version, will do it later, O.K.? I remember I have already done that when I got it, and if I am not wrong, it is ´1DDDD´.

Although I have no ROM modules for the HP71B, I must agree with Valentin and you because any additional MATH feature in a computing device is always welcome. But I could only have my own HP71B about a year ago, thanks to a great (and somehow absent)

contributor of the MoHPC. I consider it as a gift, and I also tried to be fair enough with an HP42S as a 'back gift', if there exists such a thing. At the end, it was almost like two friends exchanging gifts. So, that´s the way I got the chance to have this one, and as it also has so many additional stuff, I cannot dare complaining! d8^)

About manuals: I could only print the basic manuals that come with the MoHPC DVD set, no originals with me, too.

About misspelling recharg(e)able: did not even notice till your call... We, non-native English speakers, may learn anytime, right? And missing keystrokes is not an exclusive priviledge of ours...

I have not yet noticed if the AC annunciator 'lits' when the AC adaptor is connected. Will check for it, too.

Cheers.

Luiz (Brazil)

Edited: 21 Mar 2006, 12:46 p.m.

Re: HP-71B: versions and (updated) info

*Message #11 Posted by **Vieira, Luiz C. (Brazil)** on 22 Mar 2006, 12:19 a.m.,*
in response to message #10 by Vieira, L. C. (Brazil)

Hi Karl, all;

although the HP71B I have has a serial# that states it is from 1987, the ROM version is '1BBBB' (I confused with the HP75D, that returns a 'ddddd' string to ver$... Sorry!). I also checked the 'AC' annunciatior and, as expected, it does not lit when the AC adaptor is plugged in (I removed one of the batteries and turnned the HP71B on).

So far, no news.

Cheers.

Luiz (Brazil)

Rechargable AAA cells on HP-48G, -49G?

*Message #12 Posted by **Karl Schneider** on 21 Mar 2006, 11:23 p.m.,*
in response to message #6 by Karl Schneider

Just a followup on my observation on the HP71B:

> Quote:
>
> You have probably stated the best reason not to use rechargable AAA cells on the HP-71B. I'm fairly sure that standard ones are 1.2 Vdc. However, I got intermittent "BAT" warnings when powering it up recently, then got a "Memory Lost" after installing the HP-IL.
>
> Each of the "old" cells measured 1.42 Vdc.

I checked my HP-48G and HP-49G, each of which use three AAA cells. The 49G displayed "Warning:

Low BAT" and did not otherwise function; each cell measured 1.27 V.

I put those into in the 48G, and it worked just fine.

So, it seems that the 48G might work with rechargeables, but there is the slight annoyance of the extra cell. There oughta be a law against devices using three *disposable* cells that are sold only in packages of two or four. That would include the 28-series, the "real" 48-series, and the original 49G, as a minimum...

-- KS

Edited: 22 Mar 2006, 12:01 a.m.

Re: Rechargable AAA cells on HP-48G, -49G?

*Message #13 Posted by **Vieira, Luiz C. (Brazil)** on 22 Mar 2006, 12:24 a.m.,*
in response to message #12 by Karl Schneider

Hi, Karl;

Interesting; I use rechargeables in all of my 48/49 series, and they've all worked fine with the many NiCAD's and NiMH's I tested. I observed that when charged with the Sony charger (BCG-34HLD), the batteries maintain the calculators working for longer than when I let them charging in regular 'dummy' chargers and follow their charging times.

Just to add this info.

Cheers.

Luiz (Brazil)

Edited: 22 Mar 2006, 1:37 a.m.

Re: Rechargable AAA cells on HP-48G, -49G?

*Message #14 Posted by **Andy Morales** on 22 Mar 2006, 11:06 a.m.,*
in response to message #13 by Vieira, Luiz C. (Brazil)

Luis,

I have a brand new HP 48gII (1 week). It came with (3) Panasonic LR03 ALKALINE AAA batteries plus the back-up. I read some reviews on HP-EDUCALC site where the AAAs only last 2 mos. I was considering re-chargeables. Would they work ok for the HP 48gII?

Warmest regards,

Andy

Re: Rechargable AAA cells on HP-48G, -49G?

*Message #15 Posted by **Vieira, Luiz C. (Brazil)** on 22 Mar 2006, 3:53 p.m.,*
in response to message #14 by Andy Morales

Hey, Andy;

my HP48GII uses four 850mAh, NiMH AAA batteries, and they are installed for about three

weeks, now. No Low Battery warnings so far.

I confess I tried to find the brand mark on them, but could not identify any, just a big POWERPACK printed on it and many Portuguese inscriptions. Seems to be some sort of OEM battery with local identification. In fact, now I am a bit worried...

I also have a set of four 1100MaH NiMh's that I use with the two early original HP49G, but they are identified as Panasonic HHR-4UP. These ones are able to power my HP49G's for more than three months with regular use. By regular use I mean at least three times a week, not a daily basis.

Cheers.

Luiz (Brazil)

Re: Rechargable AAA cells on HP-48G, -49G?

*Message #16 Posted by **Andy Morales** on 22 Mar 2006, 4:43 p.m.,*
in response to message #15 by Vieira, Luiz C. (Brazil)

Luiz,

Gracias Amigo. I will see how long the Panasonics last. I may consider using the more powerful batteries used in the SONY Digital cameras. I will just make sure i have my hp39G+ nearby in case of low battery and if that one goes low, i have my trusty HP 11C and 15Cs plus an ole Circular Sliderule-lol

Warmest regards from So. Calif,

Andy

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hp 97

*Message #1 Posted by **andres** on 19 Mar 2006, 3:41 p.m.*

hello, i have a hp-97 that was from my father and i realise that my father was ussin it with a ac adaptor of 9 volts so he damage the calculator, i have tried to start it with a 8 volts ac adaptor (82040a) but dosent work...i will like to now if it can be repair, thanks.

Re: hp 97

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 19 Mar 2006, 10:18 p.m.,*
in response to message #1 by andres

Hi, Andres;

can you check if the batteries are O.K.? If I am not wrong, the batteries are used in the voltage regulator circuit as a reference. If they are completely down, I am not sure if the HP97 can be turned on.

Please, wait a bit more for others to post prior to go ahead with additional procedures. It's worth waiting to have a good, working HP97...

Success!

Luiz (Brazil)

Edited: 19 Mar 2006, 10:25 p.m.

Re: hp 97

*Message #3 Posted by **David Smith** on 20 Mar 2006, 12:00 p.m.,*
in response to message #1 by andres

I doubt that a 9VAC adapter would do any damage.

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HP39G+ RPN wannabe

*Message #1 Posted by **Andy** on 19 Mar 2006, 2:00 p.m.*

Hello Fellow RPNers,

Just picked up a brand new sealed HP39G+ for a song. I have a question, does anyone know how to turn this into a RPN calculator? Does ayone know of a SECRET keystroke sequence or perhaps shorting of a pin or something?

Thanking anyone in advance for any info,

Warmest regards,

Andy (Babyboomer RPN power user)

Re: HP39G+ RPN wannabe

*Message #2 Posted by **.** on 19 Mar 2006, 4:22 p.m.,*
in response to message #1 by Andy

Not going to happen. Sorry.

Re: HP39G+ RPN wannabe

*Message #3 Posted by **Eric Smith** on 19 Mar 2006, 4:23 p.m.,*
in response to message #1 by Andy

If we told you the secret keystroke sequency, it wouldn't be secret any more. And we'd lose our membership in the cabal. Sorry.

If you can't find the secret keystroke sequence, the other way to turn it into an RPN calculator is to sell it and buy a 48GII or 49G+.

Re: HP39G+ RPN wannabe

*Message #4 Posted by **Eric Smith** on 19 Mar 2006, 4:25 p.m.,*
in response to message #3 by Eric Smith

By the way, the secret RPN cabal is having its membership drive now, but I'm not allowed to tell you how to join.

Re: HP39G+ RPN wannabe

*Message #5 Posted by **Primus Cabalist The** on 19 Mar 2006, 6:06 p.m.,*
in response to message #4 by Eric Smith

It that's! Back give membership-card your, Smith Eric!

Nikto Barada Klaatu, etc
Cabalist, The

Re: HP39G+ RPN wannabe

*Message #6 Posted by **Paul Marin** on 19 Mar 2006, 6:31 p.m.,*
in response to message #1 by Andy

Thats why you got it for a song It's non RPN

Re: HP39G+ RPN wannabe

*Message #7 Posted by **Andy** on 19 Mar 2006, 7:09 p.m.,*
in response to message #6 by Paul Marin

Thanks guys,

Here i go, singing, dancing, warming up soldering Iron and sharpening my Stilleto switchblade. First open up my HP48gll, then copy RPN circuitry to HP 39g+, then .....#$%^& F-TOOOOM!!!

Re: HP39G+ RPN wannabe

*Message #8 Posted by **Namir** on 19 Mar 2006, 8:19 p.m.,*
in response to message #1 by Andy

It will work as an RPN calculator if you hold it upside down and operate it!

OOOOOPPPPPPPPPSSSSSSSSS I think I devulged the SECRET for the HP-39G+. I AMM IN TROUBLE NOW!!!

:-)

Namir

Re: HP39G+ RPN wannabe

*Message #9 Posted by **Andy** on 20 Mar 2006, 8:28 a.m.,*
in response to message #8 by Namir

LOL, Hey, it does work up sidedown :)

Re: HP39G+ RPN wannabe

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 19 Mar 2006, 10:38 p.m.,*
in response to message #1 by Andy

Hi, Andy;

I have two HP39G+ and, although about 90% of my HP's are RPN and I like it more than the algebraic notation, I use the HP39G+ without problems. In fact, I am reading about how to develop applets so my daughter may also use it for studying. The main reason I bought it, though...

Cheers.

Luiz (Brazil)

Edited: 19 Mar 2006, 10:42 p.m.

Re: HP39G+ RPN wannabe

*Message #11 Posted by **Andy** on 20 Mar 2006, 8:33 a.m.,*
in response to message #10 by Vieira, Luiz C. (Brazil)

Hi Luis,

I have several HP 11Cs, 15Cs, HP48GII and now a new HP39G+. I am beginning to really enjoy it now. Not bad for an Algebraic Calc. There a lots of them (new) on e-bay, etc at ultra low prices (under $30.00).

Regards,

Andy So. Calif Aerospace engineer

Re: HP39G+ RPN wannabe

*Message #12 Posted by **Paul Marin** on 20 Mar 2006, 5:27 p.m.,*
in response to message #11 by Andy

See....it doesn't have to be RPN to enjoy it now does it Andy :)

Paul

Re: HP39G+ RPN wannabe

*Message #13 Posted by **Andy** on 20 Mar 2006, 7:06 p.m.,*
in response to message #12 by Paul Marin

Not at all Paul. Liking this lil gal with the long ALG blue dress more and more. Can always go back to the short skirted RPN 11C, 15C and the HP48GII big mama anytime..... :)

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How many 12c calculators have been produced

*Message #1 Posted by **Kalevipoeg** on 19 Mar 2006, 4:39 a.m.*

I have wondered many times what is the total number of the HP 12c calculators produced during these 25 years.

Today I found a rough estimate from here

http://h20331.www2.hp.com/Hpsub/downloads/hpcalc_sddt_022706.pdf

To date, more than 15 million units have been sold, and it's still going strong.

Edited: 20 Mar 2006, 2:28 a.m.

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Pioneer Creaking

*Message #1 Posted by **Neil** on 18 Mar 2006, 4:16 p.m.*

I've built up a collection of pioneer calcs. I've noticed that with a few of them, I can press the 2 case halves slightly closer together with my 2 fingers going around the edges of the calc, at some particular spots, with a consequent creaking sound when I press, or pinch together, and then release. On one of my calcs, there is even creaking when I press on one of the keys nearest the lefthand side, and this is due to the 2 case halves being able to move against each other at that point. I'm just wondering if this could mean that the calcs with this creaking may end up failing earlier than those where the 2 case halves are completely fixed, with no movement? This question is directed at the guys who have experience of opening and repairing pioneers.

Re: Pioneer Creaking

*Message #2 Posted by **Eric Smith** on 18 Mar 2006, 11:44 p.m.,*
in response to message #1 by Neil

Sounds like you're talking about Clamshells rather tha Pioneers? E.g., 18C, 19B, 19BII, 28C, 28S?

Re: Pioneer Creaking

*Message #3 Posted by **Neil** on 19 Mar 2006, 10:31 a.m.,*
in response to message #2 by Eric Smith

Hi Eric,

No, I definitely mean Pioneers eg 17bii, 14b, 27s etc. If you take a look at a pioneer, you can see that there is a seam all the way around the sides. On a few of my calcs, there is some flexing at the seam when trying to pinch both calc halves together, with a consequent creak. On other calcs, there is no flexing at all. They are solid. My guess is that this flexing is nothing, it will never cause any keys to fail prematurely, but I was curious enough to ask the question.

Re: Pioneer Creaking

*Message #4 Posted by **Eric Smith** on 19 Mar 2006, 4:24 p.m.,*
in response to message #3 by Neil

I misinterpreted what you said about pressing together the two case halves. Also, it is common for Clamshells to be a bit creaky.

Re: Pioneer Creaking

*Message #5 Posted by **Karl Schneider** on 19 Mar 2006, 12:34 a.m.,*
in response to message #1 by Neil

Neil --

I have two calc's made in Singapore during 1993 -- an HP-17BII (Pioneer-series) and an HP-48G ("stretch

Pioneer"). Both of them creak in the same fashion, but have yet to cause me any problems.

-- KS

Edited: 19 Mar 2006, 12:35 a.m.

Re: Pioneer Creaking

*Message #6 Posted by **Neil** on 19 Mar 2006, 10:34 a.m.,*
in response to message #5 by Karl Schneider

Hi Karl,

Did you get your calcs in the early 90's (1993) and have you used them regularly ever since? If so, then that's certainly evidence that the creaking and flexing is a non-issue.

Re: Pioneer Creaking

*Message #7 Posted by **Randy** on 19 Mar 2006, 10:52 a.m.,*
in response to message #1 by Neil

The creaking is most likely caused by several locking pins that extend from the front half into the back half. The back case has molded tapered sockets, I suspect the idea mechanically was for the pin to wedge tightly into socket helping to the hold the edges of the case together. In practice, probably due to material shrinkage once molded, its a less than perfect way to join the halves.

With the help of the Museum's 42S photo, the location of the pins are circled in white.

http://fixthatcalc.com/images/42s.jpg

Re: Pioneer Creaking

*Message #8 Posted by **Neil** on 20 Mar 2006, 2:18 p.m.,*
in response to message #7 by Randy

Randy,

Thanks for the detailed info. So does this basically mean that the whole keyboard assembly is not affected in any way by the case halves being slightly loose / creaky?

Re: Pioneer Creaking

*Message #9 Posted by **Randy** on 20 Mar 2006, 4:59 p.m.,*
in response to message #8 by Neil

I see no reason why it would bother the calculator in any way.

Also, FWIW, *very early* Pioneers did not have the pins, they used a scheme like that later used on 48's - bent metal tabs and small plastic tabs that are supposed to interlock. IMO, less than perfect in practice as creaky 48's are pretty common.

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HP 97 Printer

*Message #1 Posted by **jbssm** on 18 Mar 2006, 10:10 a.m.*

Hi all,

the printer in my HP 97 doesn't work very well. The symptoms are: - It prints quite well, but the paper doesn't advance like it should. - If I pull the paper then for a while (about 2 lines) it keeps going, advancing correctly, after that it just stops.

I find this very strange, can anybody give me an hint how to fix it? For what I see, the dented wheel are good, can it be the motor?

Regards, jbssm

Re: HP 97 Printer

*Message #2 Posted by **Doug Wilder** on 18 Mar 2006, 10:53 a.m.,*
in response to message #1 by jbssm

Sometimes a drop of machine oil (sewing machine oil) on the paper advance rod will do it. If not used for a long time this becomes dried out. Possibly someone else recommend a different type oil.

Best

Re: HP 97 Printer

*Message #3 Posted by **jbssm** on 18 Mar 2006, 11:14 a.m.,*
in response to message #2 by Doug Wilder

Thank you for the fast answer, but can you specify better what is the "paper advance rod" ?

Regards, jbssm

Re: HP 97 Printer

*Message #4 Posted by **jbssm** on 22 Mar 2006, 9:23 a.m.,*
in response to message #2 by Doug Wilder

Thank you all very much ... it worked :)

Re: HP 97 Printer

*Message #5 Posted by **Randy** on 18 Mar 2006, 12:07 p.m.,*
in response to message #1 by jbssm

It is a very common 97 printer problem. Oil does not help, only makes things worse as it is usually a lack of friction that causes the problem, not the other 'way round. Have a good look at the shaft that is rotated by the

motion of the print head moving back and forth. That shaft has two "tires" at the ends that contact the paper and push it upward when the shaft rotates. Those tires usually have flat spots on it from sitting in one place too long. When those flat spots come around in rotation, the paper doesn't advance.

A very simple solution from the 97 man himself, David Smith, is to hang a large paper clamp on the end of the paper and drape it over the edge of the desk. The extra weight of the clamp will pull the paper through the printer as the tires advance, even over the flat spots. Easy, but maybe not up to your technical standards.

So, if that's not an acceptable solution, you are looking at a complete disassembly of the printer to make it right. If you're not mechanically inclined and handy with small snap rings that like to shoot out your fingers and into parts unknown in the next room, this is not for you... even if you do want to tackle this, depending upon the condition of the of two driving "tires" this may or may not work:

Tear the printer down to get the shaft out - some help can be found in the 97 service manual on the Museum CD set. The worm shaft and the two pin shafts that the head rides on must come out. Once you have the paper advance shaft out, sand the tires round again with 150 grit or so sandpaper. Don't go overboard here, only take off enough to rough up the circumference and make it somewhat more even and the transition to the flat less pronounced. Clean all the accumulated goo off the worm shaft, clean up any thing else sticky and icky and put it all back together and enjoy.

If the tires are really bad or cracking apart, I've been able to make a reasonable repair using rings of vinyl tubing glued in place after cutting away the old urethane. That would be an extreme case and not something to do first time around. You can also canibalize an 82143A printer as they use the same shaft but understand your parts donor may have the same problem. Later 82143A's had black tires instead of the original natural color urethane, those IMO seem to hold up better.

Re: HP 97 Printer

*Message #6 Posted by **Doug Wilder** on 18 Mar 2006, 4:46 p.m.,*
in response to message #5 by Randy

Hmmmm, well just fixed an HP82162A yesterday with a single drop of oil. This one was half line feeding 80% of the time. The HP82143A manual specifies the lube points, one drop of machine oil (HP instructions). The ratchet needs some oil or it don't ratchet, don't hurt the cam either. Sometimes they dry out. Notwithstanding flat tires.

Re: HP 97 Printer

*Message #7 Posted by **David Smith** on 18 Mar 2006, 5:07 p.m.,*
in response to message #5 by Randy

The slipping paper is a combo of flat spots on the drive rollers, hardened drive roller rubber, and modern paper is thinner and slicker than the original stuff.

Besides sanding down the drive rollers, I have been painting them with a thin layer of new urethane. This has worked VERY well. I have also built up complete new rollers with the stuff.

I use a synthetic urethane polybutadiene rubber called HTPB R45-M. It is used as a binder in solid rocket motor propellent. It uses an isocyanate type curative like Isonate 143L, PAPI94 or MM103. A couple percent castor oil in the brew promotes cross linking and more natural goodness. You can get the stuff at FIREFOX-FX.COM Beware the curatives are nasty stuff. Some of them also crystalize out below room temp and need to be heated in a water bath to redisolve. They also have a limited shelf life. I always test my curatives on a small batch before doing any real work with them.

CP Technologies (SPACE-ROCKETS.COM) sells a more user friendly curative called Rubinate. They also

have a thinner R20 resin, but I prefer the thicker R45M or R45HTLO. Aerocon Systems is another source.

After painting the drive rollers, I tape them vertically to the edge of a table to cure for 24 hours.

Re: HP 97 Printer

*Message #8 Posted by **vp** on 18 Mar 2006, 7:35 p.m.,*
in response to message #1 by jbssm

```
jbssm wrote:
> the printer in my HP 97 [...] prints quite well, but the paper doesn't advance like
> it should. - If I pull the paper then for a while (about 2 lines) it keeps going,
> advancing correctly, after that it just stops.
```

As the others have suggested the problem is prob. that the two soft wheels on either side of the carriage cannot get enough traction on the paper.

To get a better look at what is happening, remove the transparent cut guard (rectangular piece of plastic that tears the paper when you pull it), and look closely into the mechanism. On the end far away from the print head, you should be able to see the wheel that pulls the paper through the mechanism (thats the left-hand wheel, the right hand is covered by the print head when the head is in its home position).

Looking at the wheel, press the PRINTx or PRINT:SPACE. Does the wheel slip against the paper? If so the problem is with the wheels. If the motion of the print head is sluggish, or it does not quite return to the home position, then you have a problem with print head mechanism (in this case lubricating the mechanism may fix it).

If the problem is with the wheels do not use any oil!!!!!

Assuming its the wheels, you may be able to get them back to life without disassembling the machine.

Get very fine sandpaper and cut a thin strip 3mm wide by about 20mm long. The piece should be wide enough to cover the width of a SINGLE wheel (you will treat each wheel separately).

You do not want to get sand paper in front of the moving print head!!!!

Then you remove the paper and insert the strip so that it sits between one wheel (start with the left hand wheel) and the backing plate. Holding the sandpaper so that it does not move, press the paper advance button on the side. The printer will complain a bit, but it should move the wheel against the sandpaper. Press the ADV button a couple of times (so that the entire circumference of the wheel scrapes against the sandpaper.

Repeat with the right hand wheel being very careful to stay clear of the printhead.

Use ONLY VERY FINE SANDPAPER. You do not want to destroy the wheels, just make their surface rough.

**vp

Re: HP 97 Printer

*Message #9 Posted by **marais** on 19 Mar 2006, 6:26 a.m.,*
in response to message #8 by vp

Would you consider 240 fine enough, or is necessary to use paper like the 600 or 1000 used for car paint repairs?

Andreas

Re: HP 97 Printer

*Message #10 Posted by **vp** on 19 Mar 2006, 3:17 p.m.,*
in response to message #9 by marais

I used 600 sandpaper, because that was the finnest I had around.

Re: HP 97 Printer

*Message #11 Posted by **David Smith** on 20 Mar 2006, 12:06 p.m.,*
in response to message #8 by vp

When I prepare a printer cam, I remove it from the machine, touch up the edges of the flat spot manualy, and then roll the cam back and forth on a sheet of fairly coarse sandpaper (like 120 grit). You need to put some sideways tension on the cam to keep the clutch open.

You can then try a methyl salicylate based rubber restorer (GC Chemicals Ruber ReNew) or slot car wheel traction fluid, but I have found it does not last long. That is why I have been coating the rollers with HTPB urethane.

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How to open 82001A batterie pack

*Message #1 Posted by **Thomas Radtke** on 18 Mar 2006, 9:20 a.m.*

Hi *,

I have this 82001A from a 1973 HP-45. The batteries started to leak (fortunately, I got this calculator before it was too late) so I would like to replace the cells. My question is, are the two halfes of the case glued or is there a mechanism to open it? I found nothing about that on the museum pages. Sorry if I overlooked something.

Thanks,

Thomas

Re: How to open 82001A batterie pack

*Message #2 Posted by **vp** on 18 Mar 2006, 10:03 a.m.,*
in response to message #1 by Thomas Radtke

they are glued

Re: How to open 82001A batterie pack

*Message #3 Posted by **Jeff O.** on 18 Mar 2006, 6:01 p.m.,*
in response to message #1 by Thomas Radtke

Only the end seams are joined. The side seams are not joined. Open the pack by repeatedly slicing along one of the end seams with an exacto or other very sharp knife*. Occasionally try to pry the seam apart. Eventually it will split open. I have found that only one seam need be split, then just pry the two halves apart from that end and take out the old cells.

* - be careful with the knife. not responsible for bleeding.

Re: How to open 82001A batterie pack

*Message #4 Posted by **Thomas Radtke** on 19 Mar 2006, 11:00 a.m.,*
in response to message #3 by Jeff O.

Thanks Jeff, Vassilis,

I managed to spare my blood for the next donation:). BTW., only the middle cell leaked so even the contact strips survived.

Thomas

Re: How to open 82001A batterie pack

*Message #5 Posted by **David Smith** on 20 Mar 2006, 12:08 p.m.,*

in response to message #4 by Thomas Radtke

Take the pack to your local Batteries Plus or Batteries Etc store. They will open it, rebuild the cells with proper spot welds, seal it back up, dispose of the innards properly. Should be 20 bucks or so. No fuss, no muss, no blood, no guts, no gore.

Re: How to open 82001A batterie pack

*Message #6 Posted by **Thomas Radtke** on 20 Mar 2006, 2:00 p.m.,*
in response to message #5 by David Smith

We germans are so little service oriented that I would never have guessed a service like that exists;). Besides, the whole calc was not much more that 20 european bucks:). It was hidden under a thick layer of tar. I had to completely dismantle it for cleaning and even had to taper a wooden toothpick to make the key contacts functional again. It is a great little workhorse now.

http://people.freenet.de/thradtke/HP-45.JPG

Thomas

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Looking for Free42/PocketPC beta testers

*Message #1 Posted by **Thomas Okken** on 17 Mar 2006, 8:02 p.m.*

Hi all,

I'm currently in the middle of development of a new PocketPC front-end for Free42. Based on my current rate of progress, I expect to have a mostly-functional version in two to three days, which may still be missing the printer emulation; a fully functional version should then follow in another day or two.
I usually try to all do my testing myself, but with the PocketPC version I'm in the unusual situation that the target platform is a machine I don't actually own. I do all testing and debugging on the Pocket PC 2003 Emulator, but that means running x86 code, while the "real" PPC version will of course be compiled for the ARM processor -- so there is a potential for problems.
If you would like to help me with this (or just get a sneak preview ;-)), please contact me; you can use the MoHPC message feature, or contact me directly at the email address listed on my web site and in the "About" boxes of all current Free42 versions.

Thanks!

- Thomas

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HP 19BII Versions... Beige Keys and Black Keys?

*Message #1 Posted by **Eric** on 17 Mar 2006, 4:43 p.m.*

I have two brand new in blister package HP 19BIIs.. One has beige keys and one has black keys.

What's the differences between the versions- just the color? Both have the back battery compartment. I'm guessing the black is a newer version?

Is one version more desireable than the other?

Thanks! Eric

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Little research among HP-35 owners :-)

*Message #1 Posted by **Michael** on 17 Mar 2006, 8:30 a.m.*

There are many very different opinions about the total number of HP 35 version 1 ("Red Dots") ever produced. A rough estimate could be made from serial numbers. HP 35 calculators have serial numbers 1143A XXXXX, with a few exceptions. AFAIK the lowest S/N of still existing HP 35 calculator is 1143A 00007. More interesting would be both the information about the highest known S/N version 1 and the information about the lowest S/N of HP 35 version 2. I know about a version 1 with the S/N 1143A 0324X. If you would be interested in this topic, you could take part in a little research. If you have HP 35 version 1 with a high S/N or HP 35 version 2 with a low S/N, post it here so we could roughly estimate the threshold S/N between HP 35 version 1 and HP 35 version 2

Re: Little research among HP-35 owners :-)

*Message #2 Posted by **Frank Boehm** on 17 Mar 2006, 3:41 p.m.,*
in response to message #1 by Michael

I think there were about 20000 red dots made - I have a 27000 V2 and am pretty sure to have seen a 22000 pictured as well...

Re: Little research among HP-35 owners :-)

*Message #3 Posted by **Massimo Gnerucci (Italy)** on 17 Mar 2006, 11:43 p.m.,*
in response to message #1 by Michael

> Quote:
>
> I know about a version 1 with the S/N 1143A 0324X

You now know about *two* red dots from the very same batch... ;-)

Greetings,
Massimo

Re: Little research among HP-35 owners :-)

*Message #4 Posted by **Michael** on 18 Mar 2006, 3:54 a.m.,*
in response to message #3 by Massimo Gnerucci (Italy)

Maybe it was just your HP 35 :-) I have seen that image on the net. I have found another red dot with a higher S/N 1143A 3770. Among many red dot's I've seen in real or pictured there was no one with a higher S/N than 03XXX. Frank writes in a previous message he is sure he have seen an image of one with S/N 22000. It would be interesting to find some existing versions 1 or versions 2 below/above S/N 20000 to confirm/refute the 20000 threshold assumption.

Re: Little research among HP-35 owners :-)

*Message #5 Posted by **Massimo Gnerucci (Italy)** on 18 Mar 2006, 6:00 a.m.,*
in response to message #4 by Michael

> Quote:
>
> Maybe it was just your HP 35 :-) I have seen that image on the net

Oh, what a pity! I thought I found a *brother in arms*...:-)
Yes, that's probably mine: I thought I deleted the last two digits from the serial number, but it's actually one.

> Quote:
>
> I have found another red dot with a higher S/N 1143A 3770

That's Gianmaria's one.
Let's hope someone else will post his/her findings.

Greetings,
Massimo

Re: Little research among HP-35 owners :-)

*Message #6 Posted by **Frank Boehm** on 18 Mar 2006, 9:25 a.m.,*
in response to message #4 by Michael

I meant a V2 with ser.# 22000...

Re: Little research among HP-35 owners :-)

*Message #7 Posted by **Michael** on 20 Mar 2006, 5:01 a.m.,*
in response to message #1 by Michael

After an investigation I have found references to 2-4 still existing HP 35 Red Dot calculators in every thousand of serial numbers. But no Red Dot was found from 03770 up. I have found various references on the web, but the total number of known Red Dots I've found is only 14. Therefore there are too few data for an accurate statement, but a question arises whether the total number of ever produced HP 35 Red Dot could be higher than 4000. There are even a few HP 35's, which have Red Dot S/N, but in fact are versions 2 or higher. IMO those calculators changed from Red Dot to version 2 during some service repair. Another interesting fact is that among still existing Red Dots many have not the 2.02 ln e^x bug. More data would be appreciated, but due to the rareness of the version 1 it's a very difficult task.

Re: Little research among HP-35 owners :-)

*Message #8 Posted by **Mike Sebastian** on 20 Mar 2006, 10:19 p.m.,*
in response to message #1 by Michael

I have an early version 2. It has the ROM bug, and a bump on the 5 key. Its serial number is 1143A40825.

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HP-41 emulator for HP-48 emulator on a Sony Ericsson P910i cell phone...

*Message #1 Posted by **Andreas Terzis** on 17 Mar 2006, 4:55 a.m.*

Hi there, Does anyone know if the HP-41C/CV Emulator for HP-48S/SX/G/G+/GX from HrastProgrammer work on an Emu48E emulator for a Sony Ericsson P910i cell phone?!@&* Thanks, Andreas

Re: HP-41 emulator for HP-48 emulator on a Sony Ericsson P910i cell phone...

*Message #2 Posted by **HrastProgrammer** on 17 Mar 2006, 8:48 a.m.,*
in response to message #1 by Andreas Terzis

If you are talking about that freeware one (HP-41E, unsupported) downloadable from www.hpcalc.org then I think it should work (but I haven't tried it).

HP-41X is working on my Sony Ericsson P800 although I don't know how to press ON & some other key (needed for ON&key combinations) at the same time on touchscreen ...

HP-41 emulator for HP-48 on a cell phone

*Message #3 Posted by **Karl Schneider** on 18 Mar 2006, 1:18 a.m.,*
in response to message #1 by Andreas Terzis

I admit to not being up-to-date on the very latest in cell-phone technology, and I see that HrastProgrammer has answered your query, but I must ask:

Why??

-- KS

Re: HP-41 emulator for HP-48 on a cell phone

*Message #4 Posted by **Andreas Terzis** on 19 Mar 2006, 12:07 a.m.,*
in response to message #3 by Karl Schneider

Because I love my 41, dislike the 48 which is the only one emulated on the SE platform, whose portability I also love. Therefore, that would be a good way to have my HP-41 functionality with me most of the time.

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HP-85 Lineart Program

*Message #1 Posted by **Vassilis Prevelakis** on 17 Mar 2006, 2:09 a.m.*

The following is a graphics demo from the early 80s. I found the C version of it[1] and converted it to the HP-85.

Initially it precomputes a bunch of values (taking for ever, of course) and then starts creating graphics displays. After each display it beeps and waits 5 seconds, then starts on the next one.

The initial wait is long enough that I added a progress bar to let you know that its working, it prints "*" characters over a horizontal bar. When the bar is covered with (about 12) "*" the program is ready to start drawing.

Enjoy!

**vp

```
------------------------------------------------------------


1000 N0=12
1010 N1=343
1020 DIM F0(12,343)
1030 RAD
1040 GCLEAR @ SCALE 0,N0,0,10 @ XAXIS 0,1 @ MOVE 0,2 @ LABEL "Please Wait"
1050 FOR M=0 TO N0-1
1055 MOVE M+.4,1 @ LABEL "*"
1060   FOR X=0 TO N1-1
1070   ON M+1 GOTO 1110,1120,1130,1140,1150,1160,1170,1180,1190,1200,1210,1220
1110     F0(M,X)=SIN (2*PI *X/N1) @ GOTO 1300
1120     F0(M,X)=-SIN (2*PI *X/N1) @ GOTO 1300
1130     F0(M,X)=COS (2*PI *X/N1) @ GOTO 1300
1140     F0(M,X)=-COS (2*PI *X/N1) @ GOTO 1300
1150     F0(M,X)=SIN (4*PI *X/N1) @ GOTO 1300
1160     F0(M,X)=-SIN (4*PI *X/N1) @ GOTO 1300
1170     F0(M,X)=COS (4*PI *X/N1) @ GOTO 1300
1180     F0(M,X)=-COS (4*PI *X/N1) @ GOTO 1300
1190     F0(M,X)=SIN (6*PI *X/N1) @ GOTO 1300
1200     F0(M,X)=-SIN (6*PI *X/N1) @ GOTO 1300
1210     F0(M,X)=COS (6*PI *X/N1) @ GOTO 1300
1220     F0(M,X)=-COS (6*PI *X/N1) @ GOTO 1300
1300   NEXT X
1310 NEXT M
1400 ! ---------------
1410 DEF FNR(N) = INT (RND *(N-1))+1
2000 ! ---------------
2010 FOR C0=0 TO 100
2020   GCLEAR @ SCALE -1,1,-1,1
2030   I=FNR(N0)
2040   J=FNR(N0)
2050   IF I=J THEN 2040
2060   K=FNR(N0)
2070   L=FNR(N0)
2080   IF K=L THEN 2070
2090   FOR M=0 TO N1-1
2100     MOVE F0(I,M),F0(K,M)
2110     DRAW F0(J,M),F0(L,M)
2120   NEXT M
2130   BEEP @ WAIT 5000
2140 NEXT C0
2150 END


------------------------------------------------------------
```

[1] The original version was for the Sunview environment (a GUI for early SUN Microsystems workstations). SUN gave the source as an example of the graphics library supplied with these machines (Sun2 and Sun3 if you really want to know), and I have ported this to a number of systems over the years (BBC micro, TurboC for DOS, Pascal, etc.)

Re: HP-85 Lineart Program

*Message #2 Posted by **Andreas Terzis** on 17 Mar 2006, 2:30 a.m.,*
in response to message #1 by Vassilis Prevelakis

Vasili, Awsome job. Didn't someone have a similar program for the HP-41C at some point where it would print on the portable printer? If so, maybe they can post it here again. (Hopefully !?@*) Andreas

Re: HP-85 Lineart Program

*Message #3 Posted by **Vassilis Prevelakis** on 17 Mar 2006, 5:31 a.m.,*
in response to message #2 by Andreas Terzis

```
Andreas Terzis wrote:

> Didn't someone have a similar program for the HP-41C at some point
> where it would print on the portable printer?
```

If you want to produce such graphs on the HP-41 you'd need the HP-7470A HP-IL plotter and the HP-82184A Plotter Module. I am not sure whether the portable printer can really be used for such graphs (or rather let me rephrase, the 82162A probably can print the actual bitmap, but with the 41C driving it, it will take forever).

**vp

Re: HP-85 Lineart Program

*Message #4 Posted by **Marcus von Cube, Germany** on 17 Mar 2006, 4:35 a.m.,*
in response to message #1 by Vassilis Prevelakis

Vassilis,

can you explain, in a few words, what the SCALE statement does and what the screen resolution of the HP-85 is? We'll probably see a Sharp or Casio version in the future.

Marcus

Re: HP-85 Lineart Program

*Message #5 Posted by **Vassilis Prevelakis** on 17 Mar 2006, 5:13 a.m.,*
in response to message #4 by Marcus von Cube, Germany

```
Marcus von Cube wrote:

> can you explain, in a few words, what the SCALE statement does
```

The scale defines the mininum and maximum values of the X and Y axes.

The format is: SCALE Xmin, Xmax, Ymin, Ymax

In this case, since we are using SIN and COS, we define SCALE to be -1,1,-1,1

```
> what the screen resolution of the HP-85 is?
```

The HP-85 screen is rather small (5in diagonal) and supports a text screen (16 lines x 32 characters) and a graphics screen (192 x 256 pixels). Information can exist on both the text and graphics buffers and you can switch between them with the A/C key (alpha/graphics).

```
> We'll probably see a Sharp or Casio version in the future.
```

Shouldn't be too difficult. Its a very easy program to port. If you want I can send you the TurboC version (for MSDOS).

**vp

Re: HP-85 Lineart Program

*Message #6 Posted by **Valentin Albillo** on 17 Mar 2006, 6:24 a.m.,*
in response to message #5 by Vassilis Prevelakis

Hi, Vassilis:

Vassilis posted:

"The HP-85 screen is rather small (5in diagonal) and supports a text screen (16 lines x 32 characters) [...]"

> Actually, the physical text screen is indeed 16 lines x 32 characters, but the logical (buffered) text screen in 4 times larger, i.e., 64 lines x 32 characters, and you can page up and down in a continuous way, and enter, edit, or re-execute lines in any of the 4 pages.

Best regards from V.

Re: HP-85 Lineart Program

*Message #7 Posted by **Vassilis Prevelakis** on 17 Mar 2006, 4:43 a.m.,*
in response to message #1 by Vassilis Prevelakis

I *really* should stop posting after midnight! :-)

Anyway there were a couple of problems with the program (namely it won't run on an HP-85 because of the huge array for the precomputed data). So here is a version that actually runs on an HP-85 and some screendumps to show what you should expect to see.

Some explanation about the program. Normally there are 12 functions, with functions 2,4,6,8 and 12 being the same as 1,3,5,9, and 11 but multiplied by -1. (i.e. if f1 is sin(x), f2 would be -sin(x)).

To avoid storing all twelve functions we calculate only the odd ones and then compute the even ones (by multiplying the corresponding odd value by -1) during the drawing (lines 2100 and 2110).

In the following listing lines starting with # are comments. BASIC lines always start with a line number.

```
#        Number of functions
1000 N0=12
#       Number of lines
1010 N1=343
1020 DIM F0(6,343)
1030 RAD
1040 GCLEAR @ SCALE 0,N0/2,0,10 @ XAXIS 0,1 @ MOVE 0,2 @ LABEL "Please Wait"
1050 FOR M=0 TO N0/2-1
```

```
#       Draw progress bar (series of 6 "*" characters
1055    MOVE M+.4,1 @ LABEL "*"
1060    FOR X=0 TO N1-1
1070      ON M+1 GOTO 1110,1130,1150,1170,1190,1210
1110      F0(M,X)=SIN (2*PI *X/N1) @ GOTO 1300
1130      F0(M,X)=COS (2*PI *X/N1) @ GOTO 1300
1150      F0(M,X)=SIN (4*PI *X/N1) @ GOTO 1300
1170      F0(M,X)=COS (4*PI *X/N1) @ GOTO 1300
1190      F0(M,X)=SIN (6*PI *X/N1) @ GOTO 1300
1210      F0(M,X)=COS (6*PI *X/N1) @ GOTO 1300
1300    NEXT X
1310  NEXT M
1400  ! ---------------
#     Return random number between 0 and N (here 11)
1410  DEF FNR(N) = INT (RND *N)
1500  ! ---------------
#     Return -1 is M odd and 1 if M even
1510  DEF FNS(M)
1520  FNS=-1
1530  IF M MOD 2=0 THEN FNS=1
1540  FN END
2000  ! ---------------
2010  FOR C0=0 TO 100
2020    GCLEAR @ SCALE -1,1,-1,1
2030    I=FNR(N0)
2040    J=FNR(N0)
#       if I=J, get a new number for J
2050    IF I=J THEN 2040
2060    K=FNR(N0)
2070    L=FNR(N0)
#       if K=L get a new number for L
2080    IF K=L THEN 2070
2090    FOR M=0 TO N1-1
2100      MOVE F0(INT (I/2),M)*FNS(I),F0(INT (K/2),M)*FNS(K)
2110      DRAW F0(INT (J/2),M)*FNS(J),F0(INT (L/2),M)*FNS(L)
2120    NEXT M
#       You can put a COPY instruction here to get a screendump
2130    BEEP @ WAIT 5000
2140  NEXT C0
2150  END
```

The smaller array means that less data can be stored initially, so some computation needs to be carried out while drawing (lines 2100, 2110). This slows the drawing phase, but shortens the precompute phase, so you only have to wait for 6 stars (*):

http://www.series80.org/Misc/LineArtWait.gif

Here are some actual screendumps from the HP-85 thermal printer. The images look a bit better on the screen.

http://www.series80.org/Misc/LineArtDemo.gif

**vp

Re: HP-85 Lineart Program

*Message #8 Posted by **Valentin Albillo** on 17 Mar 2006, 7:08 a.m.,*
in response to message #7 by Vassilis Prevelakis

Hi again, Vassilis:

> Very nice for you to post this piece of vintage software. I remember seeing and running this in absolute awe when I was young, and made several simple improvements to optimize for much needed running speed, among them:
>
> - at lines 1060-1300, the values 2*PI/N1, 4*PI/N1, 6*PI/N1 are invariant within the FOR X loop, so you can save time by simply assigning them first outside of the loop, say:
>
> ```
> Q1=2*PI/N1 @ Q2=2*Q1 @ Q3=3*Q1
> ```

then using these variables within the loop, say:

```
1110 F0(M,X)=SIN (Q1*X) @ GOTO 1300
 ...
```

and the same for the other two. This can be done in 6 places and saves significant time.

- User-defined function calling is very convenient *but* notoriously slow in HP-85 BASIC (and some other HP BASICs as well, HP-71B BASIC comes to mind) so you can save a lot of time by deleting:

```
1510 DEF FNS(M)
1520 FNS=-1
1530 IF M MOD 2=0 THEN FNS=1
1540 FN END
```

and replace the lines where it's called by this:

```
2100     MOVE F0(INT (I/2),M)*(1-2*(I MOD 2)),F0(INT (K/2),M)*(1-2*(K MOD 2))
2110     DRAW F0(INT (J/2),M)*(1-2*(J MOD 2)),F0(INT (L/2),M)*(1-2*(L MOD 2))
```

now, since I,J,K, and L are invariant within the FOR M loop at lines 2090-2120, you can precompute outside the FOR M loop their several appearances and assign them to variables, like this:

```
I2=INT(I/2) @ I3=1-2*(I MOD 2) @  J2=INT(J/2) @ J3=1-2*(J MOD 2)
K2=INT(K/2) @ K3=1-2*(K MOD 2) @  L2=INT(L/2) @ L3=1-2*(L MOD 2)
```

so that within the FOR M loop you only have:

```
2100     MOVE F0(I2,M)*I3,F0(K2,M)*K3
2110     DRAW F0(J2,M)*J3,F0(L2,M)*L3
```

which is much simpler and thus will run much faster.

- Likewise with FNR, simply delete:

```
1410 DEF FNR(N) = INT (RND *N)
```

and replace the lines where it's called:

```
2030   I=INT(RND*N0)
2040   J=INT(RND*N0)


2060   K=INT(RND*N0)
2070   L=INT(RND*N0)
```

this will also run faster.

- Finally, you can concatenate as many statements as will fit in a line, using the @ concatenator, which will degrade readability but will shorten the program listing, decrease its size in RAM, and make it somewhat faster as well.

The resulting program will be shorter and appreciably faster, as you may see.

Best regards from V.

Re: HP-85 Lineart Program

*Message #9 Posted by **Vassilis Prevelakis** on 17 Mar 2006, 2:28 p.m.,*
in response to message #8 by Valentin Albillo

Thanks Valentin for the enhancements.

I didn't want to mess too much with the code, but I should have observed the loop invariants. First write a slow program and then complain about the speed of the processor? Maybe I was an applied physics researcher in a previous life :-)

**vp

PS I was also thinking that rather than filling the array before I start drawing, I should use it to cache computed values. I.e. fill it with an invalid number (say 2). Then every time you come across an entry that is less than 2 you use it, otherwise, you calculate the correct value and store it in the array and then use it. Eventually the array will be populated and the program will run at full speed. However, it may complicate the inner loop so much that it will make the program slow even when the array is fully populated.

You can even calculate these values once and store them in a file. If the file exists, you load it, otherwise you calculate the values and create the file.

BTW has anybody really noticed how SLOW the HP-85B is compared to the HP-87XM (these are the machines I am currently using, but I would expect this to be true for the A versions of these models as well).

Each drawing in the lineart program takes 3+ minutes on the HP-85B, but less than half (1.10 minutes) on the 87. I thought that the memory management hardware on the 87 where supposed to make it a bit slower.

BTW both machines are running exactly the same program. The earlier version (the one on the top of this pafe) that precomputes all values (and runs only on the 87), is slightly faster even though it does not include any of Vallentine's enhancements.

Edited: 17 Mar 2006, 3:08 p.m.

Re: HP-85 Lineart Program

*Message #10 Posted by **J-F Garnier** on 17 Mar 2006, 10:57 a.m.,*
in response to message #7 by Vassilis Prevelakis

Hello Vassilis,

There was a similar, but simpler program from HP in one demo or game disc for the HP85. I remember I wrote a HP41 version using a Tandy 4 color mini plotter printer (was quite commun at the time). I will post it if I can recover it from my archives.

J-F

Here are the HP41 and Basic versions:

http://membres.lycos.fr/jeffcalc/birth.jpg

Edited: 17 Mar 2006, 2:07 p.m.

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HP-41 on an HP200LX...

*Message #1 Posted by **Andreas Terzis** on 17 Mar 2006, 1:42 a.m.*

Hi there, Does anyone know of an HP-41 or any other RPM emulator for the HP-200LX with a graphical interface (non-DOS)? (OK, I won't dare ask for a System Manager compliant one). I have found a lot of those (even an HP-29C emulator) but with a character-based interface. Thanks, Andreas

Re: HP-41 on an HP200LX

*Message #2 Posted by **Mike (Stgt)** on 17 Mar 2006, 2:45 a.m.,*
in response to message #1 by Andreas Terzis

Sorry, I do not know a "200LX-multitasking-able" (SysMan compliant EXM) of an HP41 emulator. But JF Garnier's work so nice, a must as he offers a special LX version. An RPN demo looks quite nice on the 200LX too. Hope this helps too.

Ciao.....Mike

Re: HP-41 on an HP200LX

*Message #3 Posted by **Andreas Terzis** on 17 Mar 2006, 5:27 a.m.,*
in response to message #2 by Mike (Stgt)

Mike, Thanks for the info. I didn't know about all the emulators. Regards, Andreas

Re: HP-41 on an HP200LX...

*Message #4 Posted by **Marcus von Cube, Germany** on 17 Mar 2006, 4:13 a.m.,*
in response to message #1 by Andreas Terzis

Andreas,

have you tried the built-in one, set to RPN mode?

No keystroke programming but it has the algebraic solver, TVM and more.

Marcus

Re: HP-41 on an HP200LX...

*Message #5 Posted by **Andreas Terzis** on 17 Mar 2006, 4:37 a.m.,*
in response to message #4 by Marcus von Cube, Germany

Marcus, I have definitely tried the built-in calculator in RPN mode. Of course, I am looking for something more powerful, with more functions on the keyboard, let alone that a lot of times even simple number entry is unreliable - if you press keys fast they don't always register!!! That is the reason I was looking for an emulator. Thanks for your suggestion though, Andreas

Re: HP-41 on an HP200LX...

*Message #6 Posted by **Mike (Stgt)** on 17 Mar 2006, 5:51 a.m.,*
in response to message #5 by Andreas Terzis

Missing keystrokes? Got an old item, I assume, or do you need a DS upgrade (DS=double speed)?? You know http://www.hp200lx.org??? Otherwise: have a nice WE with it.

Ciao.....Mike

BTW: I still wate for a replacement of the 200LX, as the LX once was a replacement of the HP-41 (for me at least).

Re: HP-41 on an HP200LX...

*Message #7 Posted by **Andreas Terzis** on 19 Mar 2006, 12:14 a.m.,*
in response to message #6 by Mike (Stgt)

Mike, I have the DS upgrade but I still miss keystrokes! Do you not? Andreas

Re: HP-41 on an HP200LX...

*Message #8 Posted by **Mike (Stgt)** on 20 Mar 2006, 4:23 a.m.,*
in response to message #7 by Andreas Terzis

No, I do not. At a certain age you'll get slower. It's several years ago now that I was the user with the most interrupts and CPU-usage. Today I am happy if I still can see the keys <G>.

Ciao.....Mike

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Free memory on an HP-41CX...

*Message #1 Posted by **Andreas Terzis** on 16 Mar 2006, 8:21 p.m.*

Most of you would have noticed my multiple posts about those 'nice' sellers on eBay recently. In any event, I purchased an HP-41CX that has a 'SIZE 100' set and shows '.END. REG 169' in 'PROGRAM' mode. My HP-41C with four memory modules shows 219 registers. I turn the CX on and off a few times and then it has 156 registers of program memory!!! What is going on here? Any insights?

Re: Free memory on an HP-41CX...

*Message #2 Posted by **Vassilis Prevelakis** on 16 Mar 2006, 10:54 p.m.,*
in response to message #1 by Andreas Terzis

```
Andreas Terzis wrote:


> I turn the CX on and off a few times and then it has 156
> registers of program memory!!! What is going on here? Any
> insights?
```

bad memory

is it a fullnut or a half nut?

**vp

Re: Free memory on an HP-41CX...

*Message #3 Posted by **Andreas Terzis** on 17 Mar 2006, 12:25 a.m.,*
in response to message #2 by Vassilis Prevelakis

It's a Halfnut. I reset it and after that it didn't do it again, after 20 times of turning it on and off. It has an Advantage module plugged in it as well as a 'Dbl Mem' module. Do you know of any diagnostics to try?

Re: Free memory on an HP-41CX...

*Message #4 Posted by **Marcus von Cube, Germany** on 17 Mar 2006, 4:11 a.m.,*
in response to message #3 by Andreas Terzis

> Quote:
>
> as well as a 'Dbl Mem' module

Is this extended memory or standard memory (which *must* not be installed in a CV or CX!)

Marcus

Re: Free memory on an HP-41CX...

*Message #5 Posted by **Andreas Terzis** on 17 Mar 2006, 5:42 a.m.,*
in response to message #4 by Marcus von Cube, Germany

Marcus, That is extended memory. It shows 600 registers after an EMDIR. It is a custom module that contains 2 X-Memory modules. I turned the machine on, switched to PRGM mode and then the machine turned off. When I turned it on, it had fewer program registers !?@&* And since this is a new day and I haven't said it yet today, 'eBay sellers rock... I love it when they take us for a ride ...' Andreas

Other stories: HP-41's on eBay

*Message #6 Posted by **Karl Schneider** on 20 Mar 2006, 1:07 a.m.,*
in response to message #5 by Andreas Terzis

Hello, Andreas --

> Quote:
>
> And since this is a new day and I haven't said it yet today, 'eBay sellers rock... I love it when they take us for a ride ...' Andreas

I sympathize with your difficulties pertaining to your halfnut 41CX, but it should be noted that many eBay sellers don't really know much about the HP calculators they offer. They may not even be aware of problems they should divulge. A seller's expertise can usually be deduced reasonably well from the auction description. Failure or refusal to answer questions gives even more insight. Some sellers do know about their product, and are also very upstanding. You can expect to pay more to win their auctions, because other buyers recognize it.

My personal experience buying two fullnut 41's through eBay has worked out fairly well, all things considered.

- The first was a cosmetically- and mechanically-excellent 1984 41CX that sometimes worked, but frequently malfunctioned after I received it via US airmail. Since the calc was described in the auction as fully functional, I offered the seller a choice of letting me keep it for for a substantial refund (I really didn't need or want a "parts machine"), or taking it back a nearly-full refund. The seller let me keep it at a very low price, but eight months went by before I discovered Randy's business at "www.fixthatcalc.com". Ultrasonic cleaning and some resoldering made it function perfectly, for a very reasonable price. I was so pleased with the outcome, I then sent supplemental payments to the eBay seller amounting to the $150 eBay auction selling price, less repair costs, in order to pay him what the CX proved to be worth.

- The second was an 1980 41C that had seen heavy use in a lab -- very dusty in the auction pictures, and with velcro pads on the back for wall mounting. It sold for around $50, due to the poor cosmetics. It also malfunctioned upon arrival as the CX did, but had not been described as functionally perfect, so I did not complain. I sent it to Randy, and he performed the same cleaning/resoldering service, inside and out. Now, it's a virtually-perfect unit -- a fine example of the improved 2nd-year US-made HP-41, with no hard-to-read "tall keys" or bugs, a solid feel, and the most legible display.

The moral here is *"caveat emptor"* -- let the buyer beware (and assume some risk of additional expense if things aren't quite perfect).

Regards,

-- KS

Edited: 20 Mar 2006, 1:32 a.m.

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Cleaning an Hp41C

*Message #1 Posted by **Xavier LaRue** on 16 Mar 2006, 4:46 p.m.*

Hi there,

I recently buyed a hp41c + Quad mem and X function, but I don't know what hapened but when I received it is has like 1 inch of dust and other thing on it.. I clean it with rubbering alcool + q-tips but under the protective screen there still a lots of dust.. so my question is , how to open it.. also I have one key that don't click anymore and is a little bit harder to get entered correcly, so, do opening the calc will enable me to help this problem too,

So do somone have picture of how to open a FullNut starting with 20 and tips on how to clean the calc...

Thank you all, Xavier LaRue

Re: Cleaning an Hp41C

*Message #2 Posted by **Andreas Terzis** on 16 Mar 2006, 7:32 p.m.,*
in response to message #1 by Xavier LaRue

Xavier,

I have had the same problems in the last couple of months with machines I bought from 'crooks' on eBay (sorry friends - it's the most polite word I can use). In fact I recently bought a 'MINT' HP-41CX only to find it had tons of scratches on the sides, matte (non-shiny) keys probably from overcleaning, and the 'clean without corrosion' battery contacts to be FULL of corrosion!!!

In any event, I have read posts from before where people used 409 cleaner on the keyboard. You can open the machine by taking the four pads on the bottom off and unscrewing the four screws. There are some posts lately to me, suggesting to be very careful with HP-41C and HP-41CV machines, where HP-41CX machines are easier. The colleagues were suggesting to be careful with the former ones as the boards internally need some pressure to stay together. In fact, later machines that were Halfnuts (even HP-41CVs) would not be difficult to open. (Halfnuts are the ones with the rounded edges on the display - you probably don't have one of those).

Once you open the machine you can use distilled water and a Q-tip to clean the circuit boards inside. I would use some 'Dust Off' myself as well. That is the can that has some kind of condensed chemicals (difluoroethane). As far as cleaning the battery contacts, there was some discussion recently that one could use lemon juice or vinegar, and coat them with butter from what I understand. I just used lemon juice and a Q-tip and it cleaned most of the base deposits on the battery contacts of my machines (about 90%). I think the relevant post was called: 'Battery leakage and cleaning' but for some reason I cannot seem to access it, maybe due to the passworded changes to the site that were implemented lately by Dave Hicks; he can comment if that's the case.

I hope that helps a little bit. Good luck, Andreas

Re: Cleaning an Hp41C

*Message #3 Posted by **Klaus** on 17 Mar 2006, 3:01 a.m.,*

in response to message #2 by Andreas Terzis

I think it was me who said something about butter. DO NOT DO THIS! You can do this on a car's battery, but I would not do it on a 41C.

Also do not scrape the battery contacts, they are just thin foil!

Btw, repairing broken keys is not as easy as on the classic model

Edited: 17 Mar 2006, 3:53 a.m.

Re: Cleaning an Hp41C

*Message #4 Posted by **Xavier LaRue** on 17 Mar 2006, 7:09 a.m.,*
in response to message #3 by Klaus

So the point it,

Until it's completly broken.. don't fix it ?

Xavier LaRue

Re: Cleaning an Hp41C

*Message #5 Posted by **Klaus** on 17 Mar 2006, 11:12 a.m.,*
in response to message #4 by Xavier LaRue

Key malfunction due to dirt => fixable

malfunction due to broken domes (the key is lower than other keys) => bad luck

The reason: You do not have access to the keyboard contacts. The whole keyboard assembly is fixed with heat-stakes to the front plate of the case. Maybe professionals can fix broken keys (fixthatcalc.com).

Re: Cleaning an Hp41C

*Message #6 Posted by **jbssm** on 18 Mar 2006, 9:55 a.m.,*
in response to message #1 by Xavier LaRue

Hi,

I also have had some problems with the 41C Series ... my advice is, try to get some pictures of the calcs you are buying on eBay, you can immediately tell the condition of a unit pretty surely by how it looks on a good picture ... and don't forget to ask a picture of the battery contacts.

Anyway, also on the spirit of this topic, does anyone have a good method to access the keyboard on the 41C series? Like a member said the circuits are pinned to the front plate by heat stakes, so does anyone found a good method of removing then and the put all back?

Regards, jbssm

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Using Quad memory w/ 41cx

*Message #1 Posted by **Mike Smith** on 16 Mar 2006, 2:37 p.m.*

Is the 41-c series quad memory module compatible (useable) with the 41cx?

Re: Using Quad memory w/ 41cx

*Message #2 Posted by **Eric Smith** on 16 Mar 2006, 2:44 p.m.,*
in response to message #1 by Mike Smith

No. The 41 family can only address one of those, and the 41CV and 41CX have it built in. They already have the maximum "normal user memory". Don't put the Memory or Quad Memory modules in a 41CV or 41CX, as they will not work correctly, and there is a small chance that the modules or the 41 could be damaged by bus contention.

The 41CX has the "Extended Functions Module" (XFM) built in as well; that contains 127 usable registers of Extended Memory. You can add one or two Extended Memory modules in the ports; each one adds 238 usable registers of Extended Memory. Note that there are some restrictions on the arrangement of the XMEM modules in the ports.

Extended memory is accessed by the Extended Functions, so it doesn't work in the same manner as normal user memory. It stores files, so you can think of it as being similar to a ramdisk. You can store programs or data in it, but you can't access it directly (except by complicated synthetic programming tricks).

Re: Using Quad memory w/ 41cx

*Message #3 Posted by **Mike Smith** on 16 Mar 2006, 2:55 p.m.,*
in response to message #2 by Eric Smith

Eric, thank you for your very thorough and very prompt response. I fully understand not to use this module on my 41-cx calculator. this site (and your response) is a great resource - thank you once again!

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How to test the printer 821612A

*Message #1 Posted by **Chiu Yiu Wai** on 16 Mar 2006, 9:00 a.m.*

My frined give me hp 821612A printer for gift , do anyone know how to test it , or do it have selftest , if the printer has any problem do anyone can fix or repaair it??

Re: How to test the printer 821612A

*Message #2 Posted by **Eric Smith** on 16 Mar 2006, 4:23 p.m.,*
in response to message #1 by Chiu Yiu Wai

Assuming that you mean an 82162A, I think there's a self-test if you hold down the print button while you turn it on. Or maybe it was the paper advance button. Or maybe I'm confused. But anyhow, it's worth a try.

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HP & RPN

*Message #1 Posted by **Antonio Maschio (Italy)** on 16 Mar 2006, 5:11 a.m.*

Hi everybody.

I want to know your opinion about this matter: HP & RPN

In the past years, HP was the leader in the calculators markets, and its machines were quite all RPN-based. If you wanted a calculator featuring RPN, you *had* to buy a HP product. Any other RPN products were hardly seen on the markets. Furthermore, Casio, Sharp and Texas Instruments produced only algebraic calculators, with more or less success, but the leader was HP.

Nowadays HP produces quite only algebraic calculators (of course, "produces" is a strong word, since all the calculators are made-up in China or so), and in its stock there's only one pure RPN calculator: HP 12C, a financial calculator; its follow-on, HP 12C Platinum, features both methods. The last pure scientific RPN based calculator was HP 32SII, and now it's gone; its follow-on, HP 33S, features both methods (and it's worse in quality).

Surely RPN is more difficult to learn than algebraic input, but only for the first, say, 2 days. Then it's faster and easier to use; RPN users get to the point that they cannot use algebraic machines again after they've learned RPN (I'm one of them).

Surely, intelligence is not lowering down, these days. And surely, people of the Seventies and Eighties were not more intelligent than people today (I hope). So I guess that people today *can* use RPN with no problems for their calculations. Do they *really* prefer algebraic machines? Or algebraic machines are their only choice?

And now the questions: 1. If HP once believed so much in RPN, why not today? 2. If HP once sold a lot of calculators and was the leader, why not today? 3. If we suppose HP gave up with calculators as a leading product, but still believing in RPN, HP calculators today should be pure RPN. Or should we suppose that HP gave up with RPN too? 4. Is RPN something that should be suggested/proposed to people, instead of producing calculators that are merely copies of TI or Casio products? I mean, is HP in the position to produce those golden years RPN calculators again, without being affected by "what will people say?" or "people won't buy this: it's too difficult!" ? 5. If today HP sold only RPN calculators, do you think it would sell less?

In other words, is there a link between RPN and HP leadership?

I wait for your opinion.

-- Antonio

P.S. Of course, one could cite the fact that previous calculators were better-designed and more robust (e.g. HP 11C and all the voyager/pioneer series), while today's calculators are probably worse, and not so robust (e.g. I own both HP 33S and HP 49g+: they are very cool, but got half the appeal of the voyager/pioneer ones); is this a consequence of the fact HP quite abandoned calculator markets (and/or that calculators are made up in China)?

Re: HP & RPN

*Message #2 Posted by **Valentin Albillo** on 16 Mar 2006, 6:24 a.m.,*

in response to message #1 by Antonio Maschio (Italy)

Hi, Antonio:

Some comments, as per your request. All that follows, IMO:

"Surely RPN is more difficult to learn than algebraic input, but only for the first, say, 2 days. Then it's faster and easier to use;"

> Strongly disagree. That's a myth, absolutely unfounded nowadays and 10 to 15 years earlier as well. This myth was once true, when algebraic input meant jurassic TI-style, i.e., one-line numeric display, no way to see your expression whole at a time, no way to correct for entry errors, no way to know if your parentheses were matched or not, etc. That was forced by the hardware and prices possible at the time, and RPN was so much better and elegant, not to mention it was the only possible solution for the limited hardware and desired functionality.
>
> Later on algebraics got bigger screens, sometimes much bigger (SHARP PC-1350's 4-line x 24-char display comes to mind), fully alphanumeric, you could see your whole expression at once, you could enter it essentially as written, no danger of losing data because of too many pending operations, you could edit it at leisure before pressing [ENTER] and also *after* computing the result, recalling the whole expression back for edition or trying out alternatives, or continue with new expressions that would chain to it, etc.

"RPN users get to the point that they cannot use algebraic machines again after they've learned RPN (I'm one of them)."

> I'm not. I'm every bit as proficient with RPN as with advanced algebraic models, always have been. The users you mention are the ones that truly believe in the myth, they're actually *blinded* by it, and are unable and unwilling to get out of the RPN grip. They can't objectively evaluate algebraic systems because of their inherent dislike and even despise of them, they associate "algebraic" with "four-banger" and tremble at the mere thought of not having RPN at hand. They've become RNP-fundamentalists, a kind of harmless fanatics, even addicts. A real pity. But harmless. And they tend to self-extinction.

"Surely, intelligence is not lowering down, these days. And surely, people of the Seventies and Eighties were not more intelligent than people today (I hope)."

> You're equating "intelligence" with "using and advocating RPN". Personally, I consider this insulting, unfounded, and unfair; matter of fact, perhaps you should re-evaluate at what side of the line intelligence lies. If being an RPN-addict, unable to even contemplate using any other system but their obsoleted one, is to be considered more "intelligent" than profitably using both RPN and algebraic, or even rationally chosing algebraic outright, then it seems to me that your definition of "intelligence" doesn't agree with mine, by far.

*"So I guess that people today *can* use RPN with no problems for their calculations. Do they *really* prefer algebraic machines?*

> Of course. Only a fool would seriously think that everyone but himself and his tribe are the fools. People, when given the choice of using obsolete, inefficient RPN style calculations (not to mention RPL) or a decent, advanced algebraic do not hesitate in the least. They do use algebraic.
>
> As a test case, my own daughter, Laura, knows how to use both, RPN and algebraic. But whenever she must do some calculation, for her homework for instance, she always grabs her SHARP PC-1350, because she fully realizes this is to her own advantage. She would run rings around you and your RPN calculator of choice for anything remotely non-trivial.

"If HP once believed so much in RPN, why not today?"

> Because it doesn't sell, at all, and HP is not a charity but tries to earn money for its shareholders.

"If HP once sold a lot of calculators and was the leader, why not today?"

> Because formerly engineer and professionals were the biggest market for the very expensive advanced calculators available, as there were no remotely affordable PCs then. Later on, every engineer and professional worth their salt switched to PCs and laptops, so the biggest market for calculators was educational. And there, TI and the rest or firms had already introduced themselves a mile thick, specially to teachers and authorities. Trying to enter that market with obsolete, arcane RPN systems was doomed to failure from the start.

"If we suppose HP gave up with calculators as a leading product, but still believing in RPN, HP calculators today should be pure RPN. Or should we suppose that HP gave up with RPN too?"

> Of course. What makes you think HP (or anybody else) is a fool ? RPN is obsolete, and RPN doesn't sell to the masses or even to minorities. Only to people *forced* to use it for technical exams, or used to its past glory, gone long since. Such diehard old-timers will be eventually gone too, they're a vanishing market.

"4. Is RPN something that should be suggested/proposed to people, instead of producing calculators that are merely copies of TI or Casio products?"

> RPN's only place is in a museum, like this one for instance. Using it dooms you to inefficiency and to plain obsolescence. Using it in class can be your number one headache if you're a student, and can certainly lower your grades and put you at a serious disadvantage if you stick to it long enough.

"5. If today HP sold only RPN calculators, do you think it would sell less?"

> Apart from the RPN HP-12C, popular among business people, and the HP33S, forced for people taking exams, they would sell nothing.

"In other words, is there a link between RPN and HP leadership?"

> I must be specially dense today because I don't even understand your question. HP was never "leader" because of RPN, but because of their overall quality. In the past, RPN was the best possible system given the hardware, a real godsend. Then RPN was quality. Now RPN is nothing, a jurassic system which has outlived its usefulness. Embracing RPN now would be tantamount to irrelevancy and sinking into oblivion even faster.

Best regards from V.

Edited: 16 Mar 2006, 6:50 a.m. after one or more responses were posted

Re: HP & RPN

*Message #3 Posted by **Thomas Okken** on 16 Mar 2006, 6:45 a.m.,*
in response to message #2 by Valentin Albillo

RPN is obsolete? RPN belongs in a museum?
Hmmm, well, let's see. Say I just finished some calculation. The result is in the display. Now I want to add 1 and multiply by 4...

```
1 + 4 *
```

How much is 5 over that?

```
5 X<>Y /
```

I could go on, but I expect the point is clear. This kind of interactive playing with numbers is easy and intuitive with RPN. On any algebraic, the same operations always take more keystrokes.
That's what people like about RPN, and the fact that that doesn't sell any more is because nobody knows about it any more. I suppose you could make the point that the only reason why RPN ever did sell is because in the days of yore, you had no choice: if you wanted a powerful, well-built calculator, HP was the only game in town, and HP meant RPN. A whole generation of engineers got RPN shoved down their throats -- and ended up being thankful for it.

"Harmless fanatics", indeed. Give us a bit more credit, pal. :-)

- Thomas

Re: HP & RPN

*Message #4 Posted by **Valentin Albillo** on 16 Mar 2006, 10:41 a.m.,*
in response to message #3 by Thomas Okken

Hi, Thomas:

Thomas posted:

"Hmmm, well, let's see. Say I just finished some calculation. The result is in the display. Now I want to add 1 and multiply by 4..."

> Come on, man ! Are you serious !? No wonder RPN has such badmouthing, with painfully simplistic samples like that being repeated mantra-like through the decades! You can do much better ...

"On any algebraic, the same operations always take more keystrokes."

> Mantras again. Did you read my post carefully ? If you did, it certainly didn't register, uh ? :-)

Best regards from V.

Edited: 16 Mar 2006, 10:43 a.m.

Re: HP & RPN

*Message #5 Posted by **Geir Isene** on 16 Mar 2006, 11:21 a.m.,*
in response to message #4 by Valentin Albillo

As for me, there is nothing that beats my HP-97 as the standard desktop calculator for my work. And RPN is one of the 5 major resons for that.

I wonder why some get so emotional about this. It's only a calculator ;) (I can see my friends looking surprisingly at me right now).

Re: HP & RPN

*Message #6 Posted by **Thomas Okken** on 16 Mar 2006, 11:28 a.m.,*
in response to message #4 by Valentin Albillo

> Quote:
>
> Come on, man ! Are you serious !? No wonder RPN has such badmouthing, with painfully simplistic samples like that being repeated mantra-like through the decades! You can do much better...

Yes, I'm serious. I'm happy for all those who have "seen the light" and are now leading happier and more prosperous lives as AOS users, but some of us actually add 1 and multiply by 4 every now and then, and appreciate how easy RPN makes such tasks.

> Quote:
>
> "On any algebraic, the same operations always take more keystrokes."
>
> Mantras again. Did you read my post carefully ? If you did, it certainly didn't register, uh ? :-)

Yes, Valentin, I did read your post carefully, and I'm disagreeing with your contention that RPN is obsolete. Instead of trying to dismiss my remarks by labeling them as "mantras", how about trying to prove me wrong? Let's see you do my examples with fewer keystrokes on an AOS machine, 71B, or whatever.

- Thomas

Re: HP & RPN

*Message #7 Posted by **Valentin Albillo** on 16 Mar 2006, 12:50 p.m.,*
in response to message #6 by Thomas Okken

Hi again, Thomas:

Thomas posted:

"Yes, Valentin, I did read your post carefully, and I'm disagreeing with your contention that RPN is obsolete."

> You may disagree as much as you want. "Eppur" it *is* obsolete".
>
> RPN was good and okay when machines were so *limited* in hardware resources, most specially RAM, that there was no way they would execute some expression as written, just too many pending operations, too many registers needed to hold operands and operators, too difficult and expensive to parse the input into something internally executable and redisplayable afterwards, too difficult and expensive to allow for extensive recall and edition capabilities, not to mention alphanumerics and named variables.
>
> That being so, an elegant and workable solution was found: *to split the work in half*: the machine would actually do the calculations, one at a time, operating with numbers in a stack in a simple manner, and the user would be in charge of reading the expressions, parsing them into the RPN form the machine expected, then entering operands and operators following his/her human-produced RPN parsing. This collaboration saved much ROM and RAM, the final result was impressive in terms of efficiency and overall productivity, and everyone was happy.
>
> But time passes by, and ROM and RAM became cheaper, alphanumerics were

commonplace, processors got faster. Now, having the *person* do the parsing and processing into RPN was no longer justifiable. The machine could read the expression as entered, do the parsing, place the arguments and operators into their proper internal places no matter how many were pending, and execute it all very fast. The machine would also recall the whole input, operands and operators and all for easy editing and reexecution if needed or chaining if desired. No need for the person to do these annoying *chores*, no need for the person to rethink the expression mentally to cater for necessary *reordering* to avoid overloading the stack.

In other words, the machine now does all the work for me. *I don't care at all* where it places the numbers and operators or how does it arrange them internally, nor would I've ever wanted to do it myself were it not for the fact that the old alternatives were far worse. Would you write your programs in assembler, to take care of every little bit, all the time ? Or would you rather let the compiler do the hard work, and let you *concentrate* in what matters, your *work* ? Same here.

Why on earth would I care for whether this or that thing is in Z, or T, just about to get lost or not, or whether I need an X<>Y or ROLLDOWN to place this or that operand at its proper position in the stack, for it all to work ? Wouldn't it be much better if those *internal, low-level chores* get assigned to *low-level brains*, such as the processor's while my higher-level brain is dedicated to the algorithm or *work* I'm trying to do ? Would you prefer to be thinking about currents and circuits or about stack levels ? Think about beams and stress or about LASTX ?

That's why most people nowadays give RPN a miss. Would *they* consider doing part of the work for the machine ? No way.

"Instead of trying to dismiss my remarks by labeling them as "mantras", how about trying to prove me wrong? Let's see you do my examples with fewer keystrokes on an AOS machine, 71B, or whatever."

See, Thomas. I don't know how long have you been frequenting this MoHP forum but this topic has been discussed an incredible number of times, and I've said all I have to say so many times before that I'm *not* for repeating time and again the same arguments. Do you think you're the first one to say what's quoted above to me ? You must be the *one-thousandth* at the very least !

And it's useless. Like religious issues, you can never convert an RPN addict. They only see their mantras: *"fewer keystrokes ... fewer keystrokes ... fewer keystrokes ..."*. It doesn't cross their minds that keystroke-counting might *not* be the most important measure of the capability and/or productiviy and/or ease of use of a computing paradigm. They think they know that "... fewer keystrokes ..." is their system's good point for sure, and *don't ever consider* the possibility that perhaps that's *not true*, or even if true, that *it might not matter that much* compared to other advantages or disadvantages.

Am I going to waste even more of my time trying to convince you (as a thousand others), or giving you examples for the 1000th time ?

Do your own homework. Search the archives. Convince yourself. Or not.

Best regards from V.

Edited: 16 Mar 2006, 12:55 p.m.

Re: Please stop this, Valentin

*Message #8 Posted by **Thomas Radtke** on 16 Mar 2006, 1:48 p.m.,*
in response to message #7 by Valentin Albillo

> Quote:
>
> Am I going to waste even more of my time trying to convince you (as a thousand others), or giving you examples for the 1000th time ?

If you do not wish to discuss his point or if you think you've already done it elsewhere then please give him/us a short note about it or don't post at all. No one wants to read dismissive remarks on serious contributions.

I certainly do not wish to get a reply to any of my contributions with the subject changed to 'don't make me laugh' or something similar. I won't make this an issue but you really carry this to excess these days. I was interested in this thread and want to follow it. I am interested in your opinion, too. But it makes me sad to see that every thread containing contributions you dislike gets screwed up.

No offense intended, just a plea for a more moderate attitude on your side.

Thomas

Re: HP & RPN

*Message #9 Posted by **Thomas Okken** on 16 Mar 2006, 8:04 p.m.,*
in response to message #7 by Valentin Albillo

> Quote:
>
> Am I going to waste even more of my time trying to convince you (as a thousand others), or giving you examples for the 1000th time ?

It seems to me that that is precisely what you *are* doing.

You state that present-day technology makes AOS much better than it used to be in, say, the TI-59 days. I agree.
You also state that RPN was used in earlier HP calcs because the technology of those days simply didn't support anything significantly better. I think that's probably true, too.

But why criticize people who *continue* to use those older technologies?
The reason why I usually walk to the grocery store, instead of taking the car, is because the grocery store is 100 meters from my front door -- not because I'm unaware of the advantages of the automobile.

> Quote:
>
> Like religious issues, you can never convert an RPN addict.

Like religious issues, you can never reason with an RPN hater? It's fine that *you* don't care about the fact that AOS requires more keystrokes, but you should maybe just learn to accept the fact that there are people who *do* care about that metric, and also accept that those people are not simply too dense to appreciate your point. They have a perfectly valid

point of their own.

- Thomas

Re: HP & RPN

*Message #10 Posted by **Howard Owen** on 16 Mar 2006, 8:44 p.m.,*
in response to message #9 by Thomas Okken

> Quote:
>
> The reason why I usually walk to the grocery store, instead of taking the car, is because the grocery store is 100 meters from my front door -- not because I'm unaware of the advantages of the automobile.

The analogy I like is stick shift versus automatic transmission. Try making the following statement in any bar, at about 6:00 PM on Friday night:

> Quote:
>
> *There's absolutely no reason to use a stick shift anymore. Modern automatic transmissions do a far better job of gear selection under any set of conditions you can name.*

And stand back while a furor not unlike the one we have just seen kicked up here gets going.

The statement may (or may not) be factually true. It has little to do with which type of transmission people prefer.

Regards
Howard

Edited: 16 Mar 2006, 8:45 p.m.

Re: HP & RPN

*Message #11 Posted by **Valentin Albillo** on 17 Mar 2006, 4:51 a.m.,*
in response to message #9 by Thomas Okken

Hi, Thomas:

Thomas posted:

*"It seems to me that that is precisely what you *are* doing."*

> Yep, that's probably true ...

"Like religious issues, you can never reason with an RPN hater?"

> I sincerely hope you're not implying that I am an "RPN hater" because nothing could be further from the truth. I'm nearly 50 years old, and have strongly, passionately been into HP calculators for the last 30 years. Depending on your age, I might have been writing RPN code when you were wearing diapers, and, in

> any case, I've written more RPN code in that period, both for fun and for profit, than you would be able to write in your one life, or even two.
>
> If in doubt, just check my many RPN programs and articles (synthetics included) in PPC Journal, PPC Technical Notes, Datafile, and other publications, as well as several HP Solution Books (including a *whole* HP-34C Advanced Math Solutions Book), etc, etc. I can also send you references of my commercially written RPN software (architectural computations, engineering, etc), not to mention the many RPN solutions to challenges and snippets of RPN code I've posted here.
>
> If that qualifies me as an "RPN hater" to you or anyone else, then words have no meaning. Matter of fact, I think I'm in a privileged position, knowing both worlds inside out, to objectively judge them on their merits.
>
> On the reverse side of the coin, I wonder if you have that much experience using to the fullest modern algebraic systems, knowing their every trick and technique, to the point that you can make a rational and knowledgeable evaluation of their merits when compared to RPN.
>
> The bottom line is: I find it deeply irrational that many people who just know the one system, and have barely scratched the surface of the other system, if at all, feel nevertheless in possesion of the truth and claim it loud and clear for the world to know while adamantly refusing to make a reality check by getting to know the other system, to see by themselves if their claims hold or not, instead of taking refuge in their comfy beliefs of superiority. That's akin to self-inflicted blindness and seems most irrational to me.

Nevertheless, my apologies if anything I posted did offend you or anyone else, as it certainly wasn't my intention. My style can be quite "intense" at times, specially since, being a non-native English speaker, my command of the subtler *finesses* of the English language is utterly lacking.

Best regards from V.

Re: HP & RPN

*Message #12 Posted by **Thomas Okken** on 17 Mar 2006, 6:09 p.m.,*
in response to message #11 by Valentin Albillo

> Quote:
>
> Depending on your age, I might have been writing RPN code when you were wearing diapers, and, in any case, I've written more RPN code in that period, both for fun and for profit, than you would be able to write in your one life, or even two.

Well, you certainly have a high opinion of yourself. Or a pretty low one of me, I'm not sure which.

> Quote:
>
> On the reverse side of the coin, I wonder if you have that much experience using to the fullest modern algebraic systems, knowing their every trick and technique, to the point that you can make a rational and

> knowledgeable evaluation of their merits when compared to RPN.

So, your point is, you've been using calculators for a long, long time, and that must mean you're right and everyone who disagrees with you is wrong.
You are so convinced that your truth is the only one, that from my defending RPN, you immediately jump to the conclusion that I must have little or no knowledge of anything else:

> Quote:
>
> The bottom line is: I find it deeply irrational that many people who just know the one system, and have barely scratched the surface of the other system, if at all, feel nevertheless in possesion of the truth and claim it loud and clear for the world to know while adamantly refusing to make a reality check by getting to know the other system, to see by themselves if their claims hold or not, instead of taking refuge in their comfy beliefs of superiority. That's akin to self-inflicted blindness and seems most irrational to me.

You don't know me at all, and you have no way of knowing what the extent of my knowledge and experience in the calculator field might be. Of course, the strange thing is, that it doesn't even matter. I pointed out that RPN is keystroke-efficient. I claim that there are people who value that property, who find it natural and intuitive to enter numbers first and operators last, and who don't mind that they have to keep track of the order of evaluation themselves.
Whether I have written 10,000 lines of RPN code in my life or 10,000,000 makes no difference as to the validity of that point. I could brag about all the Java and C++ code I have written, for fun and for profit, or about my prize-winning pumpkins, and it would make no difference to the topic we were **actually** talking about.
(I'm kidding about the pumpkins.)

You are, of course, under no obligation to address, acknowledge, or even agree with my defense of RPN. As I said before, if you like AOS better, good for you. But the way you try to sweep my RPN defense off the table by trying to make me look like a clueless, ranting fanatic is just plain rude.

> Quote:
>
> Nevertheless, my apologies if anything I posted did offend you or anyone else, as it certainly wasn't my intention.

That apology would sound a little more sincere if it wasn't accompanied by even more insults, but it will have to do, I guess.
Apology accepted.

Now, back to work on the PocketPC version of Free42. Yes, an RPN calculator simulator, and hey, maybe I can spark off another flame war by mentioning I always write my code using **vi**.

(I'm kidding -- about the flame war, that is. :-))

- Thomas

P.S. Anyone who is interested in beta-testing Free42/PPC, please drop me a line. I have no PocketPC myself, so I have to do all testing on a simulator; I would like to confirm that the new version works on a *real* PocketPC before I put it up on my web site.
Thanks!

Edited: 17 Mar 2006, 7:45 p.m.

RPN & command-line AOS

*Message #13 Posted by **Karl Schneider** on 17 Mar 2006, 1:56 a.m.,*
in response to message #7 by Valentin Albillo

Hello, Valentin --

Taking up the devil's-advocate argument against RPN again, I see! I would question how earnest your statements actually are. After all, if RPN were so primitive or loathsome, the attributes of HP's (former) high quality, robust mathematics, and top-notch documentation couldn't possibly have overcome it. But, I'm game for the "challenge of the argument".

I agree with the Thomases -- RPN will never be obsolete in handheld calculators, which tend to have limited, but easy-to-read displays. RPN beats old-fashioned AOS hands down, as everyone here would agree. However, calculators with command-line algebraic entry (AE) don't truly fulfill their objective.

The AE concept is straightforward: Allow the entry of entire expressions exactly as they appear on a working paper or in a book. When complete, the expression in the calculator's display can be quickly and easily compared to the printed one, then deemed correct, or edited if not. Then, the user evaluates the expression and obtains the final answer. No parsing or organizing by the user is needed. Simple enough?

Unfortunately, the approach doesn't work as well as intended, because *the expression in the display generally doesn't match the expression on the page:*

- The display isn't wide enough to fully accommodate longer expressions without scrolling or wraparound.
- Low dot-matrix resolution produces poor-quality superscripting and no subscripting.
- Parentheses are used in place of the brackets and braces employed to distinguish nested expressions.
- Function names are used in place of "typeset" symbolic representations.

So, the user is looking at the truncated expression in his display -- which might display "COMB(5,3)" or "5C3" in place of parenthesized 5 above 3, as well as groups of unmatched parentheses in place of matched braces and brackets -- and is then expected to ascertain whether it is correct. In an act of faith, he then hits "=", "ENTER", or "EVAL", and obtains a final result that was delivered without ever having paused at the way stations of intermediate results.

This approach hardly engenders my confidence. With RPN, however, I see each result as it is performed. On some alphanumeric models (41C, 42S, 32S, 32SII, 33S), I can even see the name of the operation before it is executed. Also, it is easier to combine the results of previous calculations.

Every AE system I have tried -- the HP-71B, equation editor on the HP-27S and HP-17B/BII, algebraic expressions on the HP-28/48/49, the Casio fx-115MS ("Visually Perfect

Algebraic Method"), as well as the TI-86 and TI-89 -- suffers from one or more of the listed shortcomings. I know that there are other AE calc's from Sharp and Casio, but I also doubt that any of them achieves the ideal. It may be that only the high-end graphical PC software for mathematics -- e.g, Mathematica or Maple -- can meet the standard for elgeant symbolic representation of mathematical expressions.

This brings me to something more fundamental: The slogan "Just like you'd do it on paper" has been used to tout both RPN and AOS calc's. The statement is true for both in a certain sense, but it needs to be clarified:

- AOS mimics how the expression is *written* on paper, letting the user simply keystroke exactly what he sees.
- RPN, however, provides the true approach one would take to actually *compute* the expression on paper.

The distinction is significant. Assume that one is presented with a complicated expression -- such as the Mach number equation -- and is asked to solve it without using any electronic computational devices. Only a slide rule or Curta, trigonometric and logarithm tables, and pencil and paper, are permitted.

What to do? Start on the inside, where the operands are ready for evaluation. Then, work outward on both sides, one operation at a time. This is the RPN approach. The final result can be trusted, because each step was quality-controlled for reasonableness.

In the absence of a validated and debugged equation or program -- or a look-up table -- to provide the answer, this step-by-step method is the soundest approach to such a task.

Of course, the above is not a revelation to any of us, but it explains just why *RPN will never become obsolete*.

So there! :-)

Best regards,

-- KS

Edited: 19 Mar 2006, 11:55 p.m.

Re: HP & RPN

*Message #14 Posted by **Gene** on 16 Mar 2006, 9:15 a.m.,*
in response to message #2 by Valentin Albillo

Wow. We might as well be discussing religion. That would bring up just as heated a set of disagreements for sure! :-)

1) I agree with Valentin that the current "equation" style of entering long expressions in algebraic syntax has rendered some of the RPN/ALG argument moot. If you are solving something already written down, then the extra keypresses required for parentheses in these modes is more than offset by the ability to visually see the exact full expression and know that it contains all the operators, correct numbers, etc. If the calculating device also has a "command stack" ala HP71B style, that allows you to recover previous results, edit them and then re-evaluate them, all the better. The HP71B's CALC mode was also a very useful solving environment that I liked a lot.

2) I do not see why it matters to any of us whether HP produces RPN only machines vs. those that have both modes. Why do I care if HP produces the 33S with RPN and ALG modes? If that leads to more sales than RPN only, then that is a positive thing, IMO. I am certainly not a purist in this regard where I view the inclusion of ALG modes as some sort of betrayal (full disclosure...I am the one who added the algebraic mode examples to the HP12c platinum owners manual...and believe that is one of the better decisions HP has made).

3) If we are talking non-command line, typical AOS style entry vs. RPN, then a) RPN wins in terms of keystroke usage - you can solve a large majority of problems faster with fewer buttons pushed. b) RPN requires the user to preview the problem and evaluate where to start the processing. That's not always a bad thing, but it does require some effort on the user's part. c) Some of the examples the RPN community has used to showcase the wonderful nature of RPN (think of the mach number problem) have exaggerated the benefits of RPN. For example, it is possible to completely solve the mach number problem on a TI-30 from 1978.

d) RPN/ALG machines HP makes: HP12c platinum, HP33S, HP17bII+, HP48gII, HP49g+

e) Personal: what do I reach for when I have to compute something? My HP12c, since my computations are usually financial in nature. Why not use EMU-something? Because given the nature of the company I work for, we are by-and-large an Apple shop and those run on Windows. Otherwise, I might. :-)

So, I certainly feel that Valentin is very on the spot with machines that have a built-in mode such as he describes. However, if the machine only has RPN vs. classic AOS (which still exists on many machines), then I do still feel that RPN wins for speed.

Re: HP & RPN

*Message #15 Posted by **Valentin Albillo** on 16 Mar 2006, 9:43 a.m.,*
in response to message #14 by Gene

Hi, Gene:

Gene posted:

"So, I certainly feel that Valentin is very on the spot with machines that have a built-in mode such as he describes. However, if the machine only has RPN vs. classic AOS (which still exists on many machines), then I do still feel that RPN wins for speed."

> Agreed, I think the same. But since circa 1980 there's been all kinds of powerful and very small (HP-15C size or less) command-line, fully-alphanumeric algebraic machines available, so if we're debating RPN vs algebraic, it's only fair that we compare similarly advanced models, not a 33S vs. a $0.60 four-function banger. Else we could as well use some primitive 3-level RPN models, or some Sinclair RPN calculators, with their weird RPN stacks and terrible stack manipulations, right ?
>
> Comparing an advanced RPN calc versus a four-banger algebraic is like a heavyweight vs. a flyweight, i.e., not fair, not allowed, and doesn't prove anything. Against a proper command-line algebraic, HP-71B-style or so, RPN has little to do.

Best regards from V.

Re: HP & RPN

*Message #16 Posted by **Gene** on 16 Mar 2006, 10:14 a.m.,*

in response to message #15 by Valentin Albillo

True.

Personally, I wish HP had kept the "CALC" mode from the 71B. Joe Horn even once wrote an article in the PPC Journal titled "CALC > RPN" and I think he had many good points.

Now, back to my 12c. :-)

Re: HP & RPN

*Message #17 Posted by **Garth Wilson** on 16 Mar 2006, 12:15 p.m.,*
in response to message #2 by Valentin Albillo

Wow-- someone must have given Valentin yesterday's coffee for breakfast this morning! I'm disappointed. I won't address every point though.

The RPN v. AOS reception seem to have a lot to do with how an individual thinks, and may have partly to do with one's native language. In English, we say "buy food" for example with the verb preceding the object. Not so in Korean, where sentence structure is different and makes RPN seem very natural. I know this affects the reception of Forth, which seems all backwards to English-speakers, but not to Koreans. Although my first language is English (followed by Spanish and finally French), I was glad to find both RPN and Forth and get rid of those piles of parentheses and the pressure to go left to right when I don't think that way! I have both an HP41cx and an HP-71 within easy reach; and although the 71 is far more powerful, I much prefer the 41 as a calculator. The 41 & Advantage module is more clumsy with complex numbers so I usually reach for the 71 there, but it's not because of the algebraic entry. And I can hardly stand the 71's CALC mode!

The comparison I have made to people asking about the different approach is that algebraic shows what equation you're performing, while RPN shows how you get there. Both are valuable, but I usually prefer to put the algebraic form in the comments (if at all) and the RPN in the program.

As far as HP goes, I think they've just succumbed to the modern "instant gratification" mentality-- cheap, cool, no manual-reading, with no concern for tomorrow relating to durability or anything else.

Re: HP & RPN

*Message #18 Posted by **Jan** on 16 Mar 2006, 12:17 p.m.,*
in response to message #2 by Valentin Albillo

Pretty harsh attack on the RPN community. Take a valium, or (even better) a glass of good italian red wine: it's only about calcs you know. Yes, I am an RPN-dinosaur myself and I will continue to be. Or should I say I am an RPN-crocodile, after all crocs "walked" with dinosaurs and still refuse to go extinct today. I deal with AOS (oh folks I am so fit for the 21st century) and RPN in an equally easy way, although I prefer RPN for its flexibility. RPN is just more usefull for the "medium" calculations by hand I would say. No burden with counting parentheses such as when I am writing a computer-code in some (non-forth) programming language. There is also an educational benefit: you learn to read, interpret and understand complex formulas instead of retyping them on an AOS calc or PC. Unless you want to become a secretary it therefore can be very educational for kids at school. RPN obsolete? Come on, (RPN-based) forth is still THE language for embedded systems and will continue to be. Calcs only for school kids? No way, I am a scientist and my device is that if you cannot say at least something about a physical phenomenon with a piece of paper and a handheld calculator you don't have a clue about what is really going on. First write down a simple approximation, the true number crunching comes later.

Re: HP & RPN

*Message #19 Posted by **John Nguyen** on 16 Mar 2006, 2:45 p.m.,*
in response to message #2 by Valentin Albillo

My Jesus is better than your Mohammed.

My Linux OS is better than your Windows OS.

My HP calc is better than your TI calc.

RPN is better than AOS.

What's the best food? Movie? Music?

These are just some of the imponderables we face. However, to "dis" RPN in an HP forum is just madness. :) This can't be the reasonable and dispassionate Valentin Albillo of yore; must be his evil twin.

John

Boxers or Briefs

*Message #20 Posted by **TF** on 17 Mar 2006, 1:27 p.m.,*
in response to message #19 by John Nguyen

RPN or AOS is sort of like Boxers or briefs. For a lot of us, what we wear was determined in a decision that was made a long time ago. And while they both perform their functions just fine, we certainly prefer one over the other. People can argue that one is better than the other with medical studies or other data to support those positions that one is better than the other. While it might be possible to make the switch form one to the other, most folk don't, and don't care to hear from others that they should switch.

On a slightly more serious note, AOS or RPN is a language of math for the calculator. Maybe somewhat analogous to the language we speak. While some folks can speak several languages, one is their native tongue and they are most efficient at speaking that and conveying the ideas they wish to convey. Therefore, for them, it is the best. I've heard that English is difficult to learn and doesn't make sense at times because of its inconsistencies and special conditions. However, even though my ramblings here might not show it, I am most efficient and confident speaking that language over others. That makes English superior in my little world. I would expect the French, German, and Spanish speaking folks to have a similar view of there own language fro similar reasons. However, in a sense, it doesn't really matter because English seems to becoming the universal language regardless if it is the best, most efficient, logical, or easiest to use language. There is hardly a place on the earth that one can go that doesn't have some English signage or where you can't find someone that speaks at least a little English. (In my travels anyway.) I don’t know if the same can be said for the other languages. Does that make English universally superior? Can an idea be conveyed in the most efficient manner with English over another? Can an idea be expressed in fewer words with a language other than English? Someone might be able to try answer those questions, but, as far as I’m concerned, trying to would be as pointless as the argument between AOS and RPN.

For me, it's English since shortly (relatively speaking) after birth and RPN since the late 70's and boxers since the mid nineties.(See, it's not impossible to change.)

Re: HP & RPN

*Message #21 Posted by **James M. Prange (Michigan)** on 16 Mar 2006, 6:33 p.m.,*
in response to message #2 by Valentin Albillo

Okay, the last "advanced" algebraic/BASIC calculator that I've seriously used is my Sharp EL-5520, and no doubt advanced algebraic models have improved since then, but I very much doubt that they've improved to the point that I'd find one easier to use than an RPL model.

I found the 28S very easy and intuitive to use; in perhaps five minutes I could see that working through a problem in RPN was much easier (for me) than doing it on any other calculator that I'd ever tried. Learning to use RPL object types, variables, and program structures was a pleasure; at last, a calculator that worked the way I think.

Not having any way except for the keyboard to input anything to the 28S was indeed a disadvantage compared to the Sharp, but not enough to want to go back to the old way. The 48SX fixed that problem.

With the RPL models so easy and intuitive to use, why would I ever want to go back to using an algebraic model for an advanced calculator?

For students, there are reasons for preferring algebraic models. In many cases, that's all that their instructors know how to use, and that's what "everyone else" uses. Except for looking through the documentation or going online, one usually can't hope for much help in using an RPN model.

It may be that for some people, algebraic models match their way of thinking better than RPN models. That's not to say that they're less (or more) intelligent than me, just that we're different. If someone prefers to use an algebraic model or write a BASIC program, that's fine with me; I'll stick to doing things the way that I find easiest.

I agree that algebraic models sell better than HP's Classic RPN and RPL models, but I see that as a failure to market HP's calculators effectively, not as any inherent superiority of algebraic models. I expect that the main reason that most people prefer algebraic models is because that's the system they've already learned and is most easily available.

Besides the 12C and 33S RPN-only models, HP still markets the 48gII and 49g+, and I hope that it's selling some of them. How many users just leave them in the default ALG mode, I wouldn't know.

HP is indeed a "for-profit" corporation, and thus has a duty to its stockholders to try to make a reasonable profit, so including an "ALG" mode on recent models was a rational decision. Switching a 49 series to "RPN" mode turns out to be a trivial matter, so having an ALG mode available doesn't really matter to me, although it was a nasty surprise the first time that I turned on my 49G. On the other hand, if someone actually prefers algebraic mode, why not just buy a "Brand X" calculator?

But I also think that HP (like many other companies) all too often sacrifices long-term gain for short-term profit.

The quality that I'd come to expect from HP just isn't there in the 49 series, but I don't see that that's relevant to a discussion of the advantages of RPN versus AOS, although relevant to a discussion of the advantages of HP products versus other brands. For now, I'll stay with the 48 series when I just want to get some real work done.

With the RPL models, I can enter an algebraic expression (in the 48 an 49 series, in multi-line "textbook" style if I prefer), and let the compiler take care of working out the equivalent RPN sequence. That's great when I have the expression already written out in front of me. More often, I have the data in front of me, and know what I want to do with it, and I find working through it RPN-style more intuitive, faster, and generally just a lot easier than working out the algebraic expression first. Why should I have to go through the extra trouble of composing an algebraic expression for what I want the calculator to do? The calculator would parse it to an RPN sequence for execution anyway.

Given that I can use algebraic expressions just fine in my RPL models, what advantage would an algebraic-only model have?

What's more, with the RPL models I never have to worry about an object getting lost from the top of the stack; it just can't happen. I can easily enough use up all available memory, but that must be true of any calculator.

As for your daughter preferring her Sharp to an RPN model, has she ever learned to use an RPL model? As counter-examples, my grandniece and grandnephew prefer their RPL models to a TI. Granted, Classic RPN does have some advantages over RPL, but for me, the advantages of RPL far outweigh them.

RPN/RPL calculators may indeed eventually go the way of the dinosaurs, but I'd see that as a failure in marketing and product quality, not due do any disadvantages of RPN itself.

Regards,
James

Re: HP & RPN

*Message #22 Posted by **Marcus von Cube, Germany** on 17 Mar 2006, 3:53 a.m.,*
in response to message #21 by James M. Prange (Michigan)

Just to add my two (Euro) cents worth.

AOS (TI-59 style) and RPN on a single line numerical display are roughly comparable in nature. They both require you to think about your expression beforehand. AOS is often used in very much the same way as RPN is: work the expression inside out, see intermediate results by pressing [=] or [)], do some postfix operations like trigs, roots, ... You have to keep track of pending operations in AOS as you need to keep track of the stack contents on an RPN single liner.

For many of the calculations I have to to, even a four banger is good enough, though I prefer one of my classic RPN or AOS machines if multiplications and additions are intermixed. If I have to add a column of figures, something with a real (or simulated) roll of paper is even more appropriate.

No lets compare machines with more power and more screen real estate.

If I have to calculate a complicated expression, probably more than once with varying parameters, the bigger screen vastly pays off. You simply don't get lost so easily. The multi line stack display on RPL machines helps very much to avoid confusion about the stack contents. Together with UNDO you can easily avoid and/or correct mistakes. What I'm missing is the history: once you execute a function, part of the former stack contents is lost (except for UNDO). So if the expression is a complicated one or if you want to reuse it, you better start with ['] on an RPL machine. I don't like the equation editor for this task, it's not intuitive for me. It helps in viewing an expression but I keep forgetting which key combinations are neccessary to invoke it on a given object.

On the high end EOS machines (TI-89 family) you have a history which is displayed in textbook form and which can be easily traversed back to modify and reexecute expressions. Editing is done on the command line with a bunch of parantheses. This is equivalent to starting with ['] on an RPL machine.

Differences aren't as clear as is pointed out in this thread more than once. If you compare the right classes of machines you can see (dis)advantages on both sides. In many cases it's just a matter of taste.

Marcus

P.S.: On an AOS programmable you get the equivalent of EOS by writing a program. Just reading the

equation is a little arkward if you have to think in numerical keycodes.

RPN or RPL programs with stack syntax are often "write only" to me. Since the parsing of the expression has been done in the head of the programmer, you just see the results of his thinking. It's a little like understanding disassembled machine language.

Marcus

Re: HP & RPN

*Message #23 Posted by **James M. Prange (Michigan)** on 17 Mar 2006, 5:23 p.m.,*
in response to message #22 by Marcus von Cube, Germany

Where an advanced algebraic model or an RPL algebraic object really does best is when you already have an algebraic expression written out and it's just a matter of keying it in and having the calculator parse and evaluate it.

More often than not I don't already have an expression available, so I'd have to compose one first, deciding where to put parentheses to get the calculator to work the problem in the correct order, or optionally leaving parentheses out if I knew that precedence rules would take care of the order of operations. Working the problem out RPN style saves me the extra bother.

> Quote:
>
> What I'm missing is the history: once you execute a function, part of the former stack contents is lost (except for UNDO).

Or the LASTARG command or the last command lines operation. And of course you can always DUP objects and use the interactive stack operations.

> Quote:
>
> So if the expression is a complicated one or if you want to reuse it, you better start with ['] on an RPL machine.

That's certainly an option, but more often I start the command line with << and enter a program in RPN syntax.

> Quote:
>
> I don't like the equation editor for this task, it's not intuitive for me. It helps in viewing an expression but I keep forgetting which key combinations are neccessary to invoke it on a given object.

Same here. I'm sure I could learn to use it well, but ordinarily I just type in an expression on a single line, although that often requires more parentheses. Perhaps part of my dislike is due to some maddeningly slow operations in the 48SX equation writer, and though they've speeded things up in more recent models, I've gotten used to doing without it and haven't bothered to relearn how to use it.

> Quote:
>
> RPN or RPL programs with stack syntax are often "write only" to me. Since the

> parsing of the expression has been done in the head of the programmer, you just see the results of his thinking. It's a little like understanding disassembled machine language.

I think that that's true of any programming language. Sometimes even trying to understand a program that I wrote quite a while ago can be a bit of a challenge. But then too, it's not always obvious just how a mathematician got from an original expression to an equivalent expression.

Regards,
James

Re: HP & RPN

*Message #24 Posted by **Mike T.** on 17 Mar 2006, 6:02 a.m.,*
in response to message #2 by Valentin Albillo

I have to admit that despite some of the sentiments expressed here I prefer RPN. I do find it easier to use than conventional algebraic calculators and find that the stack is particularly convenient as intermediate results can easily be reviewed using round down/round up or exchange X-Y, something that I find convenient in ordinary use, totalling up household bills, working out VAT, checking my tax returns etc.

I am a very ordinary user, and I have never had much use for the high end functions like matrix manipulation, and only limited use for equation solving (which only my HP34 has anyway).

If I really do need to do something that involves a complex formula then I tend to use a spreadsheet.

Mike T.

Re: HP & RPN

*Message #25 Posted by **Samuel Heddle** on 17 Mar 2006, 10:23 p.m.,*
in response to message #2 by Valentin Albillo

> Quote:
>
> Hi, Antonio:
>
> RPN's only place is in a museum, like this one for instance. Using it dooms you to inefficiency and to plain obsolescence. Using it in class can be your number one headache if you're a student, and can certainly lower your grades and put you at a serious disadvantage if you stick to it long enough.

Heh, funny. I always get results in my Calc class first, using a 41CV, when everyone else has TI84s and up. My grades have also seen an upswing since I got my 41, and used it in place of a TI-89ti.

Re: HP & RPN

*Message #26 Posted by **Karl Schneider** on 19 Mar 2006, 3:58 p.m.,*
in response to message #25 by Samuel Heddle

> Quote:
>
> Heh, funny. I always get results in my Calc class first, using a 41CV, when everyone else has TI84s and up. My grades have also seen an upswing since I got my 41, and used it in

> place of a TI-89ti.

Since the HP-41 does not do symbolic mathematics of any kind -- algebra or calculus -- this must mean that you are able to obtain answers faster (and learn better) using paper, pancil and *brain*, rather than meticulously entering the expressions to have the calc do the work.

If you use an HP-41 in a calculus class, the Advantage module would be a fine addition. Its numerical SOLVE and INTEGrate functions can allow you to check your answers.

Here's my Articles Forum contribution on SOLVE and INTEG.

-- KS

Re: HP & RPN

*Message #27 Posted by **Howard Owen** on 16 Mar 2006, 5:46 p.m.,*
in response to message #1 by Antonio Maschio (Italy)

Hi, Antonio,

It was entirely predictable that your post would stir up the rancorous (but somehow amusing) RPN vs AOS debate. I'm a devotee of the RPN school of the calculator religion, but I don't want to stir that pot any more vigorously than has already been done. I don't think anyone responded to your actual question, however:

> Quote:
>
> In other words, is there a link between RPN and HP leadership?

And since you solicited opinions (rather than rigorously researched facts, which I'd be hard pressed to present 8) mine is that there is no direct relationship. The apparent connection is an example of *post hoc ergo propter hoc* fallacy: The switch to algebraic occurred before the decline in HP's market share, but didn't cause it, again in my opinion. I believe the detour into RPL, the neglect of the high-school market and the rise of the desktop PC for serious mathematical analysis all combined to knock HP off its perch.

So there. 8)

Regards
Howard

Edited: 16 Mar 2006, 5:47 p.m.

Re: HP & RPN

*Message #28 Posted by **Bill Rice** on 16 Mar 2006, 8:16 p.m.,*
in response to message #1 by Antonio Maschio (Italy)

Here are a few answers:

1. If HP once believed so much in RPN, why not today? RPN was a solution to the problem of how to allow complex expressions using little RAM. RPN pushes the ordering of operations onto the user, and does it in an (almost) intutive way. Today, calculators can have gobs of RAM at little cost, users are used to letting the program do all the work for them. If Microsoft once believed in command-line DOS, why not today?

2. If HP once sold a lot of calculators and was the leader, why not today? Probably a marketing problem. The

market changed from largely professional users to educational, and HP for whatever reason didn't succeed in pushing their products into schools. Maybe price? Schools at all levels are always under pressure to find the lowest cost (initial purchase price) solution.

3. If we suppose HP gave up with calculators as a leading product, but still believing in RPN, HP calculators today should be pure RPN. Or should we suppose that HP gave up with RPN too? -I don't think RPN was a religion at HP, it was a solution to a problem. Things changed, the problem of low RAM went away. Note that their current RPN calculators are very expensive compared to non-RPNs (particularly scientific). Is the Hp33S that much more expensive to make than a $15 Casio or Sharp? Doubtful, since it seems to be mostly a minor update to a model introduced over a decade ago.

4. Is RPN something that should be suggested/proposed to people, instead of producing calculators that are merely copies of TI or Casio products? I mean, is HP in the position to produce those golden years RPN calculators again, without being affected by "what will people say?" or "people won't buy this: it's too difficult!" - They still sell RPN's, at a high price point. They are aimed at "professional" users, who know what they want and are willing to pay for it. Why introduce a mass-market product when your first selling point is to say, "Honest, it's not difficult!".

5. If today HP sold only RPN calculators, do you think it would sell less?

Definately. Someone is buying the cheaper non-RPN scientifics, otherise they would have been discontinued.

You say yourself that, after using RPN for years, you can no loner use algebraic mode. Probably 99% of the population would say the exact opposite. They are no less smart than you, it is just what they are used to.

Re: HP & RPN

*Message #29 Posted by **Palmer O. Hanson, Jr.** on 16 Mar 2006, 11:12 p.m.,*
in response to message #28 by Bill Rice

It seems as if the RPN vs AOS debate has always been more of a religious issue than a technical issue. The problem with religions is that they can become corrupt. A book on that subject *When Religion Becomes Evil* by Charles Kimball lists warning signs of corruption in religion where two of the signs are "Absolute Truth Claims" and "Blind Obedience." Doesn't that sound like our long standing debate? To get unbiased viewpoints one has to find some of those users that were once called "bilinguals", meaning that they felt equally competent with either system.

I suggest that for most engineers and scientists the fewer keystrokes that come with the use of RPN really aren't important because they don't sit at their machine pressing keys all day long, or even for a small portion of each work day. There really may be some users who press keys all day long -- in the olden days we had keypunch operators who operated the machines that made the holes in the IBM cards we used for computer access.

As for marketing TI made a conscious decision back in 1990 to concentrate on the education market. They abandoned a newsletter *Programmable Calculator News* which supported the TI-74 and TI-95 and started a newsletter *It's About T.I.M.E. - Technology in Math Education*. They proceeded to pay as much attention to the education market as HP had paid to the engineer/scientist market. The big difference is not whether

one uses RPN or RPL or AOS or EOS but that the education market is so large. TI bet their calculator future on graphing calculators for the education market and time has proved that they made a correct decision. This was from a company which had made some monumental marketing and technical mistakes in the past. Does anyone remember the TI-99/4? Does anyone remember the keyboard for the TI-55II, TI-57LCD, and BA-55?

Re: HP & RPN

*Message #30 Posted by **HrastProgrammer** on 17 Mar 2006, 2:28 a.m.,*
in response to message #1 by Antonio Maschio (Italy)

In other words, is there a link between RPN and HP leadership?

I don't think there is a direct connection. It has more to do with other features, old HP quality, customer support, etc, etc.

Regarding this (pointless) RPN (RPL, ...) vs. AOS (EOS, ...) discussion ... From the current (economical, educational, ...) point of view I must agree with Valentin: Why bother with RPN when you have tons of AOS (EOS, ...) calculators out there which are much simpler to use for average user (student, ...)? Why do you have to enter 2 3 * 1 + 5 6 * 4 + * when you can enter (1+2*3)*(4+5*6)?

Disclaimer: I haven't said that AOS (EOS, ...) is better, just that it is widely accepted way of entering expressions on the calculator.

For me (but note that this is only my personal opinion), a stack machine where you can enter and evaluate expressions in both systems is just perfect - and this is RPL. I haven't been paying much attention on RPL for a long time because I have been much more oriented to RPN (HP-41X, HP-42X, HP-1XE) and AOS/BASIC (HP-71X) during the last few years. But, thanks to my current interest in Forth programming language (after almost 15 years of not using it), I tend to appreciate RPL much more. From my point of view, the main problem with RPL is a bad/slow program editor with separation of source from the program while editing, which is not appropriate for the calculator (this is also very memory hungry because the system has to decompile the whole program to character string object, edit it and compile this character string object back to the program) and this kept me away from RPL programming on a calculator. But, this will be solved with my upcoming project which (I hope) will support UserRPL/SystemRPL in a uniform manner directly on the calculator without the need for a separate editor, compiler, assembler, etc. (I am not talking about another set of SysRPL tools like these on HP-49G/G+ which are working in the usual way: edit the source and compile it so you always have to keep the source together with the program during the development).

Edited: 17 Mar 2006, 2:33 a.m.

Re: HP & RPN

*Message #31 Posted by **James M. Prange (Michigan)** on 17 Mar 2006, 7:53 p.m.,*
in response to message #30 by HrastProgrammer

> Quote:
>
> Regarding this (pointless) RPN (RPL, ...) vs. AOS (EOS, ...) discussion ... From the current (economical, educational, ...) point of view I must agree with Valentin: Why bother with RPN when you have tons of AOS (EOS, ...) calculators out there which are much simpler to use for average user (student, ...)? Why do you have to enter 2 3 * 1 + 5 6 * 4 + * when you can enter (1+2*3)*(4+5*6)?

Well, actually, I'd more likely enter 1 2 3 * + 4 5 6 * + * in place of (1+2*3)*(4+5*6).

But I do see your point. A student is more often presented with an expression than asked to work out a "story problem", and even with a story problem, he's probably expected to compose an expression to work it out.

Personally, I'd think that an RPL model gives the best features of algebraic and RPN syntax, but a math student's instructor and fellow students probably wouldn't be familiar with RPL and not much help if he's having problem with it. I expect that, for most math students, an algebraic model (preferably the same as the instructor uses) is the more reasonable choice.

> Quote:
>
> From my point of view, the main problem with RPL is a bad/slow program editor with separation of source from the program while editing, which is not appropriate for the calculator (this is also very memory hungry because the system has to decompile the whole program to character string object, edit it and compile this character string object back to the program) and this kept me away from RPL programming on a calculator.

Note that in the 49 series, there's a "clipboard" available, with BEGIN, END, COPY, CUT, and PASTE available as right-shifted keys, and additional editing tools, incuding find and replace operations, available by pressing the TOOL key. I don't find it as nice as using my text editor on the PC, but it's not all that bad.

The compiler and decompiler certainly (temporarily) use some system RAM, and sometimes both the compiled object and it's decompiled character string form have to be in RAM. I think that the idea is that the compiled object is smaller than the source code (or decompiled object) character string. Compiling only has to be done for an ENTER (or implicit ENTER) from an editor, when downloading an ASCII file, or for STR\-> or OBJ \->. Decompiling only has to be done for displaying an object, uploading it with an ASCII transfer, printing it, or for \->STR. I expect that, assuming that programs are ordinarily stored in variables, the compile/decompile operations end up saving on memory use.

Compiling also checks the syntax, so you see whether your source code is valid right away.

I think that more of a problem is that compiling discards the programmer's formatting (indents, delimiters, and separators) and comments, and doesn't allow one to save source code with syntax errors for later editing.

A work-around is to write the program within a character string, perhaps the most foolproof way being to start with

```
C$ $
```

as the first line in the editor (before the program itself). This way the source code, including formatting, any comments, and regardless of syntax errors, is compiled as a character string, which can be left on the stack or stored in a variable. When you want to actually compile the character string object to a program object, have it (or a copy of it) on level 1 and do a STR\-> or OBJ\->.

You could even use vectored ENTER (both system flags -62 and -63 set) with a \GaENTER program of

```
\<< DUP STR\-> \>>
```

to have ENTER place the command line on stack as a string and (if valid) execute it. If the command line isn't valid, you end up with two copies of the string on the stack.

Still, if I happen to be at my PC, I prefer to use it to write any but fairly trivial programs for the calculator.

Regards,
James

Edited: 17 Mar 2006, 8:00 p.m.

Re: HP & RPN

*Message #32 Posted by **James M. Prange (Michigan)** on 17 Mar 2006, 8:44 p.m.,*
in response to message #31 by James M. Prange (Michigan)

PS:

We could turn a question around and say why should I have to key in

```
(1+2*3)*(4+5*6)
```

instead of just doing

```
2 3 * 1 + 5 6 * 4 + *
```

or

```
1 2 3 * + 4 5 6 * + *
```

For use outside of math class, of course.

Regards,
James

Re: HP & RPN

*Message #33 Posted by **Thomas Okken** on 18 Mar 2006, 12:27 p.m.,*
in response to message #32 by James M. Prange (Michigan)

I guess that's one issue that fuels the AOS-vs-RPN debate -- it would be better to have an "in which context is which better" debate...

When I'm programming in C or Java, I like being able to write things like

```
    double h = sqrt(x * x + y * y);
```

...and that's simply because of how readable it is.
The HP-42S RPN equivalent

```
    RCL "X" X^2 RCL "Y" X^2 + SQRT STO "H"
```

is easier to enter, but not so easy to parse for the human eye.

Algebraic notation tends to highlight the structure of an equation; RPN is a series of instructions to evaluate it -- both have their uses.

- Thomas

Re: HP & RPN

*Message #34 Posted by **Ed Look** on 18 Mar 2006, 12:50 p.m.,*
in response to message #33 by Thomas Okken

Excellent point, especially for those who are versed in either or both mathematics and programming.

I just want to add one thing, which essentially has been said by other posters on this thread, that, as Mr. Okken said, as the RPN sequence of instructions is not easily decipherable by the human eye, and we are all essentially visually driven, unless trained later in life to be otherwise. Students, at their age are not going to be able to like using RPN... unless shown and then they have to practice it themselves a bit. I first saw a RPN (HP 25) unit in a professor's hands and while he didn't exactly extol its algorithmic virtues, he did say that while a tad tougher to learn at the outset, it becomes easier for the mind to use in the long run.

I took his word and gave it a shot. When my freshman year TI SR-40 (truly an inferior machine) gave out (somewhat shortly after purchase), on the memory of that man and advice of some advanced students, I got the HP 34C. If I could get another one, it'd STILL be my machine of choice, primarily because of its RPN, secondarily because of its rather nice set of features. (But oh, that power consumption, though!)

Re: HP & RPN

*Message #35 Posted by **James M. Prange (Michigan)** on 17 Mar 2006, 9:55 p.m.,*
in response to message #31 by James M. Prange (Michigan)

PS:

Of course, another reason for compiling a command line as soon as ENTER is pressed is execution speed. With objects stored in the compiled form, the system doesn't have to go through the process every time a stored program is evaluated, and presumably most programs will be evaluated more often than they're edited.

Regards,
James

Re: HP & RPN

*Message #36 Posted by **HrastProgrammer** on 18 Mar 2006, 2:24 a.m.,*
in response to message #31 by James M. Prange (Michigan)

Believe it or not, I know all that ... and that's the reason why I am searching for an alternative and better way (at least for me) of editing a program.

Again:

(*) When you are editing a RPL program, the decompiled source is kept in RAM together with the original program.

(*) During the compile, the source is kept in RAM together with the original program and the program which is currently being built (if I am not missing something here).

For example, you have a program stored in a variable:

(1) Before editing:

Variable: << 0 1 10 FOR I + NEXT >>

(2) After decompile:

Variable: << 0 1 10 FOR I + NEXT >>
Temporary: "0 1 10 FOR I + NEXT"

Now you can eventually PURGE the variable to free the space occupied by the program but this is not my way of working because I want to keep the original.

(3) After editing:

Variable: << 0 1 10 FOR I + NEXT >>
Temporary: "0 1 10 FOR I I + NEXT"

(4) While compiling:

Variable: << 0 1 10 FOR I + NEXT >>
Temporary: "0 1 10 FOR I I + NEXT"
Temporary: << 0 1 10 FOR I ...

(5) After compiling:

Variable: << 0 1 10 FOR I + NEXT >>
Temporary: << 0 1 10 FOR I I + NEXT >>

(6) After storing to a variable:

Variable: << 0 1 10 FOR I I + NEXT >>

You see a problem? At one moment you have to keep 3 objects for the same program in memory.

I would like to avoid this so I am investigating a possibility to directly edit a program without a need for decompiling/compiling the whole program. I like HP-41C/42S or HP-71B type program editing where you are editing the current program line only and I would like to do something similar with RPL. I won't post any details for now ...

BTW, in my opinion, STR\-> is useless for interactive work and compiling a program after editing because, if the program contains a syntax error, it will report 'Syntax Error' but won't show where the error actually is in the source ...

Best regards.

Edited: 18 Mar 2006, 6:44 a.m.

Re: HP & RPN

*Message #37 Posted by **Andy Morales** on 17 Mar 2006, 10:37 a.m.,*
in response to message #1 by Antonio Maschio (Italy)

Hello fellow HP users and ex-users. This ole Babyboomer (60 this year) started out with a HP35 in mid-70's while studying Mechanical engineering. Have used the TI/SR 50 and got same results doing the infamous MACH equation in HP manual. Of course RPN felt more natural when performing calculations. AOS gave same answers without use of parenthesis or brackets. I enjoyed using both logic systems until i picked up one of the state of the art latest ALEGRAIC ENTRY calculators ala TI 83, HP 39 series. A look of horror and shock overcame me when i tried to SQARE a negative number in ALGEBRAIC MODE and the answer was a negative. ie -3 squared is a positive 9 not a negative 9 as the following calculators will give (HP 30S, 38G, 39G, TI 83, etc) Then i realized that the user must enclose the negative number in PARENTHESIS to get the correct answer. No biggie. This ole timer will stick to his HP15C and HPGII in RPN mode to solve his equations. Not because i hate algebraic logic, but because i feel more confident in RPN. I think anyone can learn to use any logic if they follow the correct number entry as stated in the Calculator manual. IMHO the latest Graphic scientific calculators be they RPN or Algebraic logic are ASS KICKERS and pack a punch for

doing Science or Math.

Warmest regards to all

Andy Babyboomer who is learning to use and love his new HPGII Graphing calculator in RPN mode

Re: HP & RPN

*Message #38 Posted by **Crawl** on 17 Mar 2006, 1:35 p.m.,*
in response to message #1 by Antonio Maschio (Italy)

Random thoughts:

For the "how do you add 1, multiply by 4, then divide 5 by result" question, when I used a Casio algebraic as my main calculator, I found that I had to use the ANS[wer] button constantly for such manipulations. Well, even on an algebraic, most let you easily chain together symmetric operations, like the adding 1 and the multiplying by 4. You'd really only have to go to ANS to divide 5 by the result (5 / ANS) ... and even that could be skipped by using the reciprocal feature, then multiplying. However, even if you can skip using ANS so much, you'd still have to hit "equals" a lot.

I suppose now some algebraics have big enough entry lines that you don't have to worry about dividing the problem up and then using chain calculations: You might be able to enter it all at once.

But that probably explains the continued success of the 12C: When you're balancing books, you don't have a formula. You just keep doing an endless string of chain calculations.

One thing RPN has a definite advantage in is solving on the fly simple equations made of functions that have inverses on the calculator, eg,

-15 = 0.00001* (exp(.5/x) -1) - 20

Then it's easy, without having to think about it much, to simply do each operation backwards..

```
-15 [Enter]
20 +
.00001 /
1 +
ln
1/x
.5 *
```

Granted, it's not like that would be all that difficult on an algebraic. It's just easier with RPN. And it would cease to be an advantage for equations where the variable is operated on by several functions, like even

cos(x) + exp(x) - x^2 = 0

Pairing paranthesis can still be a problem with modern algebraics, like the TI-89. If I'm entering something complex, I'll break it up, and then combine the final result by copying and pasting from the history. It works, but using RPN, or an equation writer, could arguably be more elegant.

As for the 33s offering both RPN and algebraic, there is at least one set of circumstances where it's better to use algebraic mode: With complex numbers! I think the 33s's RPN utilization of complex numbers is TERRIBLE! You can only deal with 2 complex numbers at a time, which means you'll either have to do a lot of planning to evaluate anything remotely complicated, or store a lot of intermediate results in registers, or both. And it seems to me that the odds of making a mistake while doing that are high.

On the other hand, in algebraic mode, the 33s's complex handling is decent, and it's fairly easy to work with expressions of almost arbitrary complexity.

Anyway, when it comes to complicated formulas that I might have to use multiple times with different variables, plugging in repeatedly with either RPN or an algebraic would be unbearable. In that case, it'd be better to use a calculator that lets you enter formulas, and then substitute the variables in. By now, many calculators (with RPN or algebraic modes) have this feature.

Chain calc's w/AOS & solving

*Message #39 Posted by **Karl Schneider** on 18 Mar 2006, 1:07 a.m.,*
in response to message #38 by Crawl

"Crawl" --

Good observations!

> Quote:
>
> For the "how do you add 1, multiply by 4, then divide 5 by result" question, when I used a Casio algebraic as my main calculator, I found that I had to use the ANS[wer] button constantly for such manipulations. Well, even on an algebraic, most let you easily chain together symmetric operations, like the adding 1 and the multiplying by 4. You'd really only have to go to ANS to divide 5 by the result (5 / ANS) ... and even that could be skipped by using the reciprocal feature, then multiplying. However, even if you can skip using ANS so much, you'd still have to hit "equals" a lot.

That's just what I found on a $15 Casio fx-115MS (with "S-V.P.A.M.") It has an expression buffer of 80 characters, but closing ")" at the end of an expression can be omitted.

> Quote:
>
> One thing RPN has a definite advantage in is solving on the fly simple equations made of functions that have inverses on the calculator, eg,
>
> -15 = 0.00001* (exp(.5/x) -1) - 20

This "inverted L"-shaped expression is somewhat trickier to solve numerically than it would seem! The HP-33S and the HP-17B/17BII/27S can easily find the solution of 0.03810288661 with their algebraic-manipulation direct-solution method. However, the HP-32SII and the Casio had difficulties finding the root unless intelligent guesses were provided (0.04 and 0.05 will do, but 0.05 and 0.06 will not).

> Quote:
>
> Pairing parenthesis can still be a problem with modern algebraics, like the TI-89. If I'm entering something complex, I'll break it up, and then combine the final result by copying and pasting from the history. It works, but using RPN, or an equation writer, could arguably be more elegant.

A topic I mentioned in my earlier post in this thread titled, "RPN & Command-line AOS"...

> Quote:

> I think the 33s's RPN utilization of complex numbers is TERRIBLE! You can only deal with 2 complex numbers at a time, which means you'll either have to do a lot of planning to evaluate anything remotely complicated, or store a lot of intermediate results in registers, or both. And it seems to me that the odds of making a mistake while doing that are high.

Agreed. The complex-number functionality, carried forward from the HP-32SII, seems to have been modeled after the routines in the original HP-41 Math Pac, which were implemented as keystroke programs.

However difficult they are for interactive work, the complex-number routines are quite useful for programming. I used them extensively in the "AC Power Transfer" program in the MoHPC Software Library.

> Quote:
>
> Anyway, when it comes to complicated formulas that I might have to use multiple times with different variables, plugging in repeatedly with either RPN or an algebraic would be unbearable. In that case, it'd be better to use a calculator that lets you enter formulas, and then substitute the variables in. By now, many calculators (with RPN or algebraic modes) have this feature.

And, of course, the HP-17B/17BII/27S have had that capability since 1988. My only complaints would be the fixation on direct solution to the exclusion of other requested solution values, and the non-support of implicit multiplication.

Best regards,

-- KS

Edited: 19 Mar 2006, 1:30 a.m.

Re: HP & RPN

*Message #40 Posted by **Frank Wales** on 19 Mar 2006, 6:47 p.m.,*
in response to message #1 by Antonio Maschio (Italy)

Having just looked through the replies here, it occurs to me that two messages that I posted elsewhere about 15 years apart represent what I think about these issues:

Message on Psychology of Programming Interest Group discussion list, June 2005

Message in comp.misc, February 1990

Re: HP & RPN

*Message #41 Posted by **Palmer O. Hanson,, Jr.** on 19 Mar 2006, 10:22 p.m.,*
in response to message #40 by Frank Wales

In a discussion extolling the virtues of the HP-28S you wrote:

"... And look in the manual at the section on changing the batteries (it does have one, doesn't it?) to see if they tell you how long you can take to change them *without* losing the memory of the machine; you shouldn't need the dexterity of a plastic surgeon and the limbs of an octopus to do it in time...."

I purchased my 28S at a garage sale for two dollars back in 2001. I expressed surprise at the low price and in return received a lecture on "the worst battery cover design in the world." The owner said that he had so much trouble replacing the batteries and the cover that he lost the memory. He was so exasperated that he just wanted to get the damn thing out of his home. I managed to repair the battery compartment cover and get some batteries installed and have enjoyed playing with the 28S. But, the previous owner is correct about the design of the battery compartment cover. When we talk about the religion involved in calculator design, manufacture and ownership surely we have to recognize that the 28S battery compartment cover design was a sin.

But, in my mind HP's biggest sin was delivering calculators which would be damaged if the user connected the charger without the battery pack in place and making good contact. It has been said that all they needed to do was add a resistor and a diode which shouldn't have been prohibitive in units which were higher priced anyway. I suggest that there is another explanation. In those days it was common knowledge in the electronics industry tha power supply design wasn't held in very high esteem, and as a result the budget for power supply design wasn't very generous.

Other manufacturer's have sinned as well. NSC and National Semiconductor managed to make devices that failed so consistently that it is hard to find a working one. TI did the "multiplication is not commutative trick" on the TI-57, the TI-58/59 and (I think) the SR-52. TI also designed the CC-40 with a 3/4 size QWERTY keyboard and advertised that a user could touch type -- but, they put the ENTER key where the right shift key should be even though they had a blank space to the right of the semicolon key!

And then there is Sharp -- of several hundred calculators in my collection the Sharp's stand out. Whether at garage sales, antique stores, thrift shops or wherever one finds collectibles the Sharp's are the only ones where I fully expect that the device will work.

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Pioneer model variations

*Message #1 Posted by **Randy** on 15 Mar 2006, 4:35 p.m.*

I'm almost finished with my complete Pioneer collection (all models, colors and variations) and all that remains to find is one variation of the 22S - the later stepped bezel model. I have several flat bezels with the window in front of the LCD but for the life of me, I've yet to see a step bezel. Dave has one in the Museum - so I know they exist. I'd like to take an informal poll of the community at large:

How many of you out there have a 22S with the later step bezel?

How about the same in the 27S?

Also - I've never seen a 21S in the early flat bezel model - anybody ever see one?

I'd really like to establish the rarity of these these variations in the less popular models. "Less popular" meaning at the time they were sold - as most 27S owners I've encountered are like 42S owners - unwilling to switch at any price.

Re: Pioneer model variations

*Message #2 Posted by **Paul Brogger** on 15 Mar 2006, 5:19 p.m.,*
in response to message #1 by Randy

I *believe* my remaining 22s is a newer, non-window model.

I'll check tonight.

If it's what you want, maybe we can work out a trade. (Goodness knows, you've offered more than your share of free help over the years!)

Ooops! I guess not . . .

*Message #3 Posted by **Paul Brogger** on 16 Mar 2006, 12:07 p.m.,*
in response to message #2 by Paul Brogger

Mine is of the older form. Good luck finding one!

Re: Pioneer model variations

*Message #4 Posted by **Museum** on 15 Mar 2006, 5:57 p.m.,*
in response to message #1 by Randy

Great job. Maybe you can give us a summery, which model exists in what variation (display, color, serial, ..)

Re: Pioneer model variations

*Message #5 Posted by **Randy** on 15 Mar 2006, 10:53 p.m.,*

in response to message #4 by Museum

Thank you, Paul. I'll just remind and thank you that it all started (at least for me) with your contribution of the "Pioneer Internals" article :)

Here's the list of what I've amassed in almost four years, I can plug in the serial numbers later if it is of any use. I'll be interested to know what I'm missing! Chances are I'll never find them but it will be interesting to compare notes.

Model	Origin	Color	Bezel	
10B	Singapore	Brown	Step	
10B	Indonesia	Brown	Step	
10B	Indonesia	Black	Step	
14B	USA	Brown	Flat	
14B	USA	Brown	Flat	50th Anniversary
17B	USA	Brown	Flat	
17B	Singapore	Brown	Flat	
17Bii	Singapore	Brown	Step	
17Bii	Indonesia	Brown	Step	
17Bii	Indonesia	Black	Step	
20S	USA	Brown	Step	
20S	Singapore	Brown	Step	
20S	Indonesia	Brown	Step	
20S	Indonesia	Black	Step	
21S	USA	Brown	Step	
21S	Singapore	Brown	Step	
22S	USA	Brown	Flat	
22S	Singapore	Brown	Flat	
27S	USA	Brown	Flat	
27S	Singapore	Brown	Step	
32S	USA	Brown	Flat	
32S	USA	Brown	Flat	50th Anniversary
32S	Singapore	Brown	Step	
32Sii	USA	Brown	Step	
32Sii	Singapore	Brown	Step	
32Sii	Indonesia	Brown	Step	
32Sii	Indonesia	Black	Step	
42S	USA	Brown	Flat	
42S	Brazil	Brown	Step	
42S	Singapore	Brown	Step	
42S	Indonesia	Brown	Step	

Edited: 15 Mar 2006, 10:53 p.m.

Re: Pioneer model variations

*Message #6 Posted by **Karl Schneider** on 16 Mar 2006, 2:16 a.m.,*
in response to message #5 by Randy

Hello, Randy --

About a month ago, I "completed" my collection of the Pioneer series (one each of the 11 models), amassed over four years mostly through eBay or eBay-inspired prices. I had already "completed" my collection of the HP-41 series and the Voyager series in a similar manner.

Here are the Pioneers I have:

Model	Origin	Color	Bezel	Year	
10B	Singapore	Brown	Step	1993	
14B	USA	Brown	Flat	1989	50th Anniversary
17B	USA	Brown	Flat	1988	
17Bii	Singapore	Brown	Step	1993	
20S	Indonesia	Brown	Step	1997	
21S	USA	Brown	Step	1989	
22S	USA	Brown	Flat	1988	
27S	Singapore	Brown	Flat	1990	
32S	Singapore	Brown	Step	1990	
32Sii	Indonesia	Black	Step	2001	
42S	Singapore	Brown	Flat	1989	

> Quote:
>
> Also - I've never seen a 21S in the early flat bezel model - anybody ever see one?

My 21S is the earliest recessed ("step") bezel model in the list. Maybe it was a pilot project for the redesign.

Note that I have two 1990 Singapore-made units. One is a "step" 32S; the other is a "flat" 27S -- which is not like either of yours.

Just curious: Is your early USA-made 32Sii one with the fraction-calculation bug? If so, can you give an example? I've found the (*sans* bug) fraction-conversion capability of the HP-32II to be quite impressive, and would like to know how it was implemented. Only a massive look-up table in ROM would seem feasible, in order to give quick answers.

Thanks,

-- KS

Edited: 16 Mar 2006, 2:46 a.m.

Re: Pioneer model variations

*Message #7 Posted by **Forrest Switzer** on 16 Mar 2006, 8:38 a.m.,*
in response to message #5 by Randy

Randy,

I also have these 42S models

Brazil Brown Flat 3024B Singapore Brown Flat 2920S

Forrest

Re: Pioneer model variations

*Message #8 Posted by **Museum** on 17 Mar 2006, 12:36 a.m.,*
in response to message #5 by Randy

Hi Randy

Wow, this is a cool list of Pioneers... Maybe more than I have. I will try to add production year and original box (my favorite, yes) to your list. Just give me some time to do this. Also, collect informations of the production year as well. I would like to finally get a full list with time view, which modell was produced in which version during a periode of time. (Do you understand my bad english?)

Matthias

Re: Pioneer model variations

*Message #9 Posted by **Museum** on 17 Mar 2006, 12:44 a.m.,*
in response to message #8 by Museum

Just forgot: It would also be really interesting to add ROM versions to your list. I will try to do my best, but I will need your help. Please have a look at your calculators and let us know the ROM

versions. I will collect them and try to create a list.

Re: Pioneer model variations

*Message #10 Posted by **Bruce Horrocks** on 17 Mar 2006, 6:08 p.m.,*
in response to message #5 by Randy

> Quote:
>
> Here's the list of what I've amassed in almost four years, I can plug in the serial numbers later if it is of any use. I'll be interested to know what I'm missing! Chances are I'll never find them but it will be interesting to compare notes.

I have a few extras not in your list (difference is marked with a star):

```
Model  Origin      Color   Bezel
10B    Indonesia   Brown   Flat*
14B    USA         Brown   Step* 50th Anniversary
20S    Indonesia   Brown   Flat*
22S    USA         Brown   Step*
```

I'm very surprised by the 50th Anniversary 14B being different. I wonder if they had both sorts of faceplate in existence and some were done with one batch and others with the other?

Re: Pioneer model variations

*Message #11 Posted by **Marcus von Cube, Germany** on 16 Mar 2006, 2:41 a.m.,*
in response to message #1 by Randy

> Quote:
>
> Also - I've never seen a 21S in the early flat bezel model - anybody ever see one?

Is this what you are looking for?

http://www.rskey.org/detail.asp?manufacturer=Hewlett-Packard&model=HP-21S

Marcus

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HP 1660 series logic analyzers

*Message #1 Posted by **Ed van Schuppen** on 15 Mar 2006, 12:03 p.m.*

Would anyone on this forum be able to point me to a source of software for the HP 1660 series of logic analyzers? Specifically, I am looking for the performance verification software for the HP 1661CS. I believe the software is the same for all models in this series. Thank you.

Re: HP 1660 series logic analyzers

*Message #2 Posted by **Raymond Del Tondo** on 15 Mar 2006, 3:31 p.m.,*
in response to message #1 by Ed van Schuppen

Hi,

itrc.hp.com

or

http://www1.itrc.hp.com

is the place to start for non-calculator devices.

HTH

Raymond

Re: HP 1660 series logic analyzers

*Message #3 Posted by **James MacPhail** on 16 Mar 2006, 3:36 a.m.,*
in response to message #1 by Ed van Schuppen

For manuals, try this:

http://www.home.agilent.com/USeng/nav/-536895088.536879953/pd.html

For the instrument's software, try contacting Agilent tech support; they are often helpful and may be able to provide a temporary download link via their support FTP site (currently ftp://ftp.cos.agilent.com/).

HTH,

James

Edited: 22 Mar 2006, 7:41 a.m.

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HP 35 ROM V2 "exp(ln(2.02) = 2", explanation found

*Message #1 Posted by **Jacques Laporte** on 15 Mar 2006, 11:15 a.m.*

Hi everybody, Peter Monta published (Feb 19 2006) the dump of the HP 35 ROM V2 (with bugs):

http://www.pmonta.com/calculators/hp-35/index.html

A month later, I have found the explanation of the flaw in the exponential algorithm "exp(ln(2.02) = 2". If you are interested in History of Algorithms, please visit my page :

http://www.jacques-laporte.org/HP35 bug.htm

Best regards. Jacques Laporte [url:http://www.jacques-laporte.org/HP35 bug.htm]

Re: HP 35 ROM V2 "exp(ln(2.02) = 2", explanation found

*Message #2 Posted by **Eric Smith** on 15 Mar 2006, 4:38 p.m.,*
in response to message #1 by Jacques Laporte

Nice work.

Note that the HP-35 source code from the Nonpareil package, on which you based the listing on your web site, is Copyright 2004 Eric L. Smith. The copyright notice was unintentionally omitted, which was corrected in later releases of Nonpareil (starting with r120 of the file in the Subversion repository, on 15-Jan-2004). The latest version, r850, can be obtained from ViewVC.

The simulator is GPL'd, so you should make the source code available on your site. Otherwise, to comply with the GPL, you need to accompany the executable (JAR file) with a written offer to provide the source code.

Re: HP 35 ROM V2 "exp(ln(2.02) = 2", explanation found

*Message #3 Posted by **Jacques Laporte** on 16 Mar 2006, 3:42 a.m.,*
in response to message #2 by Eric Smith

Thank you Eric for you comments.

I must underline that this work could not definitely be possible without your work Nonpareil and P. Monta's ROM dump. I couldn't understand the HP35 ROM instruction by instruction, without the help of your simulator. My job is reverse engineering not voodoo magic!

All my work is open source minded. Correction will be made soon to comply with the GPL. For now, I'm going to take a few days off!

Best regards. Jacques.

Re: HP 35 ROM V2 "exp(ln(2.02) = 2", explanation found

*Message #4 Posted by **Eric Smith** on 16 Mar 2006, 4:58 a.m.,*
in response to message #3 by Jacques Laporte

That's fine, no rush. I see that one of the 35 listings on your site had the copyright notice, and the other (the one you modified?) did not.

I've spent more time studying your site since I posted earlier, and the more I look over it, the more impressed I am. You've done a fantastic job of explaining the algorithms.

The algorithms only changed slightly from the 35 through the early Woodstock series (21/22/25/25C). The first big change to the math routines occurred in the late Woodstock era, in the 67/97, 92, 19C/29C, and maybe the 27. An overview of some of the changes is given in the November 1976 HP Journal article "The New Accuracy: Making 2^3=8" by Dennis Harms.

There were some lesser changes in the 30 series, after which the math code remained fairly stable from that point through the 41 and the Voyager series.

I haven't had time to do any thorough analysis of the differences.

AFAIK, all of the Saturn-based calculators use essentially the same floating-point math routines, derived from the HP-71B. Some of the algorithms used are significantly different from the earlier calculators.

Eric

Re: HP 35 ROM V2 "exp(ln(2.02) = 2", explanation found

*Message #5 Posted by **Karl Schneider** on 16 Mar 2006, 1:19 a.m.,*
in response to message #1 by Jacques Laporte

Jacques --

To echo Eric Smith, an impressive effort. Unfortunately for myself, I don't have the requisite background in computer science and assembly to follow it...

Following the links upward, I see that you have developed an entire site containing technical discussions of the HP-35. I'd expect that they are informative...

Regards,

-- KS

Edited: 16 Mar 2006, 3:07 a.m.

Re: HP 35 ROM V2 "exp(ln(2.02) = 2", explanation found

*Message #6 Posted by **Jacques Laporte** on 16 Mar 2006, 3:45 a.m.,*
in response to message #5 by Karl Schneider

Karl,

Thank you for your kind comments. I hope my work will help Best regards,

Jacques.

Merci Jacques!

*Message #7 Posted by **Etienne Victoria** on 16 Mar 2006, 1:01 p.m.,*
in response to message #6 by Jacques Laporte

Jacques,

Et merci de vos passionnants articles qui m'ont fait réfléchir et rêver durant les belles années de l'OI -- et je ne parle pas du "catalogue publicitaire" diffusé aujourd'hui!

Bien cordialement

Etienne

Jacques,

Thank you for your great contributions to "L'OI" newspaper. These articles made me think and dream during many beautiful years.

Friendly yours.

Etienne

Re: Merci Jacques!

*Message #8 Posted by **Jacques Laporte** on 25 Mar 2006, 1:45 p.m.,*
in response to message #7 by Etienne Victoria

Hi Etienne, Thank you very much for the warm words. I obviously remember myself the beautiful 70's and my first HP35, Altair, TRS80... My wife could not understand: no furniture in the apartment but so many computers... One day in 1980, I bought in San Francisco a book by James Farvour, “Microsoft Basic decoded & other mysteries”; the guy commented step by step TRS-80's Rom! I remember well - it seems so close - that I said to myself : I must do the same for the HP 35! 25 years after, it is almost done.

HP 35 was -and still is- a so brilliant machine! I personally was using a slide rule when I first put my fingers on it! That’s why I’m very proud to pay tribute to this monumental breakthrough in computer history. All the best to you, Jacques.

Re: HP 35 ROM V2 "exp(ln(2.02) = 2", explanation found

*Message #9 Posted by **Tomcee** on 22 Mar 2006, 3:13 p.m.,*
in response to message #1 by Jacques Laporte

Great Work and highly informative!!! Thanks!

I have found that the links on your pages to Volder, Meggitt and Walther seem to be broken!

Regards, TomCee

Re: HP 35 ROM V2 "exp(ln(2.02) = 2", explanation found

*Message #10 Posted by **Jacques Laporte** on 25 Mar 2006, 12:33 p.m.,*
in response to message #9 by Tomcee

Hi and thank you, TomCee.

> I have found that the links on your pages to Volder, Meggitt and Walther seem to be broken!

Yes, sorry ; I've corrected a few of them. Hope all is ok, now. best regards. Jacques.

Re: HP 35 ROM V2 "exp(ln(2.02) = 2", explanation found

*Message #11 Posted by **bill platt** on 24 Mar 2006, 11:57 a.m.,*
in response to message #1 by Jacques Laporte

Awesome. This is the sort of thread that makes this forum so informative!

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Emu28 with increased memory

*Message #1 Posted by **Christoph Giesselink** on 14 Mar 2006, 12:50 p.m.*

Hello together,

I just published a new version of Emu28, the HP28C emulator on http://privat.swol.de/ChristophGiesselink/. Version 1.10 now supports memory upgrades with 4KB, 32KB and 64KB.

Memory upgrades are handled as complete new hardware, so a memory upgrade of existing state files isn't possible. The additional memory is controlled by the Class command in the Global section of the KML file when creating a new state file. Existing state files aren't affected by the Class command.

Be careful with the HP28C versions of MPIG and MBAG or similar programms using the same method of injecting "System Object" data into memory on memory expanded HP28C. They don't work any more. These programs store data at RAM end (on an orginal HP28C at #4FFFF) and don't expect that RAM end has been moved. The ASS program from the CPROMUPL.ZIP archive works like expected. This program is IMHO the best way injecting "System Object" code into calculator memory.

Have fun with it.

Cheers

Christoph

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How to detect early HP-41C ROM versions/bugs?

*Message #1 Posted by **Arne Helme** on 14 Mar 2006, 10:06 a.m.*

I have an early version HP-41C with serial number 1939Axxxxx. According to information found on:

http://dan.pfeiffer.net/hp41/hp41info.htm

the calculator contains either a DDE ROM with all the "classic" bugs or a FDE ROM with all bugs except bug #3.

How can I determine whether the calculator has a DDE or FDE ROM? Based on some trials it is evident that the calculator has the #1 bug. However, I am not able to detect either the #2 or #3 bugs. If I understand the information referred to above correctly the calculator should have at least one of these bugs as well, right?

Can someone provice me with the exact steps required to detect the #2 and #3 bugs?

I also have the PPC ROM. Can I use if to read the calculators ROM version?

Regards,

Arne

Re: How to detect early HP-41C ROM versions/bugs?

*Message #2 Posted by **gene** on 14 Mar 2006, 10:31 a.m.,*
in response to message #1 by Arne Helme

Bug 2: Do this: 997 ENTER 1.23 STO IND Y

If it errors out, you do not have bug 2.

If it seems to work, congrat's...you have bug 2.

Bug 3: 49 STO 00. SF IND 00.

If it errors out, you do not have bug 3.

If it seems to work (by turning on the low battery indicator), then you have bug 3.

Much easier/quicker than viewing the ROM versions. :-)

Re: How to detect early HP-41C ROM versions/bugs?

*Message #3 Posted by **Arne Helme** on 14 Mar 2006, 10:37 a.m.,*
in response to message #2 by gene

Thanks for the info! The calculator has the #2 bug but not the #3 bug.

Arne

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Pi day

*Message #1 Posted by **unspellable** on 14 Mar 2006, 9:23 a.m.*

Today is offcially Pi Day.

Celebrate by eating a pie.

Start eating your pie at approximately 1:59:26.5 PM.

(How come I learned about this on a gun forum instead of the HP Froum or the Slide Rule Group?)

Re: Pi day

*Message #2 Posted by **tony(nz)** on 14 Mar 2006, 12:11 p.m.,*
in response to message #1 by unspellable

Here we use dd/mm/yyyy and have a more accurate Pi-day: 22/7 :-)

Re: Pi in the nite too

*Message #3 Posted by **Mike (Stgt)** on 15 Mar 2006, 8:20 a.m.,*
in response to message #2 by tony(nz)

More disturbing than Pi day is that I have to get up every 2hrs to Pi in the nite (not funny).

Now to something completely different: There is somebody (reading and contributing this list) who managed to improve this routine (Vieta) in accurancy and register usage (none at all!!). Now guess who is able to improve HP-12C programs?!? I'll publish it soon.

Ciao.....Mike

Re: Pi day

*Message #4 Posted by **Dave Shaffer** on 15 Mar 2006, 5:20 p.m.,*
in response to message #2 by tony(nz)

As my wife pointed out this morning, though, we (Americans) will briefly do better than 22/7 on pi day in 2015.

Re: Pi day

*Message #5 Posted by **Paul Brogger** on 14 Mar 2006, 3:05 p.m.,*
in response to message #1 by unspellable

> Quote:
>
> (How come I learned about this on a gun forum instead of the HP Froum or the Slide Rule Group?

)

Well, the folks at TiCalc.org are on top of this one -- and they passed on a link to singing pi.

Re: Pi day

*Message #6 Posted by **Trent Moseley** on 15 Mar 2006, 3:42 p.m.,*
in response to message #5 by Paul Brogger

When's e day?

tm

Re: eDay

*Message #7 Posted by **Paul Brogger** on 15 Mar 2006, 5:26 p.m.,*
in response to message #6 by Trent Moseley

February 7th, a couple of minutes before 6:30 pm.

Edited: 15 Mar 2006, 5:27 p.m.

Re: eDay

*Message #8 Posted by **Trent Moseley** on 15 Mar 2006, 5:49 p.m.,*
in response to message #7 by Paul Brogger

Paul,

Thank you so much. I'm so dense at times.

tm

Re: eDay

*Message #9 Posted by **Ed Look** on 16 Mar 2006, 12:05 p.m.,*
in response to message #8 by Trent Moseley

No you're not, unless I am too:

Someone once stuck a note on my door, "Happy Mole Day".

I thought, "Groundhog day? It's not February anymore, it's the beginning of summer! What's this guy on about??" I couldn't figure it out.

I catch him later and he says that I ought to be ashamed of myself for not knowing. I make him tell me and he says, "Well, today is June 23." He STILL had to spell it out for me a minute later.

Re: eDay

*Message #10 Posted by **Trent Moseley** on 16 Mar 2006, 5:51 p.m.,*
in response to message #9 by Ed Look

I'm too scared to ask!

tm

Re: eDay

*Message #11 Posted by **Andreas Terzis** on 16 Mar 2006, 7:02 p.m.,*
in response to message #9 by Ed Look

At least it's not my Name Day...

Re: eDay

*Message #12 Posted by **Doug Wilder** on 16 Mar 2006, 11:23 p.m.,*
in response to message #9 by Ed Look

You run slow, a whole day?

Re: eDay

*Message #13 Posted by **Ed Look** on 17 Mar 2006, 9:11 p.m.,*
in response to message #12 by Doug Wilder

Aw, you guys are kidding right?

Now, I'm slow, but you all are really bright and quick fellows!

(I know, I didn't get it, so why should anyone else be different?)

Okay, Mole Day has nothing to do with rodents or turncoat spooks or melanin spots.

One mole of objects is 6 x 10^23 objects (well, 6.0223 x 10^23, [Avogadro's number] to be precise, but the calendar doesn't support that unless you "celebrate" it once a century). I know, duh! But hey, someone makes up this stuff...

... and it's found in the HP 33S, 49G+ constants library!

Edited: 18 Mar 2006, 12:39 p.m.

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HP-71B/HP-IL with HP82169A, need progr. help

*Message #1 Posted by **Arnold** on 14 Mar 2006, 9:01 a.m.*

Hello, I am reanimating my good HP71B with IL-I/F. Now I got a used 82169A HP-IL/HP-IB Interface and some IB equipment as the relay box HP59306A and the switch/control Unit HP3488A with the relay cards 44470A, 44471A and dig. I/O 44474A.

I would like to command these from the HP-71B, but I am perhaps too old already to understand, because I get nothing out. I have some feeling that perhaps the IL/IB I/F is not working, but perhaps i just do not send the right commands. Can the proper function and life be checked with some program lines on the 71B?

Could somebody give me some help giving some instructions or small program examples to command and read the IB items from my HP71B? I would be very happy about!

Many thanks in advance, greetings,

Arnold

Re: HP-71B/HP-IL with HP82169A, need progr. help

*Message #2 Posted by **J-F Garnier** on 14 Mar 2006, 11:00 a.m.,*
in response to message #1 by Arnold

Hello Arnold,

After connecting the HP82169 to the HP71, try RESTORE IO. If it passes, the HP82169 should be OK.

You have to make sure that the HP82169 is in translator mode (not mailbox), see the settings under the HP82169.

Then you have to know the HPIB address of your equipement. You could try common IEEE-488.2 commands such as *IDN? and get the answer:

```
OUTPUT :addr; "*IDN?"
ENTER :addr; A$ @ DISP A$
(addr= address of your device)
```

J-F

Re: HP-71B/HP-IL with HP82169A, need progr. help

*Message #3 Posted by **Arnold** on 14 Mar 2006, 1:34 p.m.,*
in response to message #2 by J-F Garnier

> Quote:
>
> Hello Arnold,

After connecting the HP82169 to the HP71, try RESTORE IO. If it passes, the HP82169 should be OK.

You have to make sure that the HP82169 is in translator mode (not mailbox), see the settings under the HP82169.

Then you have to know the HPIB address of your equipement. You could try common IEEE-488.2 commands such as *IDN? and get the answer:

```
OUTPUT :addr; "*IDN?"
ENTER :addr; A$ @ DISP A$
(addr= address of your device)
```

J-F

Hello J-F, many thanks! Something is working! But still not all is clear: 'Restore Io' with no reaction --> ok, OUTPUT :1; "*IDN?" --> no query, seem to be ok as well, ENTER :1; A$ @ DISP A$ gives '1,31,31,31,31,31,31,31,31,31,31,' , which I do not understand.

On the hp3488A I have put the address to 5 (l0l00), but I can put what I want, I do not get any answer back and I cannot see any reaction yet at the 3488, only with addr. 1 I get the numbers as above.

No, on the front panel of this device there is no indicator showing rem or remote.

Trying the same with the simple 59306A 'relay actuator' I experience the same but no reaction (Output 'An' should switch relay n on, 'Bn' then off). thanks again as well to the other respond! regards,

Arnold

PS: unfortunately I do not have (yet) the docu DVD, nor am I familiar with the IB syntax :-((

Re: HP-71B/HP-IL with HP82169A, need progr. help

*Message #4 Posted by **Vassilis Prevelakis** on 14 Mar 2006, 9:55 p.m.,*
in response to message #3 by Arnold

```
Arnold wrote:


> Trying the same with the simple 59306A 'relay actuator' I
> experience the same but no reaction (Output 'An' should switch
> relay n on, 'Bn' then off). thanks again as well to
> the other respond! regards,
```

Well if you have an 59306A try the following procedure:

Make sure the 82169A is in TRANSLATOR mode with address 3:

```
  +--+--+--+--+--+--+
1 |  |  |  |  |XX|XX|
0 |XX|XX|XX|XX|  |  |
  +--+--+--+--+--+--+
    M b5 b4 b3 b2 b1
```

Connect ONLY the 59306A to the HP-IB side of the HP82169 and ONLY the HP-71 to the HP-IL side of the HP82169

Strap the HP 59306A for address 6 (dip switch on the back should look something like this:

```
                  A0
```

```
  +--+--+--+--+--+--+
1 |  |  |  |XX|XX|  |
0 |XX|XX|XX|  |  |XX|
  +--+--+--+--+--+--+
```

Now enter the following program

```
10 INPUT M
20 REMOTE :M
30 OUTPUT :M ; "A124B356"
40 GOTO 10
50 END
```

Run it entering 6 at the prompt. If the 59306A does not go into remote and set the relays, you have the address wrong. Try another address at the prompt.

I have just tried this program on my system and I know it works.

With the HP 82169A set for address 3 you can have another HP-IL peripheral on the HP-IL side. You **must**, however, ensure that it is connected **before** the 82169A. I.e. cable from the OUT connector of the 71 to the IN connector of (say) the printer; cable from the OUT connector of the printer to the IN connector of the 82169A; cable from the OUT connector of the 82169A to the IN connector of the 71B.

**vp

Re: HP-71B/HP-IL with HP82169A, need progr. help

*Message #5 Posted by **Arnold** on 15 Mar 2006, 7:01 a.m.,*
in response to message #4 by Vassilis Prevelakis

Hello Vassilis, that does work, Thank you very much! The way to explain with the direct example is easy to understand, gives quick positive results! Now I know at least that all devices are working and the appearing problems are on the programming side.

What I have to try is to get working now all that stuff with 'assign io' etc., where I started with.

Question: Using the same setup example, do i have to declare 2 or only one device and how do they know their addresses? It looks like that the 59306A does not give anything back, does not transmit, but the 3488A does. I will try now if I can talk with it getting the state of the relays or other values back. I have the feeling that I have to spend some hours more to understand the logic and to get readable results.

Personally I do learn better with example programs. I find it confusing that the syntax of the 'basic' program is not the same using the hp85, hp75, or hp71 etc.

Unfortunately I do not find anymore any application using the hp71.... Let's go on executing homework and trying, thanks again and regards,

Arnold

Re: HP-71B/HP-IL with HP82169A, need progr. help

*Message #6 Posted by **Vassilis Prevelakis** on 15 Mar 2006, 10:20 p.m.,*
in response to message #5 by Arnold

```
Arnold  wrote:
> I find it confusing that the syntax of the 'basic' program is not
> the same using the hp85, hp75, or hp71 etc.
```

Don't get me started :-)

I agree its really annoying. HP was forced to include multiple examples in their literature because of all these inconsistencies.

E.g. in Product Note 3421A-2 (file pr3421.pdf in the MoHPC CDROM) they have example programs for both the HP-71B and the HP-75D, while the manual of the 3421A includes code for both the HP-41 and "Basic" computers.

From the above manual, here is a program that instructs the HP 3421A to take 16 readings of DC voltages on channels 6-9 (4 readings per channel) and print the mean and standard deviation of those 16 readings:

http://www.series80.org/Misc/HP71B-3421A.gif

I hope this example helps with reading values from a device. In your case, of course, line 40 will simply assign the address of the device to variable D (e.g. D=6). Line 80 reads data from the 3421A. As you can see its rather simple.

BTW you are very lucky to have an HP-71B. Other machines with HP-IL interfaces were far more difficult to program (e.g. HP-75C without the IOROM).

**vp

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HP-32SII strange behavior

*Message #1 Posted by **Alvar Kusma** on 14 Mar 2006, 2:08 a.m.*

Damaged calculator, a bug ,or I am doing something wrong ?

EQN I=U/R (RCL I = RCL U / RCL R ENTER) CK=EFA0 009.0

SOLVE R -> I? 5 R/S -> U? 220 R/S

SOLVING -> DIVIDE BY 0

??????

Hmm... Same equation

SOLVE I -> U? 220 R/S -> R? 44 R/S

SOLVING -> I=5.0000

Again same equation (I=U/R)

SOLVE R -> I? 5 R/S -> U? 220 R/S

SOLVING -> R=44.0000

Why i get "divide by zero" on first attempt to solve R?

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

Re: HP-32SII strange behavior

*Message #2 Posted by **Bram** on 14 Mar 2006, 3:58 a.m.,*
in response to message #1 by Alvar Kusma

If I remember correctly it will start computing with whatever value is in the variable to solve. So I think that R contained 0 from anything before (perhaps a Clear Var). After solving for I, R didn't contain 0 anymore, so the equation could be evaluated.

Re: HP-32SII *unexpected* behavior

*Message #3 Posted by **Karl Schneider** on 16 Mar 2006, 12:41 a.m.,*
in response to message #1 by Alvar Kusma

Alvar --

Bram's explanation above to your query:

> Quote:
>
> If I remember correctly it will start computing with whatever value is in the variable to solve. So I think that R contained 0 from anything before (perhaps a Clear Var). After solving for I, R didn't contain 0 anymore, so the equation could be evaluated.

Bram is correct, but I'll take it one step further: The SOLVE routine first executes the function or program using the stored value of the variable to be solved. If that is not a solution, it then uses the value in the stack x-register for the variable to be solved. The results determine whether or not a solution lies within the range defined by the two "guesses".

So, it's also quite likely that a "DIVIDE BY 0" error will result if the stack x-register contains a zero upon executing SOLVE.

One more thing: The algebraic-equation functionality on the HP-32SII was lifted from the algebraic-entry HP-22S, which has $P = I^2R$ and many other simple equations built into a library.

Now, about the equation itself:

I recognize it as Ohm's Law (with "U" denoting voltage or potential difference), with a 5-ampere current and 220 volts.

-- KS

Edited: 16 Mar 2006, 12:45 a.m.

Re: HP-32SII *unexpected* behavior

*Message #4 Posted by **Alvar Kusma** on 20 Mar 2006, 4:56 a.m.,*
in response to message #3 by Karl Schneider

Thanks for explanation, Karl and Bram.

BTW, yes, in example, this is Ohm's Law (just for simplicity).

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Hourglass and Annunciator won't shut off

*Message #1 Posted by **Rick** on 14 Mar 2006, 12:02 a.m.*

Some time ago, my 4-year-old got ahold of my hp48gx and had a heyday on the buttons. After I took it from him I realized that the hourglass and the annunciator were 'lit' and wouldn't shut off. My son had gotten it into the I/O menu and did something, but I have no idea what.

Now the annunciator and the hourglass characters on the lcd won't shut off and it's driving me crazy. I've tried a halt and a memory reset to no avail. Anybody know how to fix this?

Rick

Re: Hourglass and Annunciator won't shut off

*Message #2 Posted by **Raymond Del Tondo** on 14 Mar 2006, 4:05 a.m.,*
in response to message #1 by Rick

Just put in new batteries;-)

Raymond

Re: Hourglass and Annunciator won't shut off

*Message #3 Posted by **Rick** on 14 Mar 2006, 1:29 p.m.,*
in response to message #2 by Raymond Del Tondo

Sorry not to mention that was the first thing I tried.

Rick

Re: Hourglass and Annunciator won't shut off

*Message #4 Posted by **James M. Prange (Michigan)** on 14 Mar 2006, 4:05 p.m.,*
in response to message #3 by Rick

Does it respond to the keyboard at all? If not, you could try to force a warmstart by pushing a straightened paperclip into the small hole labeled "R" found by removing the upper right rubber foot on the back.

Regards,
James

Re: Hourglass and Annunciator won't shut off

*Message #5 Posted by **Paul Marin** on 15 Mar 2006, 12:37 a.m.,*
in response to message #1 by Rick

This happened to my 48G too. I asked about a solution at HP here in Melbourne, but it didn't work. It's still in the cupboard doing the same thing. Lost cause I'm afraid. Sorry I can't help, but if you get a solution, I'm sure it'll cure my problem too. Good luck

Paul

Re: Hourglass and Annunciator won't shut off

*Message #6 Posted by **Rick** on 15 Mar 2006, 12:28 p.m.,*
in response to message #5 by Paul Marin

Mine had been in this state for the better part of a year. The calculator works fine, with the exception of the loss of knowing when it is 'thinking' because the hourglass is on all the time.

Funny thing happened yesterday though...I tried some new things and actually got the characters to finally shut off. This is what I think happened originally: From the I/O menu the (don't know which menu pick) the calculator was set to receive transmission, pretty sure via IR. There it sat waiting to receive a signal. Then it goes thru an apparent timeout, but a flag must have been set somewhere that never really gets cleared, even after reset (I hadn't yet tried a hardware reset under the rubber foot).

Yesterday I again went to the I/O menu, picked "Transfer" -> Port: IR -> Type: Kermit -> Name: 'PPAR' (because it was there) -> then "RECV" on the menu bar. Same result, it waited until I cancelled and the characters are still there. Then I did exactly the same thing except this time I chose "SEND" as the final option. Then cancelled the action and the characters turned off. My '48GX is now back to normal! Must be a bug in their IR RECV routine.

I would like to know if Paul is able to fix his in the same manner.

Rick

Re: Hourglass and Annunciator won't shut off

*Message #7 Posted by **Randy** on 15 Mar 2006, 5:45 p.m.,*
in response to message #6 by Rick

A warmstart is only a partial reset. If you don't care about what's in memory... you can coldstart it and reset everything to factory defaults on a 48 with the three finger salute: With the unit on, press and hold the A and F keys, press and release the ON and finally release the A and F. Press the F key (NO) when presented with the question: Try to recover memory? That should clear all the I/R stuff and put it in a clean state.

In a few rare cases, I've seen a defective LCD cause some or all of the annunciators to stay on. That big thin piece of glass can fracture and/or break in really wierd ways.

Edited: 15 Mar 2006, 5:46 p.m.

Re: Hourglass and Annunciator won't shut off

*Message #8 Posted by **Paul Marin** on 15 Mar 2006, 5:52 p.m.,*
in response to message #6 by Rick

I'll try this. Got nothing to lose by it. The unit is buried away and I'm still in mourning. If I can bring it back to life, you will be thanked ten fold.

Paul

Re: Hourglass and Annunciator won't shut off

*Message #9 Posted by **James M. Prange (Michigan)** on 16 Mar 2006, 3:15 a.m.,*
in response to message #6 by Rick

Rick, was it just the busy annunciator (hourglass) on, or was there another one, such as the I/O annunciator (looks like an arrow pointing right)?

Pretty strange in any case, as a CANCEL (ATTN on 48SX/S) operation should abort any I/O, and Kermit and Xmodem transfers ordinarily time-out if not proceeding; I think after about a minute.

The CLOSEIO command might've been worth a try with something going wrong sith I/O, but turning the calculator off should close the I/O port anyway.

For the "Serial I/O" commands XMIT and SRECV (but not Kermit or Xmodem transfers), the STIME command sets the time-out. By default, the time-out is 10 seconds, but it can be set from 0.1 to 25.4 seconds, and 0 STIME disables the time-out entirely; that is, it'll wait "forever", or at least until the batteries go dead, if the command isn't completed or canceled.

An invalid IOPAR reserved variable in the HOME directory should cause an "Invalid IOPAR" error. IOPAR can be safely purged; if it doesn't exist, then the default IOPAR will be created the next time that it's needed.

I don't know of any problem with the RECV command, but earlier ROMs in the 48G series have a problem with the XRECV command. From the HP48 FAQs:

> Quote:
>
> 6.14. Why does XRECV not work sometimes? (GX)
>
> Pre-Rev R. G Series 48's had a bug that would sometimes cause XRECV to fail if there was not twice the amount of room free for the incoming file. FXRECV, a fix for this bug, is available on the Horn 9 disk in the directory \HP as FXRECV. There is more info about this bug there as well. Note that FXRECV is not required for Rom R, and in fact will not run properly on Rom R.

Of course "Horn 9" refers to Joe Horn's Goodies Disk #9, available at http://www.hpcalc.org/hp48/compilations/horn/.

With versions A-D of the 48SX/S there can be a problem if the clock is displayed during an ARCHIVE. From the FAQs:

> Quote:
>
> If the clock is displayed during an ARCHIVE via RS-232, there is a chance (not 100%) that calculator memory will be cleared, after the transfer. The work-around is to turn the clock display off before doing the transfer. Should your memory be cleared, you will have to restore the contents of memory from the archive.

I think that the manuals recommend that the clock display be turned off during I/O anyway.

In the 49 series, XON/XOFF software flow control doesn't work. This doesn't matter with the small packets used in the calculators' implementations of Kermit and Xmodem, but can be a problem with the "Serial I/O" commands.

Of course, SysRPL or assembly language programs or libraries (as well as, presumably, SYSEVAL, LIBEVAL, and FLASHEVAL, and the 49 series menu 256 commands) can change things in system RAM not accessible to ordinary users, including turning annunciators on or off and changing bits that control I/O. In any case, I'd expect the "3-finged salute" (ON&A&F) followed by NO to set things right, preferably after backing up anything that you don't want to lose.

And of course hardware problems are always a possibility.

Regards,
James

Edited: 16 Mar 2006, 3:33 a.m.

Re: Hourglass and Annunciator won't shut off

*Message #10 Posted by **James M. Prange (Michigan)** on 15 Mar 2006, 8:51 p.m.,*
in response to message #1 by Rick

I'm not sure what you mean by "the annunciator"; the little symbols at the top of the display are generally known as "annunciators".

I'm guessing that you mean the "alert" annunciator; it looks sort of like a dot with two pair of parentheses around it. This alert annunciator is turned on by (among other things) an unacknowledged alarm. Try an ACKALL command to turn it off, and while you're at it, delete any alarms that you don't want.

There's a possibility that a repeating alarm has a period too short to give you a chance to delete it. In this case, hold down the ON key and press the key with TIME above it (the 4 key on the 48 series or the 9 key on the 49 series) to prevent the next alarm from executing, and then delete any unwanted alarms.

Regards,
James

Re: Hourglass and Annunciator won't shut off

*Message #11 Posted by **Rick** on 16 Mar 2006, 2:01 p.m.,*
in response to message #10 by James M. Prange (Michigan)

First, thanks for the replies & all the suggestions. I had no Idea there were so many possibilities. Second, sorry for the vagueness on the "annunciator". The one I meant was indeed the I/O Annunciator, the little right arrow way to the right of the display -- not the "alert" annunciator.

To answer some previous questions, I did try the "3-finger solute," to no avail. I didn't perform hardware reset with a paper clip under the foot. I had no alarms programmed and I don't believe an alarm to be a factor. I did have the clock displayed and that might have contributed in some way, but how so is beyond me. There have never been any programs downloaded to my 48GX, either. In fact, it's never been connected to a computer or second calculator.

I spent a good amount of time trying to repeat the problem but have not yet been successful.

The little detail that gets me is the fact that the "data transmit" annunciator was on solid. In normal operation, while waiting to connect to something, it is on only intermittently. If it was actually linked to another device I could see it being solid, but such was not the case here.

Oh well, I guess my problem was magically resolved by divine intervention (eegad!). I'd still like to know if Paul got his fixed as well. Thanks again for everybody's friendly expertise.

Rick

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HP 33S instructions

*Message #1 Posted by **Antonio Maschio (Italy)** on 13 Mar 2006, 11:34 a.m.*

Hello,

some claimed that HP 33S memory capacity (more than 31000 bytes) is more than 80 times bigger than HP 32SII poor and lonely 384 bytes. It was on a site where this model was sold (don't remember which).

Sadly, HP 32SII had some good features that HP 33S has not:

I) first of all instructions on the 33S take 3 average bytes instead of the 32SII 1.5 bytes; this quite halves the total ratio! II) second, integer numbers in the range 0÷254 (that were optimized in the 32SII to 1.5 bytes instead of the 9.5 of all other numbers) are not more optimized in the 33S; III) any number now takes 15 bytes (integer or not). This reduces again the total ratio, that now is around 25 times.

I think necessity sharpens the brains, and that programming was much more beautiful on my now dead HP 32SII; probably I'll get used with this impersonal machine, and I'll start to love it, some day. But for the moment, I miss my HP 32SII!

-- Antonio

Edited: 14 Mar 2006, 10:33 a.m. after one or more responses were posted

Re: HP 33S instructions

*Message #2 Posted by **bill platt** on 13 Mar 2006, 12:22 p.m.,*
in response to message #1 by Antonio Maschio (Italy)

Hi Antonio,

Yes, I figure that in typical usage, the effective memory size is a bout 1/4 of the reported, so around 8 kb.

Take a look at the recent threaad regarding the statistics registers and the abiltiy to enter negative (n) on the pioneers, but not on the 33s.

If you liked using the equation list feature on the 32sii, you will find the 33s is superior, because it has eliminated the inconsistency of the unary minus as parsed in the 32sii.

But you should also pay close attentions to the difference in how "solve" works in some instances. Jordi Hidalgo wrote a goot short article on this in DATAFILE a year or so ago.

Re: HP 33S instructions

*Message #3 Posted by **Gene** on 13 Mar 2006, 12:55 p.m.,*
in response to message #2 by bill platt

Yep, I noted the solve difference when developing one of the 33S learning modules. I was trying to get a

root for X^2-4=0 and it would only get one answer, no matter what guess was supplied. This was the direct solve result.

So, had to modify that example.

Gene

Re: HP 33S instructions

*Message #4 Posted by **Antonio Maschio (Italy)** on 14 Mar 2006, 9:17 a.m.,*
in response to message #3 by Gene

Gene,

I couldn't believe my new HP 33S was bugged, but after your post I tried: your equation X^2-4=0 input in EQN mode gives always 2.0000 as result with SOLVE, no matter what initial estimates you put into X and on TOS! It's a shame!

How can I trust it anymore? Maybe there's a bug even into other routines (integration, for example)! My older and beloved HP 32SII (now broken) gives the right answers (2.0000 and -2.0000) to it!

Luckly, SOLVE seems to work correctly if you input the equation into PRGM mode, as the older HP 32S did. But this makes no difference at all: 33S seems to me a mistaken model the same.

What about it? Is there a way to know what happens and why, and how to override this behaviour?

-- Antonio

Edited: 14 Mar 2006, 10:31 a.m. after one or more responses were posted

Re: HP 33S instructions

*Message #5 Posted by **Thomas Radtke** on 14 Mar 2006, 10:26 a.m.,*
in response to message #4 by Antonio Maschio (Italy)

> Quote:
>
> How can I trust it anymore?

The 32SII too had a bug in the solver. It has been discovered in 2005 and was discussed right here. I don't remember the details but it had something to do with breaking a solver operation and starting a new one without clearing the stack. Anyone knows better? Sorry to the poster about not remembering his name:(. Anyway, these machines (the software in the first place) have reached a complexity over the years that makes it impossible to test every detail. You have to live with it.

Thomas

Don't make me laugh ...

*Message #6 Posted by **Valentin Albillo** on 14 Mar 2006, 11:59 a.m.,*
in response to message #5 by Thomas Radtke

Hi, Thomas:

Thomas posted:

"Anyway, these machines (the software in the first place) have reached a complexity over the years that makes it impossible to test every detail. You have to live with it."

> I don't quite agree, matter of fact it seems to me a pretty lame excuse for not doing the job properly and reducing costs by outsourcing engineering to mediocre third parties and cutting on the testing and Q&A phases.
>
> The HP-15C certainly has **much** greater algorithmic complexity than the HP33S, what with extensive complex and matrix functionality, yet it's nearly absolutely bugless, never ever have I heard about or experienced an HP-15C bug, however slight, after decades of heavy use. The HP42S is in the same league, despite being still much more complex.
>
> So it's not a case of *"increased complexity over the years that makes it impossible to test every detail"*, as these old machines are *far* more complex, but a case of lack of quality in their products and procedures and a lack of respect for their customers and users, which are nothing but paying beta-testers for their DbD (defective-by-default) products.
>
> The one and only thing that is impossible is for HP to ever revert to a tiny fraction of their past quality and attention to the customer, pioneered in the seminal "The HP Way" by its founding fathers and long discarded into oblivion by its recent management.
>
> As for *"you have to live with it"*, there seems to be a number of people who have adopted that philosophy but I'm not one of them. These people probably forgot that quality was their initial aspiration and that's what attracted them to HP in the first place. Now they're mixing affections and stick with HP for the sake of it, long after the quality's been irretrievably gone.
>
> You may live with it, if you feel like it. I chose to live with quality, and lately "HP quality" has become a book example for the term "oxymoron".

Best regards from V.

Edited: 14 Mar 2006, 12:11 p.m.

Re: Don't make me laugh ...

*Message #7 Posted by **Gene** on 14 Mar 2006, 12:17 p.m.,*
in response to message #6 by Valentin Albillo

And, just for the record, while there are bugs in early versions of the 33s, the direct solve I mentioned is not one of them - it was a conscious design choice, I believe.

And, while it might be a bit too much to expect non-bug-roms for a machine like the 49g+, a machine like the 33s should not ship with bugs.

Of course, the 41c shipped with bugs too. Let's not forget about that. Bug 1 (non-save of LastX when Sigma+) and Bug 4 (or 5? bad SIN for small values of x) were in machines over the first year or so of it's sale.

Most machines ship with bugs...and the more complex the machine, the greater the number of them.

The 15c is truly a marvel and I too am not aware of any bugs.

The 33S should not have had any, IMO.

Valentin, did you see the response on timing of your trig program on the "parentheses 12cp"?

Re: Don't make me laugh ...

*Message #8 Posted by **Valentin Albillo** on 14 Mar 2006, 12:43 p.m.,*
in response to message #7 by Gene

Hi, Gene !

"And, just for the record, while there are bugs in early versions of the 33s, the direct solve I mentioned is not one of them - it was a conscious design choice, I believe"

> Yes, I know. But seems to me as just another instance of "turning a bug into a feature", if you know what I mean ...

"a machine like the 33s should not ship with bugs."

> Agreed.

"Most machines ship with bugs...and the more complex the machine, the greater the number of them."

> Except for the HP-15C and the rest of the Voyagers, that were virtually bug-free despite being much more complex than their predecessors, some of which did have well-known bugs. I'm also not aware of any significant bugs in the HP42S.

"The 15c is truly a marvel and I too am not aware of any bugs."

> Indeed it is. It even has some 'synthetic' possibilities. But no bugs so far.

"The 33S should not have had any, IMO."

> IMO, too.

"Valentin, did you see the response on timing of your trig program on the "parentheses 12cp"? "

> Yes, I saw it, thank you very much for telling me. The times are very good, though I don't know exactly why but I was expecting even faster ones.
>
> Thanks for your reply, and don't get too upset with my derogatory comments. They're well deserved ... someday you'll see the light, too. :-)

Best regards from V.

No problem, friend! :-)

*Message #9 Posted by **Gene** on 14 Mar 2006, 12:52 p.m.,*
in response to message #8 by Valentin Albillo

Derogatory comments? Never taken that way. :-)

Like everyone else, I sometimes post when I'm in too "testy" a mood.

I certainly don't want "buggy" products and I want higher quality machines.

Would be interesting to test the new 12cp on one of your "root" problems against other contenders. Perhaps when I have time...

The early 11C's did have a problem

*Message #10 Posted by **Palmer O. Hanson, Jr.** on 15 Mar 2006, 2:19 a.m.,*
in response to message #8 by Valentin Albillo

The "Bugs" section of the Forum contains the following statement:

"Early HP-11Cs had a bug in which if you entered a number in the form 0.0xxx, backspaced over all the digits and then pressed ENTER, 1.00 was entered rather than 0.00. HP allowed users of buggy calculators to swap for fixed units."

I have one of those buggy units (S/N 2217A03623) in my collection. I also have a later, properly operating unit.

Re: The early 11C's did have a problem

*Message #11 Posted by **Valentin Albillo** on 15 Mar 2006, 5:29 a.m.,*
in response to message #10 by Palmer O. Hanson, Jr.

Hi, Palmer O:

Palmer O posted:

"Early HP-11Cs had a bug in which if you entered a number in the form 0.0xxx, backspaced over all the digits and then pressed ENTER, 1.00 was entered rather than 0.00 [...] HP allowed users of buggy calculators to swap for fixed units."

I hope you'll agree with me that:

- Such a 'contrived' bug that only happens when you do some unnatural series of operations, which are non-programmable to boot, whose usefulness is nil, the remedy being as simple as not doing that nonsense to begin with, as is the case with the one "bug" you mention, is in a *vastly* different league than most of the ones reported for the HP33, say, such as the polar-rectangular conversions for instance, and simply can't be compared: plainly saying that they're both "bugs", so that the HP-11C "also has a bug" is *highly* misleading.

- The HP-15C which was the precise model I mentioned never had this "bug". Also, you'll not be able to tell me of any other bug for the HP-11C (10C, 15C, 16C, ...) because none has ever been reported, to the best of my knowledge. I knew about the 11C "bug" you mention but never considered it a proper bug worth worrying or talking about. The fact that HP of old nevertheless replaced machines having this inconsequential and inoffensive "bug" says volumes about HP's former commitment to quality and user satisfaction, i.e., the "HP Way" once more.

Best regards from V.

Re: The early 11C's did have a problem

*Message #12 Posted by **HrastProgrammer** on 15 Mar 2006, 5:43 a.m.,*
in response to message #11 by Valentin Albillo

The fact that HP of old nevertheless replaced machines having this inconsequential and inoffensive "bug" says volumes about HP's former commitment to quality and user satisfaction, i.e., the "HP Way" once more.

Amen :-)

Early 11C bug vs. HP-33S errors

*Message #13 Posted by **Karl Schneider** on 17 Mar 2006, 2:20 a.m.,*
in response to message #11 by Valentin Albillo

Hi, Valentin --

The original issue:

> Quote:
>
> *"Early HP-11Cs had a bug in which if you entered a number in the form 0.0xxx, backspaced over all the digits and then pressed ENTER, 1.00 was entered rather than 0.00 [...] HP allowed users of buggy calculators to swap for fixed units."*

To which you stated,

> Quote:
>
> Such a 'contrived' bug that only happens when you do some unnatural series of operations, which are non-programmable to boot, whose usefulness is nil, the remedy being as simple as not doing that nonsense to begin with, as is the case with the one "bug" you mention...

I beg to differ about this. If a zero-quantity is present in the display, no matter how it was produced, ENTER should not convert it to 1.00. That is a bug in every cyber-based sense of the the word; HP was justified in fixing it and offering free replacements. In fact, the individual(s) who discovered and reported it may have prevented a similar problem from being introduced into the HP-15C and HP-16C (but not the HP-10C and HP-12C, which had no backspace operation).

> Quote:
>
> ...is in a vastly different league than most of the ones reported for the HP33, say, such as the polar-rectangular conversions for instance, and simply can't be compared: plainly saying that they're both "bugs"...

As one who spelled out the flaws, I absolutely agree with this statement. The first HP-33S had unacceptable shortcomings in representation of arguments (e.g., -0) mathematical algorithms, and validation of output. These problems

were beyond mere "bugs" that would have been unacceptable in real HP's.

Regards,

-- KS

Re: I wouldn't dare, Valentin!;)

*Message #14 Posted by **Thomas Radtke** on 14 Mar 2006, 2:25 p.m.,*
in response to message #6 by Valentin Albillo

Valentin,

I'm not aware of a test setup to check a particular calculator for any bugs. Something like that wasn't available when the 15C came out and it is not available today.

Even the HP-35 had bugs.

If I or anyone else chooses to live or to not live with the potential risk of a bug is completely irrelevant. A company might be able to reduce the number of bugs in their products by carefully designing it but it won't be able to guarantee their reliable operation.

I understand your point and appreciate it much but it is not related to what I said.

Re: HP 33S instructions

*Message #15 Posted by **HrastProgrammer** on 15 Mar 2006, 1:55 a.m.,*
in response to message #5 by Thomas Radtke

Anyway, these machines (the software in the first place) have reached a complexity over the years that makes it impossible to test every detail. You have to live with it.

No, I have not. Certainly, almost every HP calculator has a few bugs (including HP-35, HP-41C, HP-71B, HP-42S, HP-48SX, HP-48GX, ...). But the number of bugs in the later HP/ACO/Kinpo/... calculators is just too big for my taste. For example, they are "fixing" bugs in HP-49G+ for the last two years and still haven't fixed all of them. Not to forget that they were fixing HP-49G for a few years before ...

Edited: 15 Mar 2006, 2:17 a.m.

Re: HP 33S instructions

*Message #16 Posted by **Thomas Radtke** on 15 Mar 2006, 3:41 a.m.,*
in response to message #15 by HrastProgrammer

> Quote:
>
> *Anyway, these machines (the software in the first place) have reached a complexity over the years that makes it impossible to test every detail. You have to live with it.*
>
> No, I have not. [...]

Yes you have. As long as you cannot give a prove for a calulator to operate in line with its manual, my statement is true.

> Quote:
>
> [...] But the number of bugs in the later HP/ACO/Kinpo/... calculators is just too big for my taste.

Also for mine. But that was not the point here. Please re-read to post that I replied to.

Thomas

Re: HP 33S instructions

*Message #17 Posted by **HrastProgrammer** on 15 Mar 2006, 4:29 a.m.,*
in response to message #16 by Thomas Radtke

Yes you have.

No, I have not.

As long as you cannot give a prove for a calulator to operate in line with its manual, my statement is true.

In the HP-49G+ manual you will (probably) find that when you press some key the calculator will register it. Well, this is sometimes true and sometimes not. What more do you want?

This thread is about HP-33S so talking about HP-49G+ is off-topic here. But, you said "these machines" so I supposed you were talking about all new HP calculators ...

But that was not the point here. Please re-read to post that I replied to.

I re-read it. It is the same as the last time I read it: *"Anyway, these machines (the software in the first place) have reached a complexity over the years that makes it impossible to test every detail. You have to live with it."*

So, what was the point? That HP isn't capable to produce a "HP quality" calculator anymore and that we "have to live with it"? I would rather say that I can live without it (I mean: without any new HP calc) ...

Edited: 15 Mar 2006, 5:01 a.m.

Re: HP 33S instructions

*Message #18 Posted by **Thomas Radtke** on 15 Mar 2006, 5:06 a.m.,*
in response to message #17 by HrastProgrammer

> Quote:
>
> In the HP-49G+ manual you will (probably) find that when you press some key the calculator will register it. Well, this is sometimes true and sometimes not. What more do you want?

If thats in the manual, then you have proven that the 49G+ is buggy. The tricky part ist to prove the opposite (i.e., that there are no further undocumented bugs).

Suppose someone asks you whether he can trust a particular calculator or not. He already knows about some bugs, so the question turns into whether there are more bugs that haven't been discovered yet. I said (in other words): It is impossible to test all functions in any situation in reasonable time. Therefore, you cannot trust it. I gave him an example about a calculator that has been in the marked for a long time but only recently revealed a really nasty bug. Was I clear this time?

One is certainly better off using a 15C instead of a 33S (if applicable) but still, he is not on the safe side.

> Quote:
>
> This thread is about HP-33S so talking about HP-49G+ is off-topic here. But, you said "these machines" so I supposed you were talking about all new HP calculators ...

No, I was taking about calculators in general.

> Quote:
>
> So, what was the point? That HP isn't capable to produce a "HP quality" calculator anymore and that we "have to live with it"? I would rather say that I can live without it ...

Once again, even when HP did a better job, there was no reason at all to trust a calculator. I think, I am clear by now.

Thomas

Re: Trust a calculator ...

*Message #19 Posted by **HrastProgrammer** on 15 Mar 2006, 5:25 a.m.,*
in response to message #18 by Thomas Radtke

... there was no reason at all to trust a calculator.

If I don't trust it then why would I use it?

Anyway, yes, I trust all HP calculators I am using (HP-48GX including and before) and that's why they are built: to use them because you trust them. I am sure I'm not the only one :-)

Re: Trust a calculator ...

*Message #20 Posted by **Thomas Radtke** on 15 Mar 2006, 5:32 a.m.,*
in response to message #19 by HrastProgrammer

> Quote:
>
> If I don't trust it then why would I use it?

I can only speak for myself. I use them because I need to. Thus far, my calcs haven't dissapointed me, including the 32SII. Knock on wood;-).

Thomas

Re: HP 33S instructions

*Message #21 Posted by **Gene** on 14 Mar 2006, 11:51 a.m.,*
in response to message #4 by Antonio Maschio (Italy)

Hi Antonio.

These are not new revelations but have been documented even here on the forum.

I also do not believe they are "bugs", but behavior chosen for a purpose.

It works like this:

When an equation has one occurrence of a variable, and only one occurence, the 33S solver will use the direct solver to estimate a root. That is why the X^2-4=0 finds the solution x=2 and only x=2. It does not use an input value as a guess in this instance, since it uses the direct solver.

An equation such as X^2-5x-6 will use input guesses and find more than one root, since X occurs more than once in the equation.

To force the 33S to solve X^2-4=0 and find multiple roots, you must enter the equation as something like this:

X^2-0*X-4=0

This will use input guesses and find more than one root.

This is documented in the 33s learning modules available on HP's site.

You will have no luck claiming this is a bug to HP because this behavior was chosen and is considered the "way it is supposed to work".

So, to get around this behavior, if you have an equation with only one variable that is taken to a power, enter an extra term including 0 multiplied by the variable.

We might disagree with whether this should be the way it ought to operate, but that's the hand of cards we've been dealt.

If you haven't looked over the learning modules on HP's webpage for the 33S, you can find them here:

http://h20331.www2.hp.com/Hpsub/downloads/33s.zip

which will download all the modules in one zip file.

The two specific 33s modules dealing with the solver (which were written by Wlodek!) can be found here:

http://h20331.www2.hp.com/Hpsub/downloads/33sSolver.pdf

http://h20331.www2.hp.com/Hpsub/downloads/33sSolver2.pdf

The second module (33sSolver2.pdf) has a discussion of the "Direct Solve" "feature".

Hope these help!

Gene

A past thread on HP-33S SOLVE

*Message #22 Posted by **Karl Schneider** on 14 Mar 2006, 10:44 p.m.,*
in response to message #4 by Antonio Maschio (Italy)

Antonio (and others who are interested)--

I agree completely with your sentiments.

Here's a link to a thread from September 2004 regarding the direct-method implementation of SOLVE on the HP-33S. It includes some dialogue between Gene and me.

One thing I didn't realize at the time was that the celebrated algebraic solver from the HP-17B/17BII/27S did the same thing -- always providing the direct-solution value whenever possible, even when the initial-guess value of the variable of interest is at or near another valid solution.

Regards,

-- KS

HP 33S instructions

*Message #23 Posted by **Antonio Maschio (Italy)** on 15 Mar 2006, 3:36 a.m.,*
in response to message #22 by Karl Schneider

Thank you all.

-- Antonio

P.S. I do agree with those who think HP should not lower down its quality only because "it's complex". Its history is a confirmation of that.

Thanks again

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HP41 repair

*Message #1 Posted by **Lars Johansson** on 13 Mar 2006, 10:49 a.m.*

I'm having a go at an HP41CV from 1982. After cleaning there is som life in it. There is some flicker on the display and a high pitch whining sound. Any suggestions which component is faulty? It seems that it might be the large condensators?

--Lars

Re: HP41 repair

*Message #2 Posted by **Karl Schneider** on 14 Mar 2006, 10:50 p.m.,*
in response to message #1 by Lars Johansson

Lars --

I had a fullnut HP-41CX from 1984 that, even when turned off, emitted a high-pitched sound interrupted by pulses from the clock (which your CV doesn't have).

I sent it to a US individual's sideline HP calc repair business; his standard service of ultrasonic cleaning and re-soldering where necessary, cured the problem.

-- KS

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unknown (?) error message HP48G

*Message #1 Posted by **Bram** on 13 Mar 2006, 6:38 a.m.*

While trying to get an answer to the S&SMC#14/1 for which I had written an RPL program, my HP48G finally asked *me* a question: "Try to recover memory?"
Of course I replied YES, but it reasked the question, so I couldn't do anything but reply NO and after a while the calc cleared itself and went into virgin status.
I cannot find this message in the manual, but I may have overlooked it. Does anyone have additional information on this behavior?

Re: unknown (?) error message HP48G

*Message #2 Posted by **Marcus von Cube, Germany** on 13 Mar 2006, 8:11 a.m.,*
in response to message #1 by Bram

"Try to recover memory?" indicates a reset condition and should appear if the calculator has reset itself. You probably ran out of memory in a way that the caclulator couldn't recover.

Marcus

Re: unknown (?) error message HP48G

*Message #3 Posted by **Bram** on 13 Mar 2006, 10:01 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Due to a program error I may have filled the stack to its limits. I would have expected the program to just halt with a 'stack full' message, but in extreme cases apparently things don't always go as expected.
I think you're right with your answer. Thank you.

Re: unknown (?) error message HP48G

*Message #4 Posted by **Han** on 13 Mar 2006, 2:10 p.m.,*
in response to message #3 by Bram

When the HP48 uses up all available memory, it will go into a mode that will attempt to free up some of the used memory. In this mode, the calculator will prompt the user if it can delete various parts of memory, beginning with the least important section (e.g. last stack, last arguments, last commands, etc). Once "enough" memory is freed up, the calculator exits this mode. If more memory is required, it will restart and you may possibly have to purge more objects from memory. This is normal, and should never corrupt memory. This is completely different from the "Recover Memory?" mode. Unless your program was written in SysRPL or assembly, memory should always stay in tact.

Is your program written in SysRPL or assembly? Buggy programs in SysRPL or assembly can often result in memory corruption.

> Quote:

> Due to a program error I may have filled the stack to its limits. I would have expected the program to just halt with a 'stack full' message, but in extreme cases apparently things don't always go as expected.
> I think you're right with your answer. Thank you.

Re: unknown (?) error message HP48G

*Message #5 Posted by **Bram** on 14 Mar 2006, 3:45 a.m.,*
in response to message #4 by Han

> Quote:
>
> Is your program written in SysRPL or assembly? Buggy programs in SysRPL or assembly can often result in memory corruption.

It was just a novice's little program between << and >>. To my knowledge that's neither SysRPL nor assembler and hence should only halt in stead of crash.
I was trying some things and cannot replay the exact program for I don't have it anymore, but it must have something to do with stack growth. I tried to clean it up between calculations, but I must have made an error there.
Anyway, your explanation is clear to me. I'll have to keep track of stack operations carefully (well, anyhow, I guess;-)
Thanks.

Re: unknown (?) error message HP48G

*Message #6 Posted by **James M. Prange (Michigan)** on 14 Mar 2006, 3:52 p.m.,*
in response to message #5 by Bram

Well, nothing done in "pure UserRPL" (excluding SYSEVAL, LIBEVAL, FLASHEVAL, and 49 series "hacker's library" commands, that is) **should** cause a "Try To Recover Memory?" (TTRM), including attempting to make the stack grow beyond available memory. However, there are some bugs (depending on the ROM version) that will cause a TTRM; maybe see the most recent 48 series FAQs at http://www.hpcalc.org/hp48/docs/faq/. Of course, it's also a possibility that you've stumbled upon a previously unreported bug.

Regarding programs or libraries written in SysRPL or assembly language, there's a possibility that a bug won't be immediately apparent, but willl cause memory corruption that will later cause a TTRM during UserRPL operations.

Too bad that the TTRM didn't successfully recover memory; it would be interesting to see what your program did.

Note the "Try" in "Try To Recover Memory"; sometimes it fails or is only partially successful. In particular, Bill Wickes's *Insights* says that a library shouldn't be left in a global variable after it's been copied to a port, as the TTRM will take the library as the start of port 0, thus any global variables or subdirectories following it will be lost.

Of course, if your calculator has anything that you really can't bear to lose, it's wise to have a backup of it on another device, either by transferring selected variables or using the ARCHIVE command.

Regards,
James

Edited: 14 Mar 2006, 3:56 p.m.

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Mix and match parts between HP-41CV and HP-41CX

*Message #1 Posted by **Andreas Terzis** on 13 Mar 2006, 3:31 a.m.*

I have an HP-41CV in very good condition. Can I borrow parts from that and replace the ones on the CX with corrosion and possible corrosion of other parts? Both work currently. Should I not bother and wait until the CX fails?

Re: Mix and match parts between HP-41CV and HP-41CX

*Message #2 Posted by **Tony Duell** on 14 Mar 2006, 2:02 p.m.,*
in response to message #1 by Andreas Terzis

This depends on whether the machines are Fullnut or Halfnut.

If one is a fullnut and the other a halfnut, then AFAIK the only common parts are the battery holder and I/O assembly (the flexible PCB on the plastic frame that connects to the battery pack, modules, etc).

If both are fullnuts, then the CPU board is different between a CX and CV. Some of the chips might well be the same, though. The keyboard PCB, display module, all case parts (apart from labels!), I/O assembly, CPU board connector, etc are the same.

If both are halfnuts, then you have less you can interchange. The ROM is different, and that's part of the display hybrid on a halfnut. So unless you want to start dismantling the heat-staked keyboard, the only things you can swap are the back case and I/O assembly. There's a bridge board in the CX only which contains the extended functions ROM, timer ROM, timer chip, extended memory, etc, but if you fit this to a CV all you get is the timer functions. The CV ROM will not detect the extended functions ROM.

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Does HP fix L() and G() problem in recent HP 17bii+?

*Message #1 Posted by **Walter Lam** on 12 Mar 2006, 11:17 p.m.*

Hi Guys.

Does anyone purchase a 17bii+ recently? I'd to know whether HP has fixed the unstable performance of L() and G() in 17bii+'s HP SOLVE.

If you have any new comment, please also post it here.

Walter

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HP 48G with 512KB RAM

*Message #1 Posted by **Han** on 12 Mar 2006, 9:47 p.m.*

If any of you are curious about my continued efforts in finding the values of (very used) upgraded HP48G calculators, I have another one on eBay (#5879629328). I plan to place a few more units later on as I currently have an overwhelming number (for me, anyway) of HP48G calculators.

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HP-41CX damage from battery corrosion...

*Message #1 Posted by **Andreas Terzis** on 12 Mar 2006, 7:25 p.m.*

Hi there, I just picked up an HP-41CX from eBay with the battery contacts of the machine corroded. If I get to keep the machine, is there any way to tell if the battery acid/base might have spread inside? Does anyone know if there is a fairly easy way to open the machine without breaking anything? If the machine works now but the liquid has spread inside, are there significant chances for the machine to die soon? Thanks in advance, Andreas

Re: HP-41CX damage from battery corrosion...

*Message #2 Posted by **Karl Schneider** on 13 Mar 2006, 12:22 a.m.,*
in response to message #1 by Andreas Terzis

Andreas --

If I remember correctly from earlier postings, you bought a halfnut, whose internal components (display, keyboard, CPU and other chips) are integrated onto a single board -- even in the CX, I would assume. Halfnuts are generally more difficult to repair than the (older) fullnuts, although that may not be relevant to this problem.

On any HP-41, separate the case halves by removing each of the four rubber feet, along with their adhesive backing, and the screw underneath. Then, you'll be able to see how far the corrosion has spread.

If it is limited to the battery terminal contacts, one Forum participant has developed and fabricated a replacement "foil" for sale. The individual and the details can be found in Archive #15.

-- KS

Edited: 13 Mar 2006, 12:28 a.m.

Re: HP-41CX damage from battery corrosion...

*Message #3 Posted by **Diego Diaz** on 13 Mar 2006, 12:52 a.m.,*
in response to message #2 by Karl Schneider

Hi Andreas, and thanks Karl for the reference...

... may this link be of some help too, it's just four threads below:

http://www.clonix41.org/Maintenance/IO_Block/FlexPCB_Replacement.zip

Best of lucks with your CX.

Diego.

Re: HP-41CX damage from battery corrosion...

*Message #4 Posted by **Andreas Terzis** on 13 Mar 2006, 3:29 a.m.,*
in response to message #3 by Diego Diaz

Thanks Karl, Diego. I read somewhere that after I put an HP-41CX back together, if I tighten the screws too much, I'll either destroy it or it won't work!!! I decided to refrain from that for now, and if the machine fails at some point, to take it apart then, or send it in to FixThatCalc. I'll consider the FlexPCB at some point.

Re: HP-41CX damage from battery corrosion...

*Message #5 Posted by **Klaus** on 13 Mar 2006, 4:15 a.m.,*
in response to message #4 by Andreas Terzis

The Halfnut does not have a separate logic board, so it does not need the case's pressure to work. Disassemble it and clean it, it is no big deal! Do not apply force when tightening the screws and it will be easy as 3,14159!

Greetings, Klaus

Re: HP-41CX damage from battery corrosion...

*Message #6 Posted by **Andreas Terzis** on 13 Mar 2006, 5:23 a.m.,*
in response to message #5 by Klaus

Klaus, Thanks for the insight. Do you know if I should use baking soda and water for cleaning? Regards, Andreas

Re: HP-41CX damage from battery corrosion...

*Message #7 Posted by **Klaus** on 13 Mar 2006, 6:03 a.m.,*
in response to message #6 by Andreas Terzis

I do not know whether baking soda is harmful or not. I always use agua demin. (distilled water), and a Q-tip or a piece of cloth.

One more warning: static electricity! I never had any problems with that, but make sure you ground yourself before opening the calc!

Good luck! Klaus

Re: HP-41CX damage from battery corrosion...

*Message #8 Posted by **Andreas Terzis** on 13 Mar 2006, 3:36 p.m.,*
in response to message #7 by Klaus

Klaus, your help is much appreciated.

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Is inflation taken into account When Prices of HP calculators are put in the web-site?

*Message #1 Posted by **Ozzie** on 12 Mar 2006, 7:00 p.m.*

hi all i am doing a project on the calculator industry, and i need to look at the changes in the calculator prices between 1968 and 1968.

i just wanted to make sure that prices that are put on the website are the present values rather than what actually the prices was in those days??? any ideas???

for example in 1968 HP9100 AB was introduced with the price of approx. $5000. is this discounted???

Thanks for commands.

Ozzie

Re: Is inflation taken into account When Prices of HP calculators are put in the web-site?

*Message #2 Posted by **Han** on 12 Mar 2006, 9:38 p.m.,*
in response to message #1 by Ozzie

I don't think you'll find much of a price fluctuation between 1968 and 1968. =)

More seriously, though, the prices will usually be much less than the introducotry prices, with exception for a few units. I know that in particular the HP48GX had a price of around $250.00 at some retailers, though $200.00 was about average when they were in production. Nowadays, they go for more due to their popularity amongst surveyors and the fact that they are no longer in production.

Regarding the website, you are best off asking the curator of the museum himself.

> Quote:
>
> hi all i am doing a project on the calculator industry, and i need to look at the changes in the calculator prices between 1968 and 1968.
>
> i just wanted to make sure that prices that are put on the website are the present values rather than what actually the prices was in those days??? any ideas???
>
> for example in 1968 HP9100 AB was introduced with the price of approx. $5000. is this discounted???
>
> Thanks for commands.
>
> Ozzie

Re: Is inflation taken into account When Prices of HP calculators are put in the web-site?

*Message #3 Posted by **bill platt** on 13 Mar 2006, 9:15 a.m.,*
in response to message #1 by Ozzie

Only Dave can be definitive in an answer (as he compiled the info) but, based on the prices that I paid in 1982, 1995 etc measured against what is listed on the museum, then no, the prices are *not* discounted. The numbers given are the actual prices you would have paid in the dollar of that day.

Yes, $450 1976 dollars is a lot of money! That is why the digital revolution didn't happen over-night :-)

Edited: 13 Mar 2006, 9:15 a.m.

Re: Is inflation taken into account When Prices of HP calculators are put in the web-site?

*Message #4 Posted by **Bill Wiese** on 13 Mar 2006, 3:37 p.m.,*
in response to message #3 by bill platt

Yep, thinking back now, I'm realizing that my folks' paying $120 for my TI58 in Christmas of 1978, and $179 for my HP41C in Christmas of 1981 might've been a bit of a stretch.

Re: Is inflation taken into account When Prices of HP calculators are put in the web-site?

*Message #5 Posted by **bill platt** on 13 Mar 2006, 4:21 p.m.,*
in response to message #4 by Bill Wiese

...And my father paid the University of Pennsylvania Book Store $120 for my 11c in 1982.

Re: Is inflation taken into account When Prices of HP calculators are put in the web-site?

*Message #6 Posted by **Dave Hicks** on 13 Mar 2006, 6:11 p.m.,*
in response to message #1 by Ozzie

The prices shown are the actual list prices with no inflation adjustment. At one time you could trade in several cars on a calculator.

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OT: Integral PC Floppy Drive

*Message #1 Posted by **Howard Owen** on 12 Mar 2006, 5:55 p.m.*

I have finally gotten home from an extended business trip, and found the Integral PC I bought on eBay three weeks ago waiting for me. I'm having a blast putting together a system from the disk images at http://www.coho.org/~pete/IPC/ and http://hpmuseum.net/exhibit.php?swc=9 . Although I lack an HP-IB hard drive (which I haven't missed, up to now, with my 80 series and 9816 machines,) I do have two 9122/Ds that give me about 2.4 MB of storage to play with. I would have close to 3MB, but unfortunately, the internal floppy drive appears hosed. Either that, or I'm not operating it correctly. It appears to me that the "up" side of the floppy (with reference to modern PC floppy drives) faces toward the screen. I cannot insert the floppy either way, but if I press the release button at the top-right, I can see the shuttle moving from right to left. When it lines up with the opening, I can insert the disk. The drive access light comes on, and the drive spins away for a bit, but then stops, and HP-UX shows an error to the effect that /dev/A could not be accessed. Things don't work nearly as well if I put the disk in the other way. 8) It sounds to me like a mechanical problem that might yield to some adjustment. I can read up on floppy drive maintanence in my copy of "Upgrading and Repairing PCs" but I thought I'd ask here regarding this specific drive. Does anyone have advice or documentation for the IPC? I'm using modern quad density disks with tape over the hole opposite the write-protect tab.

Thanks,
Howard

Re: OT: Integral PC Floppy Drive

*Message #2 Posted by **Thomas Okken** on 12 Mar 2006, 8:37 p.m.,*
in response to message #1 by Howard Owen

It's a long shot, but you might want to try getting some real double-density floppies. From what I remember from my Macintosh II days, using high-density media in double-density drives was supposedly unreliable -- at least that's what everybody said; I must admit I never tried it myself (and what you're reporting sounds a lot worse than merely "unreliable")...

- Thomas

Re: OT: Integral PC Floppy Drive

*Message #3 Posted by **Howard Owen** on 12 Mar 2006, 9:22 p.m.,*
in response to message #2 by Thomas Okken

I don't have any real DS/DD disks, unfortunately. I do think it's a serious mechanical problem.

I'm in good shape because of the external drives. But I may have a whack at the internal drive, merely as an excuse to open up the machine. 8)

Regards,
Howard

Re: OT: Integral PC Floppy Drive

*Message #4 Posted by **Tony Duell** on 13 Mar 2006, 1:07 p.m.,*
in response to message #3 by Howard Owen

I have an Integral (wonderful machine), I have, as ever, taken it to bits...

There are schematics on the Australian site, but I know there to be errors in them (particularly around the address decoder on the Logic A board). An updated version (including the diagrams for the internal modem) is on the latest version of HPCC CD-ROM.

OK, back to the problem. I can't remember which way the disk goes in an Integral, but the drive mechanism is the same as the one in your 9122 (or 9133, or...), without the front panel and eject button. So the eject button on the front of the Integral should give you the orientation of the drive.

You do have to use DD disks. HD ones will go in, but won't activate the disk inserted sensor (and they're the wrong coercivity). So that's not the problem -- yet -- but it will be a problem later.

Now, there's a well-known problem with these drives. The grease on the eject mechanism goes hard and sticky with age, the levers don't latch up properly. If you're unlucky, the upper head will catch in the slot in the disk when you eject it, and will be ripped from the gimbal spring. At which point you need a new head carriage. Finding one is difficult, fitting it (which involves doing the head alignment) is marginally easier.

But whether that's happened or not, you need to remove the drive to investigate. The Integral is not hard to work on, but you need a set of Torx drivers. Start by removing any expansion cards, then undo the 2 Torx screws on the back. Remove the back cover. Under it is a sheild plate held down by 6 Torx screws. Take that out next and you're looking at the component side of the Logic A board (CPU, memory mapper, ROMs, RAM, HP-HIL).

Disconnect the 2 cables from the back of the floppy drive, then undo the 2 screws in the bottom of the cable well next to the built-in printer, and the single screw on the bottom of the floppy bracket. Slide the bracket and drive out rearwards, remove the eject button and spring before they get lost.

If you want to go further on the main machine, undo the screws holding the vertical chassis plate in place (this has the Logic A board on it). Ease it up, reach under it and unplug the cable from the back of the display. Unplug the cables from the bottom edge of the 2 boards (HP-HIL, Power (one on each board), HPIB, etc), Move the chassis plate so you can unscrew the shield from the logic B board. Unplug the cables going to the Thinkjet mechanism (carriage flexiprint, the 2 motors, home sensor, paper sensor, control panel) and remove the chassis entirely. The logic B board contains I/O circuitry -- the HPIL link to the Thinkjet, the Thinkjet controller, sound, real time clock, disk controller, video controller, HPIB, etc.

The metal box at the bottom contains the PSU and expansion backplane. To get that out (with the chassis out of the way), undo the grounding nut visible through a hole in the expansion backplane. Then remove the 4 Torx screws on the side flanges and slide the whole lot out. To get inside, remove the nuts and torx screws holding it together and ease up the cover. I find it best to unbolt the HPIB connector from the back of this module at this point.

Back to the drive. Undo the 4 screws holding it to the bracket. Take off the cover by removing the single screw at the back. You can now see how the disk holder works. Examine the upper head. If it looks undamaged, or you want to go further, then you can dismantle the drive in the following order :

Remove the 3 screws on the bottom, lift off the foil shield, ease up the PCB and unplug all the cables going to it.

Remove the eject damper (rear left, 1 screw)

Remove the head load solenoid (2 screws, one holds an earth tag. Feed the wires through the chassis). Put clean paper between the heads to prevent them from touching.

The disk holder is held down by 4 screws from underneath.

To remove the spindle motor, remove the E-circlips on the sensor arm posts, lift off the arms and the compression springs. The motor itself is held in by 2 screws.

The head carriage can be removed by undoing the screw on the cover plate under the chassis and freeing the cable there. Undo the screws holding the clamps for the carriage rails, slide out the rails and the carriage. You should be able to refit the same carriage without affecting the alignment, if you fit a replacement, you need to check the radial alignment.

The disk holder comes apart by removing the obvious screw and the E-circlips. Watch out for small, loose spacers on some of the rods.

Re: OT: Integral PC Floppy Drive

*Message #5 Posted by **Howard Owen** on 13 Mar 2006, 11:30 p.m.,*
in response to message #4 by Tony Duell

Thank you for that detailed description, Tony!

Regarding media, the quad density disks work fine in both my 9122s. (Also in my 9121s and 9114s) I'm willing to believe there may be a problem with particular drives, or particuar drive models, though. But the mechanical problem is the first order of business.

Thanks again!
Howard

Re: OT: Integral PC Floppy Drive

*Message #6 Posted by **Tony Duell** on 14 Mar 2006, 6:04 a.m.,*
in response to message #5 by Howard Owen

Odd that you have no problems with HD disks. In the older full-height drives (used in the Integral, 9114A, etc), the disk-inserted sensor lines up with the HD-detect hole, so that the drive doesn't detect that a disk has been inserted if you use an HD type. I am told this was deliberate, the HD disks are the wrong coercivity and will not be reliable.

If you have any more questions on the Integral hardware, feel free to ask.

Re: OT: Integral PC Floppy Drive

*Message #7 Posted by **Howard Owen** on 14 Mar 2006, 10:59 a.m.,*
in response to message #6 by Tony Duell

I cover the HD detect hole with tape, so the drives accept the disks. As far as the coercivity goes, the HD disks can't be out of spec by a huge amount, since they actually do work. I'm sure they are less reliable than the proper media would be, but so far, they have been "good enough." It's probably a testament to conservative engineering in the HP drives. (Perhaps coupled with my not-so-stringent requirements.)

Regards,
Howard

Integral PC Internal Drive Solved

*Message #8 Posted by **Howard Owen** on 18 Mar 2006, 3:37 p.m.,*
in response to message #6 by Tony Duell

It was the media. Hats off to Thomas and Tony.

Thanks for offering to send me a couple to test, Dave, but I decided I needed more than a couple, so I bought 40 DS/DD disks off of eBay. I still have to perform the trick of pressing the eject button until I can insert the disk, but once that's done, I can format, read and write the DS/DD disks just fine in the internal drive. The wrong media still works in the external 9122s, so I figure I'll use them for "scratch" disks, and use the right media for stuff I want to last a while.

Thanks for all your help!

Regards,
Howard

Edited: 18 Mar 2006, 3:40 p.m.

Re: Integral PC Internal Drive Solved

*Message #9 Posted by **Vassilis Prevelakis** on 18 Mar 2006, 7:48 p.m.,*
in response to message #8 by Howard Owen

```
Howard Owen wrote:
> I still have to perform the trick of pressing the eject button
> until I can insert the disk, but once that's done,
```

This should NOT be necessary. If the diskette does not slip into the slot easily, the mechanism that lowers the printheads on the medium may need cleaning and lubrication.

This is NOT optional. You have to do it ASAP, before you destroy one of the heads. Follow Tony's suggestions to remove the floppy and lubricate the mechanism. Use your own judgement on how far you want to disassemble the floppy drive (I admit I was scared to go too far and simply removed the drive from the IPC and cleaned and lubed the parts that were accessible from the outside of the drive mechanism, i.e. I did not disassemble the floppy drive itself).

Do not use the floppy drive until you fix it.

Also take care to save the eject button as you remove the drive. It will prob. fall inside the case because it is not attached to the drive itself or the case. Before removing the floppy drive, you may want to add some sticky tape on the outside of the machine across the button to keep it attached to the case.

**vp

Edited: 18 Mar 2006, 7:52 p.m.

Re: Integral PC Internal Drive Solved

*Message #10 Posted by **Tony Duell** on 19 Mar 2006, 5:58 a.m.,*

in response to message #9 by Vassilis Prevelakis

Quote:

```
Howard Owen wrote:
> I still have to perform the trick of pressing the eject
button
> until I can insert the disk, but once that's done,
```

This should NOT be necessary. If the diskette does not slip into the slot easily, the mechanism that lowers the printheads on the medium may need cleaning and lubrication.

This is NOT optional. You have to do it ASAP, before you destroy

---

I will second that. You _WILL_ damage the head if you catch it in the disk shutter because the disk holder doesn't latch up properly. I had to replace the head carriage in the floppy drive of a 9133H because of this. It was not fun. Doing the radial alignment is not easy without the special tool, even if you have the alignment disk and exerciser (I have those).

Quote:

---

one of the heads. Follow Tony's suggestions to remove the floppy and lubricate the mechanism. Use your own judgement on how far you want to disassemble the floppy drive (I admit I was scared to go too far and simply removed the drive from the IPC and cleaned and lubed the parts that were accessible from the outside of the drive mechanism, i.e. I did not disassemble the floppy drive itself).

Sometimes I forget that not everyone had a mis-spent childhood dismantling clocks, cameras, computers, etc AND getting them back together again :-)

More seriously, these drives are not hard to work on. Don't touch the screws holding the stepper motor or track 0 sensor PCB, or you will have to do a re-alignment. But everything else can come off and go back without problems. Yes, you do end up with a lot of little parts, but provided you keep them in order, it'll all go back. There are no springs to fly out, or anything like that.

I don't have a digital camera (and won't be buying one until they exceed the quality from my large-format film cameras...) so I can't do what would probably be very useful, namely producing a sequence of pictures showing what to remove in what order.

Quote:

Do not use the floppy drive until you fix it.

Also take care to save the eject button as you remove the drive. It will prob. fall inside the case because it is not attached to the drive itself or the case. Before removing the floppy drive, you may want to add some sticky tape on the outside of the machine across the button to keep it attached to the case.

I found it best to take out the 3 screws holding the drive bracket in place, then to put the machine screen-side down on my workbench. Lift the drive up (towards the actual back of the machine). Then reach inside and remove the eject button and spring. I don't like putting sticky tape on things, I am worried the adhesive will get somewhere it shouldn't

Re: OT: Integral PC Floppy Drive

*Message #11 Posted by **Dave Shaffer** on 13 Mar 2006, 1:58 p.m.,*
in response to message #3 by Howard Owen

Howard,

A quick check in my graveyard of old floppies reveals several DS/DD disks.

If you'd like a couple, let me know by e-mail.

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How to clean HP-71b keys

*Message #1 Posted by **Alain Robillard** on 11 Mar 2006, 2:47 p.m.*

Hello all,

while doing some work on my HP-71b, I drop orange juice on some of the keys. Since then, they have that sticky feeling that is very much annoying. Is there any good way clean the key contact or mechanism without opening the calculator.

Thanks for your suggestions.

Alain

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HP-41 I/O-Block Flex-PCB replacement guide.

*Message #1 Posted by **Diego Diaz** on 11 Mar 2006, 11:34 a.m.*

Hi all,

This is to let you know that the guide for the I/O Block PCB replacement is available at:

http://www.clonix41.org/Maintenance/IO_Block/FlexPCB_Replacement.zip

Please do not hesitate in mailing me with suggestion, additions or corrections that you may consider relevant.

Thanks for your interest and best wishes.

Diego.

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Halfnut character elements vs. Coconut's

*Message #1 Posted by **Andreas Terzis** on 10 Mar 2006, 11:45 p.m.*

Hi all, I just acquired an HP-41CX (which I might have to return to the seller due to misrepresentation in the ad - business as usual on eBay anyways). It is a Halfnut version and the screen contrast is not as high as on earlier models - the characters are more greyish. Another thing I've noticed is that the character elements are further apart from each other, compared to those on a Coconut machine. Is that the case only on a Halfnut? How are the elements on a Honeynut? What about a Silverbird? I'd dare say that I prefer the display on a Coconut. Are there any other advantages on a Halfnut compared to a Honeynut, apart from the simplified electronics (and probably the lower weight)? Thanks a lot in advance, Andreas

Re: Halfnut character elements vs. Coconut's

*Message #2 Posted by **Doug Wilder** on 11 Mar 2006, 1:07 a.m.,*
in response to message #1 by Andreas Terzis

Have you tried a greater viewing angle? I notice that my CX is OK when setting on a table but dimmer when viewed at 90 degrees.

Best Regards

HP-41 display units

*Message #3 Posted by **Karl Schneider** on 11 Mar 2006, 1:50 a.m.,*
in response to message #1 by Andreas Terzis

Andreas --

Yes indeed, the displays on the older "Fullnut" HP-41's from 1979-1985 are more legible than the later "Halfnut" units from 1985-1990. In fact, the characters are most "solid" on the earliest US-made HP-41C and HP-41CV models from 1979-80(?), presumably until manufacture shifted to Singapore.

The Singapore-made Fullnuts have characters that are less bold, but taller, and are still pretty good.

The Halfnut display characters, though, are terrible, with wide spaces between segments. I don't know why the changes were made, other than perhaps cost-cutting.

I have one of each (1980 41C; 1984 41CX; 1986 41CV).

If the characters are faint with poor contrast at normal viewing angles, there may be an internal problem. I once saw a Halfnut 41CX with those kind of symptoms. Halfnut display contrast is settable using certain non-HP ROM's, to my understanding.

-- KS

Re: HP-41 display units

*Message #4 Posted by **Andreas Terzis** on 11 Mar 2006, 3:54 a.m.,*
in response to message #3 by Karl Schneider

Karl thanks. Are there any other advantages on a Halfnut compared to a Honeynut, apart from the simplified electronics (and probably the lower weight)? Would I be OK (displaywise, speedwise or otherwise) if I found a Fullnut CX (that would have a serial starting with a serial # earlier than 2510S or 2510A or even 2501)?

Re: HP-41 display units

*Message #5 Posted by **Paul** on 11 Mar 2006, 4:43 a.m.,*
in response to message #4 by Andreas Terzis

Àngel Martin wrote a programm to change the display contrast of HP-41 Halfnuts. Can anybody tell me, whitch of his images I have to download and what the exact command is?

Paul

Re: HP-41 display units

*Message #6 Posted by **Etienne Victoria** on 11 Mar 2006, 6:02 a.m.,*
in response to message #5 by Paul

Peace on you Brother Paul,

Thou shallt :

1) Download the Sandbox Rom burn it to the appropriate Rambox (Clonix, NovRAM, MLDL2000) or 41' Emulator.

2) Download the Documentation

3) Learn and use the CTRST & CRST? commands.

4) Pray the Angel with me to have one day a Fullnut version of the Sandbox ;-)

Amen

Etienne

Re: HP-41 display units

*Message #7 Posted by **Andreas Terzis** on 13 Mar 2006, 3:24 a.m.,*
in response to message #6 by Etienne Victoria

Great info. Thanks V. I have a lot of reading to do.

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My 32s brooke

*Message #1 Posted by **Jeff Wojtkiewicz** on 10 Mar 2006, 7:29 p.m.*

hi all,

first for background..I'm not a HP "nut" but I've used my HP-32s for 6 years when I first bought it new at my campus bookstore. I actually didn't realize they were discontinued until just last year. Well I figured I was safe.....

Well tragedy has struck. I kept the 32s in my laptop bag for years with no problem. A couple of weeks ago it wouldn't turn on so I figured the batteries were dead. Well today I got new batteries and it won't turn on/do anything. (I kind of suspected something was wrong b/c I never saw the low batt sign) I have no idea what caused this.

Does anyone have any ideas of what I can do? I have it sitting with the batteries out hoping it resets. I've tried pressing C+Ln.

I can't justify buying an ebay for what they are going for since I have to use it every day.

hope someone can help... Thanks Jeff

Re: My 32s brooke

*Message #2 Posted by **Karl Schneider** on 11 Mar 2006, 1:39 a.m.,*
in response to message #1 by Jeff Wojtkiewicz

Subject: "My 32s brooke"

[bad pun]You should have protected it with "shields"[/bad pun]

(Note to international readers: this refers to the American actress Brooke Shields...)

Seriously, if the reset procedures don't work, one regular participant here runs a service at www.fixthatcalc.com. He even fixes Pioneer-series models such as the HP-32S, which weren't really designed to be disassembled and repaired.

-- KS

Re: My 32s brooke

*Message #3 Posted by **Chiu Yiu Wai** on 11 Mar 2006, 6:25 a.m.,*
in response to message #1 by Jeff Wojtkiewicz

Do you try to short the battery spring with a coin?It is one of method to reset caculator the other is press "C" , "sigma+" , "sqrt x" three button at the same time

Re: My 32s brooke

*Message #4 Posted by **Jeff** on 11 Mar 2006, 11:14 a.m.,*
in response to message #1 by Jeff Wojtkiewicz

I guess I was under so much stress I didn't catch the "Brooke"

Shorting the leads fixed it. I had left the batteries out for hours but I guess something was still charged up inside.

Crisis averted.

Thanks Jeff

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HP67 AC adapter logic

*Message #1 Posted by **Hal** on 10 Mar 2006, 6:33 p.m.*

Hi everybody. Can someone enlighten me as to how a 67's AC adapter interfaces with the calculator? Looking down into the plug of the AC adapter (calculator end) with the cord pointing away from me I get 5.2 VDC from the left to center pin, and 16.3 VDC from the right to center pin. The outside pins measure 11VDC right to left. I get no AC readings anywhere. Does the smaller voltage run the machine and one of the bigger voltages charge the battery? Thanks in advance, Hal

Re: HP67 AC adapter logic

*Message #2 Posted by **Bernhard** on 11 Mar 2006, 1:11 p.m.,*
in response to message #1 by Hal

The "bigger" voltage comes from a current source to charge the battery. You may want to measure its current to ground (not the voltage). Expect something around 50 mA, but in any case, less than 100 mA. "Ground" is the middle pin. The smaller voltage runs the calculator. Beware that many of those old chargers have a bad electrolytic capacitor which may cause excess ripple and calculator malfunction. You need an oscilloscope to check that. Ripple under full load should not exceed a few 100 millivolts. Full load can be simulated with a 25 Ohms / 0.5 Watts resistor. Voltage at 144 mA load current should be around 3.6 volts. Beware that the higher voltage from the current source might damage the calculator if no battery is inserted (or the contacts are bad). There was/is a dispute among HP users on the risk level. My own experiments indicate that somehow the HP67 Card Reader IC (which is supposed to get damaged) clamps the voltage to a harmless level but gets quite warm, so prolonged plug-in without battery might cause damage. The HP65 card reader IC didn't have that clamp and the manual explicitely warns about operating it on the charger without battery inserted. If, however, you switch the calculator ON and then insert the charger into the wall outlet, the current source is too weak to develop dangerous voltages (if it is intact). This may be a safe way to operate HP67 without battery from a charger - but never switch it off, just pull the charger from the wall outlet. If you switch it off with the charger still in the outlet, the potentially dangerous higher voltage will appear on the card reader IC.

Re: HP67 AC adapter logic

*Message #3 Posted by **Hal** on 11 Mar 2006, 5:18 p.m.,*
in response to message #2 by Bernhard

Thanks Bernhard for the info. I got to looking at it a bit more last night and noticed the little leaf contact in the receptacle that opens up when the adapter is plugged in and disconnects the battery circuit from the calculator. Are you saying that there is another path from the battery circuit to the card reader IC other than through the leaf contact in the receptacle? Thanks, Hal

Re: HP67 AC adapter logic

*Message #4 Posted by **Randy** on 11 Mar 2006, 7:26 p.m.,*
in response to message #3 by Hal

Here are two more for your reading pleasure:

Classic Charger Schematic

Why 65/67 card readers can be damaged without a battery

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HP Advantage Module...

*Message #1 Posted by **Andreas Terzis** on 10 Mar 2006, 4:29 p.m.*

Hi there, Does the HP Advantage module include a Math module in it? Thanks, Andreas

Re: HP Advantage Module...

*Message #2 Posted by **Namir** on 10 Mar 2006, 5:34 p.m.,*
in response to message #1 by Andreas Terzis

The Advantage module does not include the MATH module per se. It does offer other mathematical operations like SOLVE (coded using fast microcode), INTEGRATE, Matrix operations, and oher calculations. The Advantage module brought to the HP-41C/CV/CX features that appeared in the HP-15C which many felt were very importaant.

Namir

Re: HP Advantage Module...

*Message #3 Posted by **Andreas Terzis** on 10 Mar 2006, 8:34 p.m.,*
in response to message #2 by Namir

Thanks Namir, I thought so. But I bought an HP-41CX on eBay where the seller claimed that it would come with a Math pac module and an Advantage module and it didn't. When I challenged that, he said that 'The math module is already in the calculator. It's the HP-41 Advantage'. There are so many crooks out there.

Re: HP Advantage Module...

*Message #4 Posted by **Gerson W. Barbosa** on 10 Mar 2006, 8:19 p.m.,*
in response to message #1 by Andreas Terzis

Hello Andreas,

If you want to hear about the contents of the Advantage Module, in the voice of Richard Nelson (PPC), take a look at this old posting:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=84857#84857

If you have trouble understanting the recording, like I did, here is a transcription (some misunderstood words, many missing, sorry):

```
--------------------------------------------------------------------------------

 12, 12, 12, 12! Richard Nelson --------------  number 12 ---- 1985

 New Product News:
```

Since PPC has preannounced Hewlett-Packard new HP-41 Advantage ROM, here are the details:

All that users (?) are asked: not to contact HP regarding this product. HP cannot answer questions until formal announcement.

The HP-41 Advantage ROM is a 12K collection of the most popular programs from the MATH and STAT ROMs, the HP-IL development ROM, the HP-15C, the HP-12C and CCD ROM. There are under 17 functions in X-ROM 22 and 24 with four headers:

The first is /ADVCONV for Advantage Conversions with 12 functions like BIN, OCT and HEX in NVIEW. Plus only ---- logic like NOT, AND, OR, etc.

The second header is /ADVMTRX for Advantage Matrix with 52 routines, all the three are M-CODE routines based on the CCD ROM.

The third header is /ADVMATH with 47 routines including Solve and Integrate from the HP-15C.

The fourth header is /ADVTVM for Advantage Time Value of Money with 6 user-called routines. These are TVM and PV, PMT, FV and . The bank-switched _____ of the ROM contains a 59 M-CODE routine.

This ROM will be offered free to those who buy --- 41C, CV or CX or HP dealers. The Advantage ROM will otherwise sell for 49 dollars.

In addition to provide a powerful mix of Finance, Math and Stat programs in a single core, the Advantage ROM offers exciting examples of programming for both User-code and M-code programmers. the Finance routines in user code and Solve and Integrate in M-code. The Advantage ROM 25 menus that greatly help the user to function group.

Additional detail in bulletin. Remember that this is _____ information. So please don't bother HP until formal announcement.

CHHU report. CHHU is . The primary project is the largest mailing undertaken in eleven years. All local member who can help should call me. Once this is completed the _____ will be printed. The next three weeks are critical. Until the next bulletin. I need your help.

Gerson.

Re: HP Advantage Module...

*Message #5 Posted by **Andreas Terzis** on 10 Mar 2006, 9:30 p.m.,*
in response to message #4 by Gerson W. Barbosa

Thanks Gerson. Very enlightening.

Re: HP Advantage Module...

*Message #6 Posted by **Wayne Brown** on 13 Mar 2006, 2:47 p.m.,*

in response to message #4 by Gerson W. Barbosa

I've made a few additions and corrections to Gerson's transcript. Here it is in its entirety: ----------
---

12, 12, 12, 12! Richard Nelson with your CHUU Bulletin number 12, June 19th, 1985.

New Product News:

Since PPC has preannounced Hewlett-Packard's new HP-41 Advantage ROM, here are the details:

All listeners are asked: not to contact HP regarding this product. HP cannot answer questions until formal announcement.

The HP-41 Advantage ROM is a 12K collection of the most popular programs from the MATH and STAT ROMs, the HP-IL development ROM, the HP-15C, the HP-12C and the CCD ROM. There are 117 functions in X-ROMs 22 and 24 with four headers:

The first is -ADV CONV for Advantage Conversions with 12 functions like BIN, OCT and HEX in NVIEW. Plus Booloean logic like NOT, AND, OR, etc.

The second header is -ADV MTRX for Advantage Matrix with 52 routines; all the three are M-CODE routines based on the CCD ROM.

The third header is -ADV MATH with 47 routines including: Solve and Integrate from the HP-15C.

The fourth header is -ADV TVM for Advantage Time Value of Money with 6 user-called routines. These are TVM, N, PV, PMT, FV and *I. The bank-switched 4K part of the ROM contains the 59 M-CODE routines.

This ROM will be offered free to those who buy an HP-41CV or CX from August 15th to November 15th and send in a promotional coupon obtained from HP or your HP dealer. The Advantage ROM will otherwise sell for 49 dollars.

In addition to providing a powerful mix of Finance, Math and Stat programs in a single port, the Advantage ROM offers exciting examples of programming for both User-code and M-code programmers. Of special interest is the Finance routines in user code and Solve and Integrate in M-code. The Advantage ROM utilizes approximately 25 menus that greatly help the user through eight function groups.

Additional detail in future bulletins. Remember that this is pre-release information. So please don't bother HP until formal announcement.

CHHU report: CHHU is on financial hold. The primary project is the largest mailing undertaken in eleven years. All local members who can help should call me. Once this is complete the March "Chronicle" will be printed. The next three weeks are critical. Until the next bulletin: I need your help. ----------
---

Re: HP Advantage Module...

*Message #7 Posted by **Valentin Albillo** on 10 Mar 2006, 8:39 p.m.,*
in response to message #1 by Andreas Terzis

Hi, Andreas:

You may also want to download and have a look at my 9-page article Long Live the Advantage ROM! in PDF format, which reviews its most important features and includes a sample program utilizing to the fullest some

of them.

It will probably give you a fair idea of what it is, what it can do, and its programming style.

Best regards from V.

Re: HP Advantage Module...

*Message #8 Posted by **Andreas Terzis** on 10 Mar 2006, 9:53 p.m.,*
in response to message #7 by Valentin Albillo

Valentin, Thank you so much. Very nice work on the PDF documentation! I might have to return the machine with the Advantage module though. If I get Clonix would I be able to get the ROM downloaded to it? Also, I have another quick question: when I do an EMDIR on the CX, I only get 124 registers. Is that normal? Shouldn't I get 600? Thanks again, Andreas

Re: HP Advantage Module...

*Message #9 Posted by **Valentin Albillo** on 10 Mar 2006, 11:21 p.m.,*
in response to message #8 by Andreas Terzis

Hi again, Andreas:

Andreas posted:

"I might have to return the machine with the Advantage module though."

A real pity.

"If I get Clonix would I be able to get the ROM downloaded to it?"

I'm no expert in Clonix, there are much more knowledgeable people in this forum. I would think yes, except for the fact that Advantage is a 12 Kb ROM which does use bank switching, and I simply don't know if Clonix allows for this or not, though I'd guess yes. Let's the real experts talk.

"Also, I have another quick question: when I do an EMDIR on the CX, I only get 124 registers. Is that normal? Shouldn't I get 600? Thanks again, Andreas"

It's perfectly normal. To get 600 EMS registers you would need to plug in two EMS modules, each one of them adding 238 EMS registers to the 124 already built-in, for a total of 600.

Best regards from V.

Re: HP Advantage Module...

*Message #10 Posted by **Andreas Terzis** on 10 Mar 2006, 11:32 p.m.,*
in response to message #9 by Valentin Albillo

Valentin, Thanks again. Is it true that those are Extended Memory registers? In other words, the HP-41CX still has four times the memory a regular HP-41C has, right? Regards, Andreas

Re: HP Advantage Module...

*Message #11 Posted by **Valentin Albillo** on 10 Mar 2006, 11:45 p.m.,*
in response to message #10 by Andreas Terzis

Hi, Andreas:

Andreas posted:

"Is it true that those are Extended Memory registers?"

Yes.

"In other words, the HP-41CX still has four times the memory a regular HP-41C has"

Five times, not four: 320- versus 64-, where the "-" means part of the 320th register (64th register) isn't available to the user.

Best regards from V.

Re: HP Advantage Module...

*Message #12 Posted by **Karl Schneider** on 11 Mar 2006, 12:00 a.m.,*
in response to message #8 by Andreas Terzis

Andreas --

Getting an HP-41CX with Advantage Module is pretty good. You might consider keeping the unit, even with the absence of the Math Pac. Math Pac's were widely sold, being the most basic upgrade, and can routinely be obtained on eBay for < $20, complete. Even better is a combined Math/Stat Pac.

The Advantage Pac has much of the the functionality from the Math Pac, but does lack a few items, including triangle solutions, Fourier analyses, and hyperbolics.

The Math Pac contains 4 kB of code, all of it as RPN routines. The Advantage Pac contains 12 kB of code, much of it as sophisticated, faster-running microprocessor code.

On X-memory: 124 registers of X-memory is built into the CX. Two 238-register X-Memory chips are required in order to achieve the maximum 600 registers.

You might find this archived link helpful:

A question from 2003 about PPC and Advantage ROM's

-- KS

Re: HP Advantage Module...

*Message #13 Posted by **Andreas Terzis** on 11 Mar 2006, 2:04 a.m.,*
in response to message #12 by Karl Schneider

Oh, wow. This is awsome. I loved it. Thanks Karl. Well, maybe I should learn how to use the 'Search the Museum' link. (!@%&*?) (Sorry Vassili... - I'm jokingly referring to the post that set JE off...)

Re: HP Advantage Module...

*Message #14 Posted by **Gerson W. Barbosa** on 11 Mar 2006, 11:12 a.m.,*
in response to message #8 by Andreas Terzis

Quote:

> I might have to return the machine with the Advantage module though.

If you didn't like that 41CX, you should consider keeping the Advantage Module if you get it for a reasonable price. Although you can have the Advantage for free using Clonix, I think the power consumption would be somewhat high compared with the original ROM module. On the other hand, people who use Clonix and other peripherals a lot generally rely on rechargeable Ni-Cd cells, so power consumption would not be a problem.

Regards,

Gerson.

Re: HP Advantage Module...

*Message #15 Posted by **Andreas Terzis** on 11 Mar 2006, 4:11 p.m.,*
in response to message #14 by Gerson W. Barbosa

Gerson, Thanks for the reply. Why do people still use Ni-Cds? Can we not use Ni-MH or Lithium cells? (Is there such a thing?) Regards, Andreas

Re: HP Advantage Module...

*Message #16 Posted by **Gerson W. Barbosa** on 11 Mar 2006, 6:59 p.m.,*
in response to message #15 by Andreas Terzis

Hello Andreas,

You may use Ni-MH cells, but they have to be recharged outside the calculator, on a charger specifically designed for them. By what I know, lower capacity Ni-Cd cells are still used because they are compatible with old rechargers. The only lithium cells I know are those button-type 3V batteries. There's a lot a past threads about the subject, the easiest way to find them is doing a google search for, say, *site:www.hpmuseum.org Ni-Cd batteries*.

Regards,

Gerson

Re: HP Advantage Module...

*Message #17 Posted by **Andreas Terzis** on 11 Mar 2006, 10:16 p.m.,*
in response to message #16 by Gerson W. Barbosa

Gerson, Thanks again for all your time and valuable info. Very much appreciated. Do you know how all this info shows up at Google almost immediately by the way? I alos assume it was one of Dave's decision to use whatever method to have all that info posted. Regards, Andreas

Re: HP Advantage Module...

*Message #18 Posted by **Gerson W. Barbosa** on 11 Mar 2006, 11:11 p.m.,*
in response to message #17 by Andreas Terzis

Google just keeps the whole Museum site (and zillions of others) indexed on a regular basis. I don't know how exactly they do this and I think they wouldn't tell us, or would

they? :-)

http://www.google.com/technology/pigeonrank.html

Now, seriously, there's also a search tool in the Museum:

Search/Personalize

But I confess I don't remember how to use it.

Regards,

Gerson.

Avian Influenza...

*Message #19 Posted by **Andreas Terzis** on 12 Mar 2006, 6:19 a.m.,*
in response to message #18 by Gerson W. Barbosa

Being from Europe originally, and still keeping abreast all the news developments, I have been listening to tons of news stories lately about bird flu in different countries there. If the avian flu crosses the Atlantic (with the rate it exists in Europe), I worry that Google's results won't be as accurate any more. Maybe the scattered reports of avian flu lately in the U.S. might be the cause of their stock decline lately!

(I really enjoyed the article...)

Re: HP Advantage Module...

*Message #20 Posted by **Andreas Terzis** on 12 Mar 2006, 6:23 a.m.,*
in response to message #14 by Gerson W. Barbosa

The battery contacts of the CX are corroded. If I get to keep the machine, is there any way to tell if the battery acid/base might have spread inside? Does anyone know if there is a fairly easy way to open the machine without breaking anything? If the machine works now but the liquid has spread inside, are there significant chances for the machine to die soon?

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"Sky Price" HP41cx on ebay

*Message #1 Posted by **Chiu Yiu Wai** on 10 Mar 2006, 7:57 a.m.*

I don't know why the price of HP41cx is US$800

http://cgi.ebay.com/Hewlett-Packard-HP-41CX-Advanced-Calculator_W0QQitemZ5876005432QQcategoryZ11713QQssPageNameZWDVWQQrdZ1QQcmdZViewItem

So crazy !!

Re: "Sky Price" HP41cx on ebay

*Message #2 Posted by **Raymond Del Tondo** on 10 Mar 2006, 10:29 a.m.,*
in response to message #1 by Chiu Yiu Wai

Seems it was a fake bid...

Re: "Sky Price" HP41cx on ebay

*Message #3 Posted by **Mike T.** on 10 Mar 2006, 3:26 p.m.,*
in response to message #2 by Raymond Del Tondo

Somebody is going to do well out of this one - only a few days ago this unit (or one very very like it) had a 'buy it now' price of _only_ $300. I was tempted but common sense prevailed - I can wait, for now.

Mike T.

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Wear an HP-01 watch, not a Casio!

*Message #1 Posted by **Eric Smith** on 10 Mar 2006, 1:40 a.m.*

http://tinyurl.com/es43n

Re: Wear an HP-01 watch, not a Casio!

*Message #2 Posted by **Les Bell** on 10 Mar 2006, 4:22 a.m.,*
in response to message #1 by Eric Smith

Or stick with the Rolex.

Best,

--- Les Bell
[http://www.lesbell.com.au]

Re: Wear an HP-01 watch, not a Casio!

*Message #3 Posted by **Frank Boehm** on 10 Mar 2006, 11:37 a.m.,*
in response to message #1 by Eric Smith

One would think this is a genuine April's fool joke. I wonder if America completely went insane (though "terrorism" is ever so often used to push repressive laws here in Germany as well...).

Re: Wear an HP-01 watch, not a Casio!

*Message #4 Posted by **Eric Smith** on 10 Mar 2006, 12:48 p.m.,*
in response to message #3 by Frank Boehm

> Quote:
>
> I wonder if America completely went insane

Many of us that live here in the US wonder the same thing. The politicians now seem to be able to do anything they want, and if asked to justify it, all they have to say is "don't you want us to defend you from terrorists?"

Re: Wear an HP-01 watch, not a Casio!

*Message #5 Posted by **e.young** on 10 Mar 2006, 1:47 p.m.,*
in response to message #3 by Frank Boehm

No Mr. Boehm, we haven't gone completely insane. What we have done is go after the organizations that facilitated the attack on 9/11. These people were not detained simply because they wear a Casio watch. Most were captured in batle in Afghanistan. They were fighting on the side of the Taliban and Al Queda,

the people who gave us the attack on 9/11, and are also the people who insist that women wear the burka (spelling?), and also don't believe that women should be educated.

This forum is not the place for political disucssions, discussions about global terrorism, of other such weighty issues. It is for the discussion about HP calculators. However, your comment has made me outraged, and I have to respond. I have driven past the hole in the ground in Manhattan wherer the twin towers once stood. I also happened to see the twin towers in the distance the first time the Islamic terrorists tried to destroy them. I remember seeing the pictures of people jumping out of the twin towers, choosing to die by falling to the ground rather than be burned to death in a jet fuel fire. Have you ever seen these pictures? Have you ever seen the pictures of the people desperatley clinging to the outside of the building? I have, they are still vivid in my mind. We also know that these people are constantly plotting to attack us again, and to cause the maximum number of civilian casualties. Sadly, sooner or later they will probably have another successful attack against us, what will you say then? I'm sure the intended target will be something like a sports stadium, hospital, school, or something similar.

No Mr. Boehm, we are not the insane ones. The ones who are insane are the terrorists. Read the article again. You will see that these people are not detained merely because the happen to have a Casio watch. The ownership of a Casio watch is not the sole piece of evidence, but is stated as being "among" the evidence. The article also goes on to detail instances where these watches have been used as timers in terrorist bombs.

This is the last I will say on this matter to you. I have no desire to engage in a flame war, or to debate this matter with you; this forum is not the place to engage in those activities. You touched on a very sensitive subject. I hope that in the future you will restrict your comments to HP calculators, and not to criticizing my country.

Re: Wear an HP-01 watch, not a Casio!

*Message #6 Posted by **Eric Smith** on 10 Mar 2006, 3:06 p.m.,*
in response to message #5 by e.young

Mr. Young is right; there is no need for foreigners to criticize the US. There are plenty of US citizens, myself included, that are outraged at the ridiculous things the US is doing that are claimed to support the undeclared "war on terror", but are in fact destroying whatever goodwill the US once had with the other nations of the world.

Regardless of the fact that those people were not detained specifically because they happened to be wearing cheap Casio watches, it is still incredibly stupid that the posession of such a watch is considered evidence. That would never fly in the criminal justice system, and it is pure insanity that the rules of criminal justice are not applied to the detainees.

If they had analyzed the watches, AND determined that they had somehow been modified for use as part of a weapon, that would be a reasonable thing to consider evidence. But the mere posession of an unmodified watch is not evidence of terrorist intent any more than my own posession of a boltcutter is evidence that I steal bicycles.

Claiming that the detainees do not have rights under the Geneva Convention does not benefit ANYONE. Torturing detainees does not benefit ANYONE. If we want to fight terrorism, we should do it within the established legal framework; there is no evidence that extra-legal means are actually making us safer, and in fact they may be making us less safe.

I didn't start this thread as a political statement, but I'll also not remain silent when other US citizens who apparently have bought the adminstration's bullshit try to defend it.

Following Mr. Young's lead, I will not post any further on this topic in this forum; anyone who wishes

to discuss it with me is free to do so via email.

Eric Smith

Re: Wear an HP-01 watch, not a Casio!

*Message #7 Posted by **Bill Wiese** on 10 Mar 2006, 6:16 p.m.,*
in response to message #6 by Eric Smith

IRA & others have used commonly-available West Bend countdown timers for years for bombmaking.

I will add that if I were an investigator/mil int type and saw Abu Akbar wearing a Casio watch I wouldn't think much of it, esp if worn/scratched/dirty band. Now, if Akbar had a box of 5 in his luggage, then I'd think quite a bit differently.

Actually, plastic Casio watch wearers should be arrested simply for poor taste :)

Bill Wiese
San Jose, CA USA

Re: Wear an HP-01 watch, not a Casio!

*Message #8 Posted by **Dave Shaffer** on 11 Mar 2006, 4:46 p.m.,*
in response to message #7 by Bill Wiese

re: "Actually, plastic Casio watch wearers should be arrested simply for poor taste :)"

Well, they may not look so cool, but they have some attributes of HP calculators: (reasonably) well designed, functional, reliable, inexpensive (OK, I threw that one in), batteries last a long time, ...

I have many, and they last virtually forever (unless you break off the little tabs that hold the watch band). Some of mine are more than 15 years old. I don't know of any other $15 watches you can SCUBA dive to 120 feet with.

Also, perhaps like HP calculators, they don't know when to quit "improving" the product. The newer ones have overly fancy displays and look quite garish compared to the classics.

"Fun fact" of the day...

*Message #9 Posted by **Karl Schneider** on 11 Mar 2006, 5:39 p.m.,*
in response to message #8 by Dave Shaffer

Dave Shaffer stated,

> Quote:
>
> I have many, and they last virtually forever (unless you break off the little tabs that hold the watch band). Some of mine are more than 15 years old. I don't know of any other $15 watches you can SCUBA dive to 120 feet with.

Some of you might wonder why Dave capitalized "SCUBA". After all, "scuba diving" is in our vernacular.

Dave wasn't shouting; it is an acronym meaning "Self-Contained Underwater Breathing Apparatus", if I remember correctly from fourth grade, when the gear was shown and demonstrated to us.

And now you know...

-- KS

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Classic model silver trim repair lesson

*Message #1 Posted by **Gordon** on 9 Mar 2006, 7:11 p.m.*

I have been repairing the worn-down silver trim on a number of the Classic models in my collection, here is what I learned.

A) Where to find the paint for the repair My first visit was a model shop, thinking they would have the best paint selection. They have a good selection with expert advice, but I found them to be no match with craft shops like Hobby Lobby. I heard art supply stores are also a good source.

B) Paint applicator I tried the finest brush, Q-tip squeezed into cone-shape with a sharp point (a model trick), pointed paint pen, and chiseled paint pen. The chiseled paint pen is by far the best method, giving consistent smooth lines.

C) Testors paint I first tried Testors silver enammel paint. I found the silver to be a little dull, and it rubs off even after a day of drying. You need to clear coat it to prevent silver fingers.

D) The best solution I found (so far) I came across a paint pen called "Silver Leafing Pen" by Krylon. It has a chisel point, which makes application extremely easy and even. The paint has a shinier apperance, a better match to the chrome than Testors. Best of all, after a day of drying, it stays on much better. No silver finger, making the clear coat optional. For $5, it is by far the best solution I found so far.

E) Other options I have not tested I also saw chrome paint in a spray bottle, it is supposed to give an even closer match to the original chrome. But you would have to spray it into a small cup, then apply it with an applicator of your choice. Besides, I do not know if it will react with the hard plastic, so I never explored that option.

Hope you find the information useful in restoring your Classic HPs.

Re: Classic model silver trim repair lesson - and a question

*Message #2 Posted by **Jim Creybohm** on 10 Mar 2006, 1:41 p.m.,*
in response to message #1 by Gordon

Excellent information Gordon. I will be trying this on my 67 at some point in the future.

BTW, I have read here in the past, but don't recall any resolution - does anyone know how to restore the coloured letters on my beloved HP's? Is there an easy (read - even a non-handyman type person can do it) way to restore them?

Re: Classic model silver trim repair lesson

*Message #3 Posted by **gifron** on 10 Mar 2006, 3:07 p.m.,*
in response to message #1 by Gordon

Has anyone tried the silver leaf found a Hobby Lobby, etc..? You prepaint an adhesive to the surface to be finished, and then press the leaf onto the glue. I think this is the process, but I haven't tried it yet. It's the same stuff they use for embossing a name on the cover of a Bible, and that stays forever (so to speak).

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SOS - eBay claim. HP appraiser / independent authenticator needed.

*Message #1 Posted by **Andreas Terzis** on 9 Mar 2006, 6:57 p.m.*

Hi fellows, I have just filed a claim against a wonderful seller on eBay that took me for a ride selling an HP-97 in really bad condition, by misrepresenting it in their description and making sound better that it really was. I am looking for an independent authenticator to appraise the machine so that I go on with the claim. Does anyone have any ideas as to who I could use or where, so that I at least collect something back? I live in Los Angeles. Once I am done with all the details and the administrative rif-raf (!?@*), I will post details for saving a bidder or too from bumping onto the same smartie-pants. Thanks, Andreas

Edited: 9 Mar 2006, 7:08 p.m.

Re: SOS - eBay claim. HP appraiser / independent authenticator needed.

*Message #2 Posted by **Paul Marin** on 9 Mar 2006, 7:54 p.m.,*
in response to message #1 by Andreas Terzis

Boy, am I glad I pulled out of ebay when I did. If I can't see it second hand, I dont buy second hand. I fully understand how you feel. Hope you get what you can back Paul

Re: SOS - eBay claim. HP appraiser / independent authenticator needed.

*Message #3 Posted by **Andreas Terzis** on 9 Mar 2006, 10:10 p.m.,*
in response to message #2 by Paul Marin

Thanks buddy; I appreciate it. I think I'll take your advise. I'll explain what happened after I'm done with all the red tape.

Re: SOS - eBay claim. HP appraiser / independent authenticator needed.

*Message #4 Posted by **Frank Boehm** on 10 Mar 2006, 2:28 a.m.,*
in response to message #1 by Andreas Terzis

Since you will have to send some documents to the ebay buyer protection dept. anyway, I'd take a couple of closeup-pictures of the parts in bad condition. Together with the printout of the auction text, this should be sufficient. If you send the close-ups to the seller as well, he might offer a refund too, since ebay will a) forward the claim to him and b) probably close his account. (this might only help with high-rated sellers..) An authenticator costs money - at least in Germany it would probably cost more than you paid for the machine - and should be the very last option. (useful only when filing a lawsuit).

Re: SOS - eBay claim. HP appraiser / independent authenticator needed.

*Message #5 Posted by **Andreas Terzis** on 10 Mar 2006, 4:26 a.m.,*
in response to message #4 by Frank Boehm

Frank, That's a good idea about the pictures. Unfortunately they require that I take it to an appraiser as a mandatory requirement. This makes it difficult since those machines are not being produced anymore. We'll

see... Regards, Andreas

Re: SOS - eBay claim. HP appraiser / independent authenticator needed.

*Message #6 Posted by **Gonzalo Fernandez (Spain)** on 10 Mar 2006, 3:22 p.m.,*
in response to message #5 by Andreas Terzis

Ebay can be risky, this is why is not advisable to spend high sums of money in calculators, for example, is wise not to spend more than $300 in a new 41CX. All vintage electronics can fail, and calculators advertised in "good condition" are subjected to different things of view between the sellers and the buyers.

Vntage Electronics CAN Fail

*Message #7 Posted by **Namir** on 10 Mar 2006, 5:39 p.m.,*
in response to message #6 by Gonzalo Fernandez (Spain)

Very interesting point that you mentioned about vintage electronics that fail. I have experienced that! For example, selling top notch vintage HP calculators only to arrive with problems. Another example is selling a working HP-41C card reader that develops a problem when it gets to the buyer!!

Namir

Re: Vintage Electronics CAN Fail

*Message #8 Posted by **Karl Schneider** on 11 Mar 2006, 3:12 a.m.,*
in response to message #7 by Namir

> Quote:
>
> Very interesting point that you mentioned about vintage electronics that fail. I have experienced that! For example, selling top notch vintage HP calculators only to arrive with problems.

I've had three HP calculators I bought on eBay that exhibited some malfunction when I got them via USPS Priority Mail. Two were Fullnut HP-41's, and one was an early-1990's HP-32SII.

The 41's worked sporadically, but sometimes displayed garbage and shut themselves off. These were restored to perfect working order by cleaning and soldering from www.fixthatcalc.com.

The 32SII had a dead column of pixels in one display character. The seller bought it back for full refund, then fixed it and re-listed on eBay.

I wonder if the flight in the unpressurized, unheated cargo hold of a commercial jetliner might have caused old, weakened connections to fail. After repair, the 41's returned across the continent via Priority Mail without a flaw.

-- KS

Edited: 11 Mar 2006, 3:13 a.m.

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SOS - eBay claim. HP appraiser / independent authenticator needed.

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Question for all HP-35 red dot owners out there

*Message #1 Posted by **Frank Boehm** on 9 Mar 2006, 4:14 p.m.*

Hello, could you please check your red dot and compare it to the picture I uploaded to flickr?

http://www.flickr.com/photo_zoom.gne?id=110209860&size=l

The print is rather "creme white" and not molten into the surface like on all my other HP-35s. What's your red dot like?

(I received a HP-70 prototype together with this top shell part, so I assume it might be a prototype part as well. Just want to know ;))

Re: Question for all HP-35 red dot owners out there

*Message #2 Posted by **Michael** on 15 Mar 2006, 5:11 p.m.,*
in response to message #1 by Frank Boehm

Hi, I include an image of one HP 35 Red Dot. HP 35 is in mint state, hope this helps.
http://members.chello.cz/eckstein/hp35rd2.jpg

Re: Question for all HP-35 red dot owners out there

*Message #3 Posted by **Museum** on 15 Mar 2006, 6:12 p.m.,*
in response to message #1 by Frank Boehm

Finally I had the time to have a look at all my RedDots...

I can attest your discovery:

There is a type with painted legends that is really white shining. A second type is more cremy / ivory-colored. The colour of these legends are molded into the surface. Take a look at the serial: The clear white version seems to be older (mine is very low - 1143A00XXX and belonged to a ex-amager of HP, as it has a special Label with it´s name instead of "HEWLETT*PACKARD"). Maybe these white shells were only produced to special persons.I remember a personal discussion with Wlodek that there might have been a second production run of RedDots to the 5th anniversary of the HP-35, only for higher managers....

Museum

Re: Question for all HP-35 red dot owners out there

*Message #4 Posted by **Museum** on 15 Mar 2006, 6:18 p.m.,*
in response to message #1 by Frank Boehm

Frank, schick mir bitte deine Mail, dann schick ich dir gerne Bilder....

Re: Question for all HP-35 red dot owners out there

*Message #5 Posted by **Michael** on 16 Mar 2006, 9:04 a.m.,*
in response to message #4 by Museum

Please could you send me those images to my e-mail address, too? Do you have a look to the famous Red Dot switch (without the top keyboard cover). I can't inspect it in my HP 35, since I should damage the instruction label, which is clearly undesirable ;-)

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New hp device

*Message #1 Posted by **Zaff** on 9 Mar 2006, 10:26 a.m.*

Hi, a new patent from HP a new graphical calculator

http://tinyurl.com/zhqxb

PDF description: http://tinyurl.com/k5jaz

Re: New hp device

*Message #2 Posted by **Vassilis Prevelakis** on 9 Mar 2006, 11:15 a.m.,*
in response to message #1 by Zaff

this is **exactly** what I have been looking for all these years. I hope that the keyboard construction is good (this is usually the biggest problem with similar devices) and that the screen is touch sensitive (like Palm PDAs where you do not *have* to use the stylus)

If this one is like the other recent HP calcs where you can load your own OS, then, I'd simply get rid of all the graphical stuff and load an HP-41 emulator instead 1/2 :-)

Enough of dreaming though. Remember that simply applying for a patent does not mean that HP is even *thinking* about releasing such a product. Look at Xpander, it was killed far far further down the road.

Finally I liked very much the claim that it'll have a one page manual! (what no 900 page AUG on CDROM?)

**vp

Re: New hp device

*Message #3 Posted by **Arnaud Amiel** on 9 Mar 2006, 11:25 a.m.,*
in response to message #2 by Vassilis Prevelakis

Note that this is for a very basic calculator, the hp CYRI would be algebraic, have 8kB RAM and there is no mention of on the calc programmability in the manual. Having 128k storage and maybe a port seem to imply that you could load some programs though. It looks like a perfect calc for high school.

Arnaud

Re: New hp device

*Message #4 Posted by **Wayne Brown** on 9 Mar 2006, 11:41 a.m.,*
in response to message #1 by Zaff

Yuk. Not as ugly as some other recent HP offerings, unless they choose one of their typically horrible color schemes. But it still lacks a double-sized **ENTER** key. And a *one-page* instruction manual?! Those two items alone make it a non-starter as far as I'm concerned.

Re: New hp device

*Message #5 Posted by **Matt Kernal (US)** on 9 Mar 2006, 1:08 p.m.,*
in response to message #1 by Zaff

A new device named "CYRI" and the Inventor named "Cyrille" de Brebisson? What are the chances?!?! The stars must be aligned, if I were him I'd be buying lottery tickets. j/k <8^)

Cyrille really is a great guy. I was lucky enough to meet him and JYA a few years ago at the two HandHeld conferences held up here in the pacific northwest. I got a slightly odd look when we shook hands, as my name sounded almost similar to their own "Meta Kernel" that they had incorporated into the new 49G's operating system. I guess that would have been a good time for me to buy lottery tickets!! :-) As it turned out, all the attendees were given new 49G calculators, complete with firmware version 1.05.

Matt

Re: New hp device

*Message #6 Posted by **Tim Wessman** on 9 Mar 2006, 1:50 p.m.,*
in response to message #1 by Zaff

I am not sure how "new" it is considering th patent is over a year old.

TW

Re: New hp device

*Message #7 Posted by **Richard Garner** on 9 Mar 2006, 2:39 p.m.,*
in response to message #6 by Tim Wessman

I know from several friends that have gone through the patent process, that a patent search can take as long as 5 years to make sure that someone else hasn't already patented the same thing. That is why you see the PATENT PENDING statement on some things.

Re: New hp device

*Message #8 Posted by **Howard Owen** on 9 Mar 2006, 4:59 p.m.,*
in response to message #1 by Zaff

So the "invention" here is a minimalist keyboard and manual, implying radical simplicity in design and use. It's not my cup of tea, complexity junkie that I am, but I must say the idea strikes me as a marketplace winner. I believe that HP surrendered control of the scientific calculator market when they made the switch to RPL. The increased complexity of those models, particularly when compared to the easier to use TIs of the day, condemned them to niche status.

I know I'm, um, over-simplifying a, er, complex issue with this analysis. But I still believe something along the lines of this machine could steal significant share from TI in the high-school market, if not at the universities.

TI hasn't done much innovation in their user interface in quite a while. The complacency of a secure market leader can be the best hope of a would-be usurper. It would also be amusing to see a behemoth like today's HP play the role of the agile upstart, or start-up or something like that. 8)

Regard,
Howard

Re: New hp device

*Message #9 Posted by **Jan** on 10 Mar 2006, 9:38 a.m.,*
in response to message #1 by Zaff

If only it had RPN, at least as an option!

. . . or,

*Message #10 Posted by **Paul Brogger** on 10 Mar 2006, 2:06 p.m.,*
in response to message #9 by Jan

. . . if it's flash-upgradeable and they'll provide an SDK (like the TI graphing calcs have).

THAT would harness The Power of The Geeks(tm). (At least, *some* of the power of *some* of them.)

Edited: 10 Mar 2006, 2:06 p.m.

Re: New hp device

*Message #11 Posted by **John Ioannidis** on 22 Mar 2006, 2:07 p.m.,*
in response to message #1 by Zaff

The patent was filed in August 2003. It has not been granted yet, what you see is an application publication.

If they were intending to release the device, they would already have done so.

Personally, I hope my stash of RPN devices will last me for the rest of my life. There is no need to buy a new device, esp. one that does not have a double-width ENTER^ key.

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eBay craze - Not important...

*Message #1 Posted by **Andreas Terzis** on 8 Mar 2006, 10:21 p.m.*

Hi there, Here is another weird bidding pattern on eBay again. I know a lot of you don't have time for postg like this, so you might not read on. In any event, check how high this HP-34C went for. From $79.01 it jumped up to $150 from a bidder with no stars, and then after a war with a bidder with only one star to $405!!! And they are both from Switzerland (second weird coincidence). Any thoughts? Regards, Andreas

Re: eBay craze - Not important...

*Message #2 Posted by **Karl Schneider** on 8 Mar 2006, 10:54 p.m.,*
in response to message #1 by Andreas Terzis

Well, $405 seems a bit high, but there were some extras, and another HP-34C package recently went for $350.

From the description of one you listed:

> Quote:
>
> Included:
>
> --- HP 67 Calculator -- Serial # 2248S30256,
>
> If the winner feels "buyer's remorse", maybe he can claim that he was expecting an HP-67, and ask for the auction to be voided. Except that everything else said "HP-34C", and there are no 67's with that serial number.
>
> However, that serial number indicates a 1982 date of manufacture utilizing the design improvements -- soldered components and better keyboard feel. It should be a reliable 34C.

-- KS

Re: eBay craze - Not important...

*Message #3 Posted by **Andreas Terzis** on 9 Mar 2006, 2:06 a.m.,*
in response to message #2 by Karl Schneider

I brought to the seller's attention that his description was incorrect and he mentioned his auction was for an HP-67 and not an HP-34C as everything else said on the page. Do you happen to know who 'atari-rescue-group' is?

Edited: 9 Mar 2006, 2:10 a.m.

Re: eBay craze - Not important...

*Message #4 Posted by **Dia C. Tran** on 9 Mar 2006, 2:27 p.m.,*

in response to message #3 by Andreas Terzis

I have seen something like this before where 2 bidders (possibly same person) bid it up really high so that nobody is willing to bid any higher. At the last minute the second highest withdraw the bid (in this case can be due to wrong description) and let the highest bidder won with a much lower price.

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HP 15C Keyboard

*Message #1 Posted by **Charles** on 8 Mar 2006, 5:19 p.m.*

I have an HP 15C which passes all the tests but the 9 key sometimes doesn't register or puts 2 nines in the display. I'm reluctant to open it up but would consider it. Does anyone have any suggestions ?

Thanks

Re: HP 15C Keyboard

*Message #2 Posted by **Randy** on 8 Mar 2006, 8:12 p.m.,*
in response to message #1 by Charles

If the key clicks okay and has the normal travel, it should be fine.

This is an adaptation from many posts from MoHPC regular David Smith:

"Your most likely problem is a dirty switch contact for the 9 key. These can be cleaned fairly easily if you open up the machine (one screw under each rubber foot).

Beneath each key dome is a tiny hole in the circuit board. Make a tiny wire brush out of three wire brush bristles twised together, mounted in a pin vise, and trimmed square. Place a drop of 91% isopropyl alcohol on the hole, dip the wire brush in more alcohol, and gently "scritch" around in the hole with the brush. In stubborn cases you may have to repeat a few times."

For more on how to open: http://www.hpmuseum.org/disasm.htm

Good luck, post again if you need more help.

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eBay fixes a leak

*Message #1 Posted by **Randy** on 8 Mar 2006, 5:10 p.m.*

and sellers who have been abusing the listing insertion fee will have some surprises in their next eBay statement - thanks to a new billing policy. That was the news I got today from an eBay staffer.

It will be interesting to see how long it takes you-know-who to cease and desist with the overpriced but-it-now auctions. Check his auctions - they've all been closing at full fare - with no buyer :) Flame on!

Re: eBay fixes a leak

*Message #2 Posted by **bill platt** on 8 Mar 2006, 5:20 p.m.,*
in response to message #1 by Randy

I don't know why this was a "leak."

It was one good technique to keep the costs down.

The problem is that if you want to sell something expensive on ebay, and it doesn't come up to your minimum, you would like to get on with selling *something* but not get saddled with all that listing fee.

You really haven't done anyone a favor by bringing this "leak" to ebay's attention.

It hurts, rather than helps, me.

Re: eBay fixes a leak

*Message #3 Posted by **Vassilis Prevelakis** on 8 Mar 2006, 5:39 p.m.,*
in response to message #2 by bill platt

Haven't you been following the Coburlin discussions?

This practice (of changing the price and item description at the last minute to save on fees) was abusing the auction model. If that was helping you, well good for you while it lasted.

For the rest of us, it was (a) **annoying** and (b) inflating prices.

I had to change my search patterns to exclude people who did this.

In summary, if I really think that used toothpick costs $500 , then by all means I can set up an auction for this amount. But if (surprise) there are no takers, I get to put my money (eBay fees) where my mouth is.

BTW you can still get away without paying large fees by specifying a high reserve for the auction, and a small initial amount. In this way you will not pay the fee if the item does not sell. **vp

Edited: 8 Mar 2006, 10:16 p.m.

BRAVO! [eBay fixes a leak]

*Message #4 Posted by **Karl Schneider** on 8 Mar 2006, 10:42 p.m.,*
in response to message #3 by Vassilis Prevelakis

Thank you, Randy, if you were the one who successfully lobbied for the policy fix.

And, "Amen!" to Vassilis and Mark.

I've never been an eBay seller, so I'm uninitiated. But, I would hope that the insertion fee would be based upon one of the following:

1. Actual selling price
2. Higher of the Starting Bid or Reserve if unsold
3. BIN if no Starting Bid or Reserve

I also believe that every *bona fide* auction ought to have a Starting bid or Reserve that is no greater than, say, 80% of a BIN price. BIN-only could be relegated to separate categories.

I tend not to participate in Reserve auctions. It seems like a way to extract information about buyers (who bids and how much?) without being upfront about expectations of price.

-- KS

Re: BRAVO! [eBay fixes a leak]

*Message #5 Posted by **bill platt** on 9 Mar 2006, 9:46 a.m.,*
in response to message #4 by Karl Schneider

The "Final Value Fee" handles the final selling price.

The "insertion fee' is the "ante" that you have to commit in order to use bandwidth.

The basic rationale behind insertion fees is that the higher the starting price, the less likely there will be a final value fee collected--in other words an incomplete sale. The fee for a high start is ebay's way of insuring that they collect something for the bandwitdh--regardless of sales.

Edited: 13 Mar 2006, 8:26 a.m.

Re: BRAVO! [eBay fixes a leak]

*Message #6 Posted by **Randy** on 9 Mar 2006, 12:45 p.m.,*
in response to message #4 by Karl Schneider

It certainly wasn't just me that brought it to their attention - it was probably several thousand other people as well as the practice was certainly not limited to HP calculators. I had given up after several emails with no response more than a year ago.

I simply asked the question today during a conversation that had nothing to do with P.T. Barnum* types when I was asked if there was anything else that eBay could do for me today - so I asked if the practice was in fact in keeping with eBay listing policy. The person said they would get an answer and call me back - which came about five minutes later when she reported the practice was against their listing policy and the technical loophole that had allowed it had been closed several days ago.

Re: eBay fixes a leak

*Message #7 Posted by **Andreas Terzis** on 9 Mar 2006, 2:19 a.m.,*
in response to message #3 by Vassilis Prevelakis

Vassilis, Who's Coburlin? I've been seeing this eBay ID bid all the time. Are there private discussions on eBay members; I'd be interested too. Andreas

Re: eBay fixes a leak

*Message #8 Posted by **Vassilis Prevelakis** on 9 Mar 2006, 10:34 a.m.,*
in response to message #7 by Andreas Terzis

```
Andreas Terzis wrote:
> Vassilis, Who's Coburlin? I've been seeing this eBay ID bid all
> the time.
```

Hi Andrea,

I have no idea who he is. I do not particularly care. For some time he really got on my nerves as I kept seeing these silly auctions for items priced at 2-3 times the prevailing price. Eventually technology saved me (I blacklisted him by including a parameter in my searches that excluded his username from displayed auctions).

```
>Are there private discussions on eBay members; I'd be interested too.
```

I am not aware of any private ones. There were many public discussion in the forum. If you do a Google search on Coburlin (limited to site hpmuseum.org) you will find them all. But they are not really interesting (just people, including me early on, complaining).

**vp

Re: eBay fixes a leak

*Message #9 Posted by **bill platt** on 9 Mar 2006, 9:30 a.m.,*
in response to message #3 by Vassilis Prevelakis

> Quote:
>
> BTW you can still get away without paying large fees by specifying a high reserve for the auction, and a small initial amount. In this way you will not pay the fee if the item does not sell. **vp

Nope. You are incorrect on this point. from ebay:

> Quote:
>
> All Reserve Price Auctions are subject to a Reserve Price Auction Fee that is refunded when you successfully complete your auction on eBay. If your item does not sell, this fee is not refunded.

So, if you use a reserve fee, there is *no* way to recoup it if the item does not sell. With a high starting price, at least you can re-use that insertion fee during the re-list.

Just to put this into perspective:

A $500 or more starting price has an insertion fee of $4.80, whereas a 99cent listing has an insertion

fee of $0.20

I recently listed a violin--and it did not sell--but I was certainly not going to list it for 99 cents! I can re-list it, but it does not look promising. So I'll have to list something else to take its place during the re-list, to try to make that $4.80 useful for something.

I really don't see how this "leak" was "driving up prices." Sure, coburlin might repeatedly *ask* for a ridiculous amount, but that still doesn't mean he'll get it!

Edited: 9 Mar 2006, 9:35 a.m.

Re: eBay fixes a leak

*Message #10 Posted by **Mark Crispin** on 9 Mar 2006, 3:02 p.m.,*
in response to message #9 by bill platt

I have no sympathy for individuals who list items with $500 minimum prices who complain about a $4.80 insertion fee.

I don't think that sellers should get a free re-list either.

Re: eBay fixes a leak

*Message #11 Posted by **bill platt** on 9 Mar 2006, 4:16 p.m.,*
in response to message #10 by Mark Crispin

Mark,

Let me get this straight. You think that ebay should be free and easy for the buyers, but stick it to the sellers? You are kidding, right?

4.80 is not a lot by itself, but it adds up. Why shouldn't the sellers be able to relist? Is there something morally wrong with relisting? Jesus, it is a privately run list! If ebay wants to encourage sellers to "try again" what the hell is wrong with that!

So you think I should have to just eat listing fees left and right? Yeah, great idea. Real friendly idea. Why on earth would anybody even bother with ebay then?

Is this an HP forum, or some populist-socialist anti-business forum?

Edited: 9 Mar 2006, 4:17 p.m.

Re: eBay fixes a leak

*Message #12 Posted by **TF** on 9 Mar 2006, 4:45 p.m.,*
in response to message #11 by bill platt

I though Joe Edwards quit posting here...

Re: eBay fixes a leak

*Message #13 Posted by **bill platt** on 9 Mar 2006, 5:01 p.m.,*
in response to message #12 by TF

Who's Joe Edwards?

Re: eBay fixes a leak

*Message #14 Posted by **Randy** on 9 Mar 2006, 8:57 p.m.,*
in response to message #11 by bill platt

Bill said:

> Quote:
>
> The problem is that if you want to sell something expensive on ebay, and it doesn't come up to your minimum, you would like to get on with selling *something* but not get saddled with all that listing fee.

Let's see if I've got this right: You want to use eBay's bandwidth to advertise your $500 listing in hopes of attracting an impulse buyer. Note I didn't say auction, because Buy-it-now is not an auction. Never mind that eBay is an auction site, as you want your minimum price, period. You don't want an auction, you want to sell something a price.

So now when your item hasn't sold, AFTER you've used eBay's bandwidth for 6 days and 11 hours to advertise your $500 for sale item, you change your auction to be a completely different item, valued at a $1.00 so you only have to pay $0.20 for that bandwidth instead of the $4.80 that eBay said they wanted to list your item at the price YOU wanted for it. Does that about sum up the situation?

Bill said:

> Quote:
>
> Is this an HP forum, or some populist-socialist anti-business forum?

Huh? Are you serious? So manipulating a loophole to cheat eBay out of revenue that you agreed to pay when you listed the item is a good, sound capitalistic practice?

Re: eBay fixes a leak

*Message #15 Posted by **Andreas Terzis** on 9 Mar 2006, 10:05 p.m.,*
in response to message #14 by Randy

Go Randy, go Randy, go Randy. I second that response. I am tired of those hypocritical eBay sellers that think they can rule the world. This is an HP domain...

Re: eBay fixes a leak

*Message #16 Posted by **bill platt** on 10 Mar 2006, 7:55 a.m.,*
in response to message #14 by Randy

Randy, you are really missing the point here. Ebay controls the "loopholes." They aren't loopholes if they work. The fact that changing the auction changed the listing fee is not my fault, nor any other sellers.

As for the "impulse buyer" business, you are just way out of line. If your house cost you $350,000, and it doesn't sell in 10 days, do you think it is unethical to wait longer before lowering the price? Same thing for low-activity "high-value" items. If I have a violin that I know a dealer will buy for $400, and I list it on ebay for $500, where's the crime? Ebay *offers* their bandwidth to me, and they set the rates. It is not my fault, nor any

other sellers', if their software does not work as intended. If I decide that I would rather put something else up in its place--note that I have *paid* the listing fee already--and ebay has offered "relisting" and allows modification to the listing, including changing the listing--what on earth is the crime? Like I said, *ebay* offers relisting, ebay *allows* modification of the listing etc. I sold a viola on ebay for $800 once--with a bottom price of you guessed it--$800. One bidder. So I guess I should have listed it at 99 cents and "taken my chances"? Why would I do that? The buyer needs to do the research with regards to appropriate pricing. You can see from my feedback that the buyer of that viola was *very* happy.

Furthermore, ebay is *not* an auction site. They are a sales listing service. "Buy It Now" is one of *ebay's* services--it isn't an invention of the sellers'. They started out with an *auction" like system (though technically it really is not an auction in the same way that a traditional auction is) but have added these other services in order to increase their revenue. Do you think they would continue to offer BIN etc if it did not make money for them?

You are confusing me with coburlin (which I am not). If you are the Randy that I have known here for all these years, then you know me as well (I bought a 17bii from you, and a case for a voyager--probably 2 years ago). I think you are missing my tone of voice here--I am not trying to flame you! :-)

Re: eBay fixes a leak

*Message #17 Posted by **Randy** on 10 Mar 2006, 9:22 a.m.,*
in response to message #16 by bill platt

I'm the same Randy that's been around here for several years, I just dropped the last name for privacy reasons when I created my MoHPC account. I don't see or sense this a a flame, only a discussion of ethics.

My very simplistic point is and will continue to be that loophole or not, a seller agrees to pay eBay a certain fee when listing an item up front. Their policies are quite clear and straight-forward. Because they had a flaw in their system, people have been cheating them out of revenue by manipulating the entire content of the auction so long as it was 12+ hours before the auction closed.

They fixed the flaw. I post it. You complain, with your reasons for reneging on a promise to pay for a service that was delivered per your terms. No matter what words you use and how you frame it, you'll never convince me it is was okay and justifiable to engage in the practice.

It was not my intent to engage in this kind of dialog when I made my original post. It was only after you made the second reply, (the socialist crack) which, quite honestly surprised me that I felt it necessary to explain the significance of what the one-not-to-be-named seller had been doing that irritated many here, myself included.

Shall we move on to more interesting things?

Edited: 10 Mar 2006, 9:25 a.m.

Re: eBay fixes a leak

*Message #18 Posted by **Mark Crispin** on 10 Mar 2006, 7:15 p.m.,*
in response to message #16 by bill platt

> Quote:
>
> Randy, you are really missing the point here.

No, he is not missing the point. You are an self-admitted unethical seller.

Please post your eBay id so we know to avoid doing business with you.

Re: eBay fixes a leak

*Message #19 Posted by **bill platt** on 11 Mar 2006, 6:13 p.m.,*
in response to message #18 by Mark Crispin

I was not an unethical seller. I merely openly used the feature, explicitly allowed by ebay, to modify your listing, if it has no bids. That ebay had a technical flaw is not my fault.

Re: eBay fixes a leak

*Message #20 Posted by **David Smith** on 12 Mar 2006, 11:22 a.m.,*
in response to message #19 by bill platt

Next thing you will tell us is you used indirect memory operations to access unauthorized registers in your HP-41C... how could you be so unethical ;-) I bet you even turned on the low battery indicator before the batteries ended.

Re: eBay fixes a leak

*Message #21 Posted by **bill platt** on 12 Mar 2006, 12:56 p.m.,*
in response to message #20 by David Smith

(David, I see your wink, but I am still puzzled by the attacks of others, so what follows below is directe more generally).

You know what, there must be some sort of disconnect here. I have *never* done anything will of purposeful to cheat ebay. I have followed there rules to the letter, paid my fees etc.

The fact that either their software was buggy, or their policies were inconsistent is not my fault! I never went in and said, "look, I can cheat ebay!" I merely looed at the policies and decided which mechanism of listing would be most cost-effective.

Where is the crime?

Did I do something unethical by following ebay rules?

Guys, this is crazy.

Can you show me *exactly* what you are describing? I am starting to think that I am defending someting that I never partricipated in--in other words, am I confusing the simple act of modifying a listing before closing, with some other tricky thing? Ebay not only allows mods to a listing; they encourage it!

Please describe the crime in detail before you haul off and say that I am unethical.

Edited: 12 Mar 2006, 12:57 p.m.

Re: eBay fixes a leak

*Message #22 Posted by **Jim L** on 12 Mar 2006, 2:30 p.m.,*
in response to message #19 by bill platt

> Quote:
>
> I don't know why this was a "leak."
>
> It was one good technique to keep the costs down.
>
> Quote:
>
> That ebay had a technical flaw is not my fault.

It sounds like you've changed from calling it a "feature" to a flaw - correct? You might consider that your current argument is the one commonly made by spyware authors, crackers, spammers, ID thieves and burglars as an argument for their activities. I'm not equating any of them with you, but when you're using their argument, it's time to look for a different one I think. The fact that someone else left a hole, is just way to broad for your purpose.

If it was a technical flaw and is now fixed, then I think we're done.

Re: eBay fixes a leak

*Message #23 Posted by **Karl Schneider** on 9 Mar 2006, 11:43 p.m.,*
in response to message #11 by bill platt

Bill stated to Mark Crispin,

> Quote:
>
> You think that ebay should be free and easy for the buyers, but stick it to the sellers?
>
> $4.80 is not a lot by itself, but it adds up. Why shouldn't the sellers be able to relist? Is there something morally wrong with relisting?
>
> So you think I should have to just eat listing fees left and right? .... Why on earth would anybody even bother with ebay then?

Randy (Sloyer?) has already rebutted the "philosophy" behind your post, so I won't bother. But here are my short answers:

1. The eBay fees must be paid by *someone*, and it just makes more sense to hold the sellers responsible: They have the funds available after successful sales, and they have a more-extensive business agreement with eBay.

2. Nothing is wrong with re-listing, but there's no reason to presume that repeated re-listings should be free to the seller.

3. If an item is generally desirable, described accurately, priced reasonably, and offered for a sufficient amount of time, there's no reason to believe that it wouldn't sell on the initial listing.

-- KS

Re: eBay fixes a leak

*Message #24 Posted by **bill platt** on 10 Mar 2006, 8:03 a.m.,*
in response to message #23 by Karl Schneider

Hi Karl,

(please see this as a friendly rebuttal:-)

First of all, I have no idea where you get the idea of "repeated relistings"--if there is yet another "loophole" it is one I was not aware of. Only one (1) relisting is possible for any initial listing--ebay software makes that happen automatically.

Your point number 3 is based on assumtptions and is not at all true nor reasonable for evey case. Ebay auctions are 10 days (unless you want to pay extra) and while the exposure is potentially huge, for many items the actual exposure to potentiual buyers is often extremely small. It just so happens that there is a really dynamic and active marketplace for calculators and so one might start to believe that it is *always* like that for *all* products--it is *not*.

Some things are listed to "test the waters." If you cannot find good data--not enough comparables--then being able to re-list with a different item, after you get no bidders, is just good business sense on ebay's part--it encourages sellers to try to sell new things, but without simply throwing money away.

Of course the sellers are paying for the service! 5% off the top, for every sale! (Less percent for big-ticket items). As well as the listing fee. Note that since the listing fee for a 99cent auction is 20cents but that for $500 is essentialy $5.00, ebay believes a couple of things:

1. That they "carrying cost" for their bandwidth is less than 20 cents per 10 days. (OK, I'm not using that term rigorously, but I think it is still essentially true). 2. That in order to encourage listing of expensive items, it is better to rely on final sale fees rather than listing fees.

Regards,

Bill

Edited: 10 Mar 2006, 9:01 a.m.

Re: eBay fixes a leak

*Message #25 Posted by **Mark Crispin** on 10 Mar 2006, 7:20 p.m.,*
in response to message #24 by bill platt

> Quote:
>
> being able to re-list with a different item, after you get no bidders, is just good business sense on ebay's part--it encourages sellers to try to sell new things, but without simply throwing money away.

This is an excellent reason to lobby eBay into abolishing no-cost relisting: there are ethics-challenged individuals who abuse the privilege, and thus create an unfair market biased against the buyers.

Since the privilege is being abused, it needs to be revoked.

Re: eBay fixes a leak

*Message #26 Posted by **bill platt** on 11 Mar 2006, 6:16 p.m.,*
in response to message #25 by Mark Crispin

Mark, you are lost. I think you totally misunderstand me here. Ebay has changed many of their policies over the years. It is confusing to keep track of all of them. As a seller, you have to do your best to use the features they offer to your advantage. Doing so is not unethical; it is part of the bargain ebay makes in order to attract business.

It seems that in your ideal world, the buyers would be in a paradoxical state of perpetual bliss--as there would be no sellers to buy from!

Re: eBay fixes a leak

*Message #27 Posted by **Jim L** on 10 Mar 2006, 11:52 a.m.,*
in response to message #11 by bill platt

I don't see the issue. List it at 99 cents and let the auction find the market price, or set the price above what most people will pay and pay for the privilege of either finding a sucker or not. Your choice.

> Quote:
>
> Is this an HP forum, or some populist-socialist anti-business forum?

This is from the guy who thinks that ebay doesn't deserve to get their cut for helping him maximize his own profit? Ebay wants to make as much money as possible too. Are you in favor of socialism for everyone but you?

Re: eBay fixes a leak

*Message #28 Posted by **Mark Crispin** on 10 Mar 2006, 7:12 p.m.,*
in response to message #11 by bill platt

Bill Platt writes:

> Quote:
>
> Let me get this straight. You think that ebay should be free and easy for the buyers, but stick it to the sellers? You are kidding, right?

In case you haven't figured it out the buyers are *the customers*. For this very reason, the market is supposed to be "free and easy" for them.

> Quote:
>
> So you think I should have to just eat listing fees left and right? Yeah, great idea. Real friendly idea. Why on earth would anybody even bother with ebay then?

The listing fees are the lawful and proper fees that a seller pays for entry into the market. All **reputable** sellers pay those fees, with pleasure. They are part of the cost of doing business; they ensure your buyers that the seller is reputable; and ultimately those fees are paid by the buyer in the form of increased market price.

You, sir, by your own admission are not a reputable seller. Please post your eBay user ID here so that I can add you to my blocked seller blocked bidder lists. I do not want to do business with you, ever.

> Quote:
>
> Is this an HP forum, or some populist-socialist anti-business forum?

How dare you! *You* are the one who advocates unethical rip-offs of the market itself.

Hrupmh. Calling me a "socialist." What kind of drugs are you taking, boy?

Re: eBay fixes a leak

*Message #29 Posted by **bill platt** on 11 Mar 2006, 6:19 p.m.,*
in response to message #28 by Mark Crispin

Mark, I have paid every fee that ebay has ever charged me. How is that unethical!!!!

Yes, buyers are the customers of the sellers. But from ebay's perpective, the *sellers* are the customers.

The socialist remark--I make it because you seem to miss the whole supply and demand thing. Gee, if a seller has any chancce of saving money, strike him down!

Edited: 11 Mar 2006, 6:19 p.m.

Re: eBay fixes a leak

*Message #30 Posted by **Mark Crispin** on 8 Mar 2006, 7:18 p.m.,*
in response to message #2 by bill platt

If you really feel that if the item is worth that much, you should be pleased to pay the appropriate listing fees.

If, on the other hand, you set a buy-it-now only (or high-reserve auction) price at a ridiculous level, you deserve what you get if it doesn't sell. You take your chances; either you get the big bucks or you pay for your foolishness.

That's the way that a fair market works; everybody is on a level playing field. What you, Mr. Platt, seem to be saying is that you want the market tilted unfairly to benefit you and hurt your customers.

Re: eBay fixes a leak

*Message #31 Posted by **Andreas Terzis** on 9 Mar 2006, 2:29 a.m.,*
in response to message #30 by Mark Crispin

So is Mr. Platt the seller that had all those auctions that we all wanted to bid on, where the reserve wasn't met?!@* Nice sleuth work boys...

Re: eBay fixes a leak

*Message #32 Posted by **bill platt** on 9 Mar 2006, 9:20 a.m.,*
in response to message #31 by Andreas Terzis

No, I am not coburlin.

Every calculator I have ever sold (and that is only a handful) was listed at 99 cents.

There is so much traffic in HP calculators that there is no reason to use a reserve or a high start---the market will take your offering to its fair price--as long as you do a proper job of listing it. In other words:

```
* Full Disclosure
* clear, accurate photos
* plain english
* no excuses like "my brother wanted me to sell this"
* reasonable shipping
```

Let's see...I've sold 3 HP32sii, a broken 48g, a 33s, and maybe one or two others. On the other hand, I've *bought* over $2,000 worth of these crazy things....

Edited: 9 Mar 2006, 9:40 a.m.

Re: eBay fixes a leak

*Message #33 Posted by **Andreas Terzis** on 9 Mar 2006, 6:30 p.m.,*
in response to message #32 by bill platt

If you actually conduct another search, there is another guy (who I meant in my previous posting) that sets a very high 'Buy it now' price and his listings never sell; at least they haven't, in the last month or so. When I have asked key questions of the sort 'has the calculator being rebuilt', or 'do the keys shake', he never answers!!! To the question 'can you please post any clearer pictures', he responded: 'the calculator has been packaged for shipping already'. CAVEAT EMPTOR!!!

Re: eBay fixes a leak

*Message #34 Posted by **bill platt** on 10 Mar 2006, 8:05 a.m.,*
in response to message #33 by Andreas Terzis

That is not me.

As I have stated already, I have only sold a handful of calculators. I like the darned things and find it hard to part with them. I have been selling other stuff. I always respond to questions from bidders and provide additional photos if requested!

There are a lot of sleazy listings out there--I just ignore them!

Edited: 10 Mar 2006, 9:02 a.m.

Re: eBay fixes a leak

*Message #35 Posted by **e,young** on 10 Mar 2006, 11:54 a.m.,*
in response to message #32 by bill platt

Just out of curiosity Bill, did your 33s sell at a good price?

Re: eBay fixes a leak

*Message #36 Posted by **bill platt** on 10 Mar 2006, 1:08 p.m.,*
in response to message #35 by e,young

Yes. I got $55 for it. I bought it for $40 (after rebate). I loaded a bunch of useful stuff with it, and fully described the workarounds for the bugs, had them printed up, and even some cool ALG stuff. I listed it at the right time (some months ahead of the Big Exam). I did not sell mine during the time when they were going for $200--when the Big Exam had made them a requirement, and Walmart had pre-released them and tehn taken them off the shelves. I could have made a lot of money then (but did not).

All of this is so ridiculously little compared to what I actually get *paid* that it really doesn't matter. I could by 10 33s every year and not really notice it...just to put it in perspective...

Edited: 10 Mar 2006, 1:12 p.m.

Re: eBay fixes a leak

*Message #37 Posted by **Andreas Terzis** on 11 Mar 2006, 5:04 a.m.,*
in response to message #32 by bill platt

Yeah, I've bought HP's worth $2000 myself in the last couple of months and returned about half of them due to crooked sellers on eBay. I'm getting tired of this. Statistically I'd say there are about 10% of honest sellers on eBay. And like most of us here, I have a list of them. What is it about taking people for a ride? Does it add excitement to the sellers' lives? Or do they make so much money that they keep deceiving people? Like a few other fellows here, I think from now on I'm gonna be very distrustful of any seller on eBay. Reputable ones don't hide behind their anonymity!

Re: eBay fixes a leak

*Message #38 Posted by **bill platt** on 11 Mar 2006, 6:21 p.m.,*
in response to message #37 by Andreas Terzis

Well, I only got a bad deal * once* in my calculator buying. You have to really do your reasearch. I read *every* feedback (up to 250 of them) for every seller that I bid on. I learned this the hard way fro mthe one that ripped me off.

I have had stuff come in bad--but the sellers have made adjustments and so that is fine with me.

Re: eBay fixes a leak

*Message #39 Posted by **Andreas Terzis** on 11 Mar 2006, 10:21 p.m.,*
in response to message #38 by bill platt

Does that mean partial refunds for the most part?

Let's drop the ethical/political/legal aspects please

*Message #40 Posted by **Dave Hicks** on 13 Mar 2006, 6:03 p.m.,*
in response to message #1 by Randy

I've deleted or prevented about 15 additional posts (on both sides) in this thread, which are more polarized and inflammatory than the ones currently showing. Obviously we're not converging on a consensus.

As I understand it, some ebay feature/bug/loophole has been removed. News reported. News understood. Some people like it. Some don't. If you want to argue it further, please contact ebay

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Cheap Plastic Cases Needed

*Message #1 Posted by **Jeff** on 8 Mar 2006, 3:26 p.m.*

I might need a new case for my HP 12C, and some smaller pocket-style slip-in cases for some other calculators.

Does anyone know of a company that supplies such products?

Thanks!

Re: Cheap Plastic Cases Needed

*Message #2 Posted by **Namir** on 8 Mar 2006, 3:44 p.m.,*
in response to message #1 by Jeff

There are one or two eBay sellers who sell new cases (leather or faux-leather).

Namir

Re: Cheap Plastic Cases Needed

*Message #3 Posted by **James M. Prange (Michigan)** on 8 Mar 2006, 4:57 p.m.,*
in response to message #2 by Namir

At least one of the sellers has a classified ad on the museum; see: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/adforum.cgi?read=14573.

Of course these aren't genuine HP cases which some collectors might want, but they are very nice. I'm quite happy with a Voyager series case that I bought from her.

Regards,
James

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Newton's Method

*Message #1 Posted by **John Bower** on 8 Mar 2006, 1:05 p.m.*

I'm having a little trouble. My textbook requires that I preform Newton's method on my calculator. They show how to do it on a TI-84 or something like that but I have a HP 49g+. Can anyone take me throught the steps? Thanks a lot.

John

Re: Newton's Method

*Message #2 Posted by **Vassilis Prevelakis** on 8 Mar 2006, 2:47 p.m.,*
in response to message #1 by John Bower

are you asking us to do your homework?

**vp

Re: Newton's Method

*Message #3 Posted by **John** on 8 Mar 2006, 3:42 p.m.,*
in response to message #2 by Vassilis Prevelakis

No. I'm asking for help with working a calculator that I am unfamiliar with.

Re: Newton's Method

*Message #4 Posted by **Namir** on 8 Mar 2006, 3:41 p.m.,*
in response to message #1 by John Bower

The folloing code assumes that FX stores the function you want to solve:

```
<<
 "TOLERANCE" "1E-8" INPUT OBJ->
 "GUESS" ""  INPUT OBJ-> -> T X
 << 0 0 0 0 -> H D F I
  <<
   DO
    'I' INCR DROP
    X ABS 1 + 0.01 * 'H' STO
    X FX 'F' STO
    X H + FX F - INV H * F * 'D' STO
    X D - 'X' STO
    UNTIL D ABS T < I 55 > OR
   END
   I "ITERS" ->TAG
   X "ROOT" ->TAG
  >>
 >>
>>
```

The program prompts you to enter the root tolerance and a guess for the root. The program displays the number of iterations and the last refined guess for the root. If the iterations exceed 55, the program exits.

Hope this will do the job.

Namir

PS: My consulting fees will be emailed to you. Shoudl email fail, Mr T will show up in person with the invoice. I strongly suggest paying him cash AND without delay!

:-)

Edited: 8 Mar 2006, 3:43 p.m.

Re: Newton's Method

*Message #5 Posted by **John** on 8 Mar 2006, 3:50 p.m.,*
in response to message #4 by Namir

Thanks for the response, but I don't really follow how to do it.

John

Re: Newton's Method

*Message #6 Posted by **Namir** on 8 Mar 2006, 4:41 p.m.,*
in response to message #5 by John

The code uses the basic Newton algorithm:

X(new) = X - f(X) / f'(X)

The code approximates the derivative f'(X) using:

f'(X) = (f(X+h) - f(X)) / h

where h = 0.01 * (1 + |X|). This expresion insures that h is just above 0.01 when X very small.

So the first equation becomes:

X (new) = X - h * f(X)/(f(X+h) - f(X))

Since f(X) appears twice, it's better to save it to a variable (F in the program).

The term f(X)/f'(X) is the guess refinement, stored in variable D in the program. Iteration stops when the absolute value of this refinement is less than the tolerance value (stored in variable T in the program).

Now here comes your part of the homework. Reconcile the code with the above information.

Edited: 8 Mar 2006, 10:33 p.m.

Re: Newton's Method

*Message #7 Posted by **Karl Schneider** on 8 Mar 2006, 11:04 p.m.,*
in response to message #5 by John

From Namir:

```
<<
 "TOLERANCE" "1E-8" INPUT OBJ->
 "GUESS" ""  INPUT OBJ-> -> T X
 << 0 0 0 0 -> H D F I
  <<
   DO
    'I' INCR DROP
    X ABS 1 + 0.01 * 'H' STO
    X FX 'F' STO
    X H + FX F - INV H * F * 'D' STO
    X D - 'X' STO
    UNTIL D ABS T < I 55 > OR
   END
   I "ITERS" ->TAG
   X "ROOT" ->TAG
  >>
 >>
>>
```

> Quote:
>
> PS: My consulting fees will be emailed to you. Should email fail, **Mr T** will show up in person with the invoice. I strongly suggest paying him cash AND without delay!

From John:

> Quote:
>
> Thanks for the response, but I don't really follow how to do it.

Neither do I, but I'll try it on my 48G or 49G.

"I pity the fool" who must program in RPL! ;-) Good thing that the 49G+ has equation solving built in.

-- KS

Re: Newton's Method

*Message #8 Posted by **Namir** on 9 Mar 2006, 1:44 a.m.,*
in response to message #7 by Karl Schneider

Karl,

Using the Solver gets the HP calculator an A and John an F!!!

:-)

Namir

Re: Newton's Method

*Message #9 Posted by **Valentin Albillo** on 9 Mar 2006, 6:35 a.m.,*
in response to message #7 by Karl Schneider

Hi, Karl:

Karl posted:

""I pity the fool" who must program in RPL! ;-)"

Indeed ! Especially as the algorithm itself is so simple. This would be the no-frills HP-71B version, and I'm sure everyone would agree it's much more understandable (line numbers are arbitrary and comments aren't needed, of course):

```
100  ! Basic Newton's Method:  x1=x0-f(x)/f'(x)
110  !
120  ! Ask for initial guess and tolerance
130  !
140  INPUT "Initial guess=";X0 @ INPUT "Tolerance=";T @ D=.00001
150  !
160  ! Perform up to 50 iterations and output result
170  !
180  FOR I=1 TO 50 @ X1=X0-FNF(X0)/FND(X0)
190      IF ABS(X1-X0)<T THEN PRINT "Root=";X1 @ END ELSE X0=X1
200  NEXT I @ PRINT "No convergence after 50 iterations"
210  !
220  ! Derivative computation: f'(x)
230  !
240  DEF FND(X)=(FNF(X+D)-FNF(X-D))/(2*D)
250  !
260  ! Define your function below: f(x)
270  !
280  DEF FNF(X)=X^3-6*X-2
```

where the equation being solved is $\mathbf{x^3-6x-2=0}$, simply defined at line 230 as FNF(X). For instance, to compute all three distinct roots:

```
>RUN
    Initial guess = 2
    Tolerance = 1E-10


         Root = 2.60167913188


>RUN
    Initial guess = 0
    Tolerance = 1E-10


         Root = -.339876886624


>RUN
    Initial guess = -2
    Tolerance = 1E-10


         Root = -2.26180224527
```

if no convergence occurs within 50 iterations (because the equations has no real roots, for instance), such as when f(x)=$\mathbf{x^2+1}$ = 0, this is what happens:

```
>230 DEF FNF(X)=X^2+1


>RUN
    Initial guess = 2
    Tolerance = 1E-10


         No convergence after 50 iterations
```

An important difference between my HP-71B version and Namir's RPL one is that I compute the derivative using a much more accurate 2nd-order method (error proportional to h^2) instead of the 1st-order method (error proportional to h) he uses. Not that great accuracy is required for Newton's method, mind you, and you need three calls to f(x) instead of only two, but then you have the bonus of being able to compute a fairly accurate derivative right from the keyboard by simply calling FND with your argument.

" Good thing that the 49G+ has equation solving built in."

Oh, if built-in solvers are permitted then the HP-71B version is simply:

```
PRINT FNROOT(0,3,FVAR^3-6*FVAR-2)

    2.60167913189
```

where you can even omit the PRINT. I don't know why, but I strongly suspect that the 49G+ built-in equation solving process is still more *complicated* than that. As some clever contributor told me recently in a private communication:

> *"I have to admit that RPL makes you focus more on the technicalities of the stack (DUP, DUP2, ROLL, ROLLD, OVER, PICK, etc...) rather than on your algorithms ..."*

I couldn't have said it better.

Best regards from V.

Edited: 9 Mar 2006, 6:57 a.m.

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HP27S battery?

*Message #1 Posted by **Christine Rousselle** on 7 Mar 2006, 3:38 p.m.*

I'm trying to find the type of battery for my HP27s-can anyone help me out? Thanks, Christine

Re: HP27S battery?

*Message #2 Posted by **bill platt** on 7 Mar 2006, 4:35 p.m.,*
in response to message #1 by Christine Rousselle

357. Y ou will need three of them. But not a 357 magnum--that's a bullet:-)

The 357 is silver oxide. You can also use an LR-44 alkaline pile. The latter is not much cheaper, but lasts no where near as long as the silveroxide. However the downside of the 357 (siver oxide) is that when it does start to lose juice, it happens much faster and more suddenly than with the alkaline. If you have a lot of programs loaded, and you want to be able to ignore the low battery indicator for 15 more minutes, tehn better to get the LR-44.

BTW where did you buy your 27s? Are you the original owner? Is this the first battery change? If you are the original owner, would you mind telling your "story"? the 27s, being an Algebraic hp, we would love to know how the original buyers came to choose it. Most HP people are RPN addicts--your take on the world is apt to be insightful....

Regards,

Bill

Edited: 7 Mar 2006, 4:39 p.m.

Re: HP27S battery?

*Message #3 Posted by **Christine Rousselle** on 7 Mar 2006, 6:37 p.m.,*
in response to message #2 by bill platt

I'm the original owner. I bought it when I was an undergrad studying for my EE degree. I had it in storage with no batteries, so I wasn't sure what to replace them with. Thanks for the info! I am sure I have the owner's manual somewhere, but I figured the info might be faster to find on this forum.

Sounds like there are a lot of die-hard 27s fans out there!

Re: HP27S battery?

*Message #4 Posted by **Christine Rousselle** on 7 Mar 2006, 6:47 p.m.,*
in response to message #2 by bill platt

You also asked how I chose the 27s. It has been awhile, but I chose it due to the recommendation of another EE student and its programming ability. At this point, I never need much more than basic

functionality though.

Re: HP27S battery?

*Message #5 Posted by **bill platt** on 8 Mar 2006, 8:32 a.m.,*
in response to message #4 by Christine Rousselle

Hi Christine,

Thanks for your reply. It is very interesting to here that the 27S had a following not only among engineers, but specifically among EE's.

Best regards,

Bill

Cells for Pioneer & Voyager series (HP-27S)

*Message #6 Posted by **Karl Schneider** on 7 Mar 2006, 9:19 p.m.,*
in response to message #1 by Christine Rousselle

Christine --

As Bill mentioned, the 357- and 44-series 1.5V button cells will work for the HP-27S. I'll note that there are *four* types of cells that are compatible for all Pioneer and Voyager series calc's (except late 12C's and the 12C Platinum): 13, 44, 76, and 357.

I don't know the reason for the proliferation of identifiers for interchangable cells. I also don't know if there is any difference in the specifications. It would seem as though some consolidation would be in order.

-- KS

Re: Cells for Pioneer & Voyager series (HP-27S)

*Message #7 Posted by **Valentin Albillo** on 8 Mar 2006, 11:48 a.m.,*
in response to message #6 by Karl Schneider

Hi, Karl:

Karl posted:

"I don't know the reason for the proliferation of identifiers for interchangable cells. I also don't know if there is any difference in the specifications. It would seem as though some consolidation would be in order."

> It has to do with different brand names and the specifications are the same. For instance you have:
>
> Reference 357 = IEC SR44 = Energizer BSR44H = Japanese SR44W = Varta 541
>
> where Japanese means Panasonic, Sony, Maxel, Toshiba, ... all of them being 1.55 V high drain silver oxide cells, with diameter = 11.6, and height = 5.4.

Best regards from V.

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?Is there a HP-12C website?

*Message #1 Posted by **Mr. E** on 7 Mar 2006, 1:49 p.m.*

As in the subject header, is there a dedicated HP 12C website or forum? Thank you.

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HP-41 Cold Shock

*Message #1 Posted by **Geir Isene** on 7 Mar 2006, 2:50 p.m.*

Could the HP-41 get problems during cold weather? Maybe that was a reason why one of my CXs died the other day. Another one apparently died today but I managed to revive it with only minor strange behaviour (a few previously unassigned keys were suddenly assigned some XROM functions in the 07 series).

Is it a sudden spell of cold shock? Is this possible?

Background info: I am living in Norway. It is early March. It's damn cold outside. A fireplace and a hot chocolate is the way to go.

Re: HP-41 Cold Shock

*Message #2 Posted by **Garth Wilson** on 7 Mar 2006, 3:35 p.m.,*
in response to message #1 by Geir Isene

My 41cx manual says the minimum operation and storage temperature is 0 deg C. Then it goes on to say that if the batteries are removed, or if clock accuracy is not a concern, then the storage temperature can go down to -20 deg C. I can't think of anything in there that should experience any damage until you get down at least to -20, and then maybe you could damage the LCD. I did test a wide-temperature-range LCD here for my work a few years ago, and although they said anything below -40 could damage it (from freezing the liquid), I took it down to -55, even while operating. Although it was not readable down there, it was fine when brought back up to normal temperature.

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Trig functions on any of the business calculators?

*Message #1 Posted by **MikeS** on 7 Mar 2006, 11:48 a.m.*

Hi all, does anyone know if there are trig functions on any of the RPN business calculators. I've checked HP's website but I can't seem to find an answer. I'd like to get a 12C platinum but was wondering about trig. thanks, Mike

Re: Trig functions on any of the business calculators?

*Message #2 Posted by **bill platt** on 7 Mar 2006, 11:59 a.m.,*
in response to message #1 by MikeS

Not ona any current models.

The 19bii was the only modern business *RPN* models with trigonometric functions.

The 27s and the 19b had trigonometry, but were not RPN.

Re: Trig functions on any of the business calculators?

*Message #3 Posted by **Jeff O.** on 7 Mar 2006, 12:50 p.m.,*
in response to message #1 by MikeS

Check the Forum archives for past discussions of programs and routines to add trig functions to the 12C, 17Bii.

Re: Trig functions on any of the business calculators?

*Message #4 Posted by **bill platt** on 7 Mar 2006, 1:21 p.m.,*
in response to message #3 by Jeff O.

The 12c trig is cute and clever but no substitute for having trig functions built-in. The 17bii trig is even more clever, but still no substitute, but it does work nicely inside the solver. Neither are particularly accurate--like 4 decimal places, which is ok for routine work but not for recursive stuff.

Re: Trig functions on any of the business calculators?

*Message #5 Posted by **Gene** on 7 Mar 2006, 5:53 p.m.,*
in response to message #4 by bill platt

While I agree they are no substitute for having the functions built-in, Valentin's 12c trigonometry is accurate to 9-10 significant digits.

It's much better than 4 digits. I checked the write-up here:

http://membres.lycos.fr/albillo/calc/pdf/DatafileVA003.pdf

Gene

Re: Trig functions on any of the business calculators?

*Message #6 Posted by **bill platt** on 8 Mar 2006, 8:37 a.m.,*
in response to message #5 by Gene

Yes, that's true. Whenever Valentin sets his mind to something, it comes out right :-)

Why, Thank You ! :-)

*Message #7 Posted by **Valentin Albillo** on 8 Mar 2006, 9:52 a.m.,*
in response to message #6 by bill platt

```
That's very kind of you
Muy amable por su parte
Vous êtes très amiable
E' molto amabile da parte sua
```

Please have a drink, my treat ! :-)

Best regards from V.

Re: Trig functions on any of the business calculators?

*Message #8 Posted by **Gerson W. Barbosa** on 8 Mar 2006, 11:00 a.m.,*
in response to message #5 by Gene

I just wonder what Valentin would come up with if he had 400 programming steps at his disposal... But, I guess, if he were given a 12C Platinum he would twist his head and say *"no, thanks!"*. :-)

Gerson.

Re: Trig functions on any of the business calculators?

*Message #9 Posted by **Valentin Albillo** on 8 Mar 2006, 11:30 a.m.,*
in response to message #8 by Gerson W. Barbosa

Hi, Gerson:

Gerson posted:

"I just wonder what Valentin would come up with if he had 400 programming steps at his disposal... But, I guess, if he were given a 12C Platinum he would twist his head and say "no, thanks!". :-)"

> That's correct. Actually, I had one in my hands, property of a fellow HP fan and collector. Despite having bought it new for his collection at outrageous spanish prices (2x the US price or so), he didn't actually appreciate it at all. Neither did I, it doesn't hold a candle in terms of quality, ergonomy or aesthetics next to my USA-made HP-12C or even the Singapore-made one.
>
> By the way, I'm curious: has the GTO bug been ironed out in the latest version or is it still hampering long-program development ?

Thanks for your always kind words and best regards from V.

The latest 12cp

*Message #10 Posted by **Gene** on 8 Mar 2006, 12:14 p.m.,*
in response to message #9 by Valentin Albillo

Hi Valentin...

1) The 12cp can use all 400 program steps. No problems.

2) I have a 12cp with your trig program in it (which is a jewel!), a lunar lander game (Thanks Tony!) and a bagels game (Thanks Tony!) and a Jive Turkey high/low game. All working in 400 steps.

One could have a 12cp with Valentin's trig program, the Black/Scholes options program, and even a game or two.

I do agree with your comments when compared to older 12c's.

Gene

Re: The latest 12cp

*Message #11 Posted by **Valentin Albillo** on 8 Mar 2006, 12:59 p.m.,*
in response to message #10 by Gene

Hi Gene,

Gene wrote:

"I have a 12cp with your trig program in it (which is a jewel!)"

> Thanks a lot, you're always so kind to my humble productions. Good to know that the 400 steps are finally fully usable, GTO's and all.
>
> I have a further curiosity: what are the times for my trigonometric functions when run in the latest HP12CP version, specially as compared to the ones I gave in my original article for the regular HP-12C ? And what about accuracy ? Is it maintained or even increased ? Or do all the examples come out with the identical results ?
>
> I remember reading somewhere that the HP12CP took much, much longer to run some HP-12C programs, for instance the high-degree equation in one of my examples featured in my "HP-12C Serendipitous Solver" article. Has this been corrected, so that times are at least equal, preferably faster ?

Thanks again and best regards from V.

Re: The latest 12cp

*Message #12 Posted by **gene** on 8 Mar 2006, 2:07 p.m.,*
in response to message #11 by Valentin Albillo

Yes, the i-solving routine is much faster.

Trig function results on the 12cp:

For an argument of "1"

COS: 0.5403023059 SIN: 0.8414709848

Time: 6 seconds vs. 9 in your paper.

With an argument of "1"

ArcSIN: 1.570796327

Time: Just under 7 seconds vs. 15 in your paper.

Not bad! If one can live with not having 1985 style keys. :-(

Re: Trig functions on any of the business calculators?

*Message #13 Posted by **Gene** on 7 Mar 2006, 11:56 a.m.,*
in response to message #1 by MikeS

Only on the now discontinued HP19bII calculator.

No other business calculator from HP had trig functions (well, unless you go back to 1976 or so with the VERY discontinued HP-27).

However, there are several nice programs for the HP12c and HP12c platinum that give trigonometric functions without much effort. Valentin is the master at implementing these functions on the HP12c. His program is (I think?) in the articles list.

So, short answer: No currently made HP business calculator has trig functions built in.

Re: Trig functions on any of the business calculators?

*Message #14 Posted by **gene** on 7 Mar 2006, 11:58 a.m.,*
in response to message #1 by MikeS

Short answer: No currently made HP business calculator has trig functions.

Although the $30 TI BAII Plus does. Go figure.

However, you do have some options if you are so inclined:

The now discontinued HP19bII (still found on ebay anywhere from $40 to $80 or so) did include trig functions.

The HP12c and HP12c platinum can be programmed to solve the basic trig functions. The best program (IMO) is one written by Valentin, a frequent contributor to this forum. I think his program is in the articles section (if not, it should be).

Hope this helps.

Re: Trig functions on any of the business calculators?

*Message #15 Posted by **Vieira, L. C. (Brazil)** on 7 Mar 2006, 1:48 p.m.,*
in response to message #1 by MikeS

Hi, Mike;

as for standard RPN models, the HP27 (Woodstock) and the HP19BII were the only financial ones offered with trigonometrics (the HP19BII had no GRADs mode, though).

HP27 The HP19B was only algebraic capability, and the newer HP17BII+ has PI as a constant, but has no trigonometric resources <8^O

If a user program is a solution, then there are many alernatives for the HP12C, some of them are well known by: Viktor Toth, Valentin Albillo and Gerson Barbosa. If I am not wrong, Viktor´s is the smallest one of them. Valentin Albillo has the PDF files for his trigonometrics programs availble through his homepage, already mentioned here. The other ones for the HP17BII were created by W. B. McGuire II and by Michael Blankenship.

Hope this helps a bit more.

Luiz (Brazil)

Re: Trig functions on any of the business calculators?

*Message #16 Posted by **bill platt** on 7 Mar 2006, 4:42 p.m.,*
in response to message #15 by Vieira, L. C. (Brazil)

Hi Luiz,

Being a 27s fan, now as I look at that HP27, I am really wanting one...very sweet!

It's a beauty, isn't she? 8^) N.T.

*Message #17 Posted by **Vieira, Luiz C. (Brazil)** on 7 Mar 2006, 6:02 p.m.,*
in response to message #16 by bill platt

Re: It's a beauty, isn't she? 8^) N.T.

*Message #18 Posted by **Walter B** on 8 Mar 2006, 2:23 a.m.,*
in response to message #17 by Vieira, Luiz C. (Brazil)

For sure she is! d:^)

But - sadly - too many people stand in the line for her ...

So you'll need a lot of $$$ to get her. Marginal chances for honest people earning money with proper technical work. d:-(

Re: It's a beauty, isn't she? 8^) N.T.

*Message #19 Posted by **bill platt** on 8 Mar 2006, 8:24 a.m.,*
in response to message #18 by Walter B

If I sold my violin I could buy one :-\

Re: Trig functions on any of the business calculators?

*Message #20 Posted by **Gerson W. Barbosa** on 8 Mar 2006, 5:07 p.m.,*
in response to message #15 by Vieira, L. C. (Brazil)

Hi Luiz,

Thanks for the publicity :-)

The link you provided leads to the old 12C version. Here is an updated link to the 12CP Platinum version, the one you have kindly taken to time to test:

HP-12C Platinum version

Needless to say, the listing font is yours.

By the way, I have already received the books, thanks a lot! I hope you have received my email.

Cheers,

Gerson.

Edited: 8 Mar 2006, 5:09 p.m.

Re: Trig functions on any of the business calculators?

*Message #21 Posted by **Vieira, L. C. (Brazil)** on 8 Mar 2006, 7:17 p.m.,*
in response to message #20 by Gerson W. Barbosa

Yeap, I got the e-mail... My bad not acknowledging, sorry!

Good publicity goes for good stuff, indeed!

Cheers.

Luiz

Re: Trig functions on any of the business calculators?

*Message #22 Posted by **MikeS** on 7 Mar 2006, 5:57 p.m.,*
in response to message #1 by MikeS

Thanks everyone for responding. I think I'll give programming the 12cp a try. Mike

Re: Trig functions on any of the business calculators?

*Message #23 Posted by **Gerson W. Barbosa** on 7 Mar 2006, 7:00 p.m.,*
in response to message #22 by MikeS

If you have the newer Platinum, you can try this:

http://www.geocities.com/gwbarbosa/prgms_1.html

I haven't tested it myself, but Luiz has. According to him, the program returns 9.000148569 for asin(acos(atan(tan(cos(sen(9)))))), (9 R/S GTO 094 R/S GTO 104 R/S GTO 157 R/S GTO 141 R/S GTO 123 R/S, on the calculator).

Regards,

Gerson.

Re: Trig functions on any of the business calculators?

*Message #24 Posted by **John Smitherman** on 8 Mar 2006, 10:37 p.m.,*
in response to message #1 by MikeS

Hi Mike. One possibility to add trig functions to the 12cp would be to use the yellow shift key and the right half of the keyboard. In addition to the trig functions other functions could be added as well as plenty of keys are available. The new model could be called the 12cp+. This might attract some new buyers.

Regards,

John

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Anomaly with the HP 33s

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 7 Mar 2006, 10:25 a.m.*

I was getting acquainted with my new hp 33s when I stumbled on a difference from many earlier scientific calculators manufactured by H-P. Machines such as the HP-45, HP-27, HP-67, HP-41, HP-11C, HP-12C, HP-15C and HP-32S will all accept a SUM - command immediately after a CLEAR SUM command, return a -1 to the display, and store negative values in the statistics registers relative to those which would have been stored if a SUM + command had been used. The hp 33s will NOT accept a SUM - command immediately after a CLEAR SUM command.

Furthermore, if with those earlier machines the user enters a CLEAR SUM command, stores a positive fractional value in n, and then enters a SUM - command the machines will return one minus the fractional value to the display, store one minus the fractional value in n and store negative values in the remaining statistics registers relative to those which would have been stored if a SUM + had been used. The hp 33s will not accept a SUM - command if the existing value stored in n is less than one.

Interesting!

HP 33S -- validation of n for STAT

*Message #2 Posted by **Karl Schneider** on 8 Mar 2006, 12:00 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Hi, Palmer --

Hmm, interesting discovery. I compared my 33S (a "bad display with bugs" unit from 2004) with my 32SII from 2001.

The 32SII seems to do no validation whatsoever of the summation value **n** in register 28 (accessed indirectly). So, any operation is permitted, including calculation of standard deviations and mean averages, as long as "SQRT(NEG)" is not attempted.

The 33S seems to include some validation of **n**:

- Sigma- is rejected *without informational message* whenever **n** is not a positive integer, but *Sigma+ is always accepted*.
- Calculation of standard deviations is rejected when **n** is not a positive integer, but *calculation of mean averages is not*.

The reason for this apparently-inconsistent approach to validation may be that the summation functions can be used for purposes other than statistics. Also, the statistical-summation registers could be used as scratch registers, accessed indirectly.

For example, integrals and estimated error of subintervals of an integrand can be respectively summed using Sigma+ as they are calculated. Requirement of positive-integer **n** could needlessly interfere with that. (The integration-by-subinterval technique is is fully described in the HP-34C manual and HP-15C Advanced Functions Handbook.)

Division by a non-integer **n** in a mean average can be useful, also.

Still, a message should be displayed when Sigma- is rejected.

-- KS

Edited: 8 Mar 2006, 1:50 a.m.

Error indications, etc.

*Message #3 Posted by **Palmer O. anson, Jr.** on 8 Mar 2006, 11:44 a.m.,*
in response to message #2 by Karl Schneider

Once I had rebuilt a battery pack I was able to see that my HP-33C and HP-38C operated in the same manner as most of the other machines.

I did find that my HP-28S will not accept a SUM - immediately after a CLEAR SUM. Instead, it beeps and displays the message “Nonexistent SUM DAT”. That is consistent with your idea that a machine should provide an indication if it does not perform a command. Of course, the hp 33s does provide an indication that something is amiss if you try to do a SUM - immediately after a CLR SUM since it does not return a -1 to the display.

I found the following statement under the paragraph “Value Limits” on page 204 of the *HP-27 Owner’s Handbook*:

“You cannot have a negative number of entries for statistical problems. That is, you cannot key three inputs into SUM +, then subtract out four with SUM -. “

That didn’t agree with the tests I had run earlier so I cleared the statistics registers and did two SUM - commands with 2 in the Y register and 3 in the display register. Then I pressed the meanx key and saw +3.00 in the display. I pressed x<>y and saw +2.00 in the display. This seems to make sense since n = -2. I stored +2 in register 4 which sets n to +2. I pressed the mean x key and saw -3.00 in the display. I pressed x<>y and saw -2 in the display. Again, that makes sense. I got the same results with my HP-22.

HP 33S -- validation of n for STAT ("Error indications")

*Message #4 Posted by **Karl Schneider** on 10 Mar 2006, 12:41 a.m.,*
in response to message #3 by Palmer O. anson, Jr.

Palmer stated,

> Quote:
>
> I did find that my HP-28S will not accept a SUM - immediately after a CLEAR SUM. Instead, it beeps and displays the message “Nonexistent SUM DAT”. That is consistent with your idea that a machine should provide an indication if it does not perform a command.
>
> Of course, the hp 33s does provide an indication that something is amiss if you try to do a SUM - immediately after a CLR SUM since it does not return a -1 to the display.

Statistical calculations offered by RPL-based HP-28/48/49 models and by the HP-17B/17BII/27S are different from most other models. The 17/27/28/48/49 store each datum as it is entered -- unlike the other models, which only accumulate six summation values as each datum is entered.

Thus, it is quite logical for the 17/27/28/48/49 to refuse a SIGMA- operation if there are no stored data. However, refusing an operation without an explicit message (as the HP-33S can do for SIGMA-) is not a very good "indication".

KinHPo's attempt in the HP-33S to perform some validation of the summation value **n** before accepting SIGMA- or standard deviation operations is perhaps commendable, but of questionable practical value. Use of only CLEAR SIGMA, SIGMA+, and SIGMA- will yield integer values of **n**, which can be modified only by indirect access of register 28. There's not much reason to alter the value of **n**, but the user may have had a specific purpose for doing so.

-- KS

Edited: 10 Mar 2006, 1:20 a.m.

A reason to change n and use SUM- after CL SUM

*Message #5 Posted by **Palmer O. Hanson, Jr.** on 10 Mar 2006, 10:20 p.m.,*
in response to message #4 by Karl Schneider

This will explain why I was interested in the different way that my hp 33s responds to a SUM - command which appears after a CL SUM command but before a SUM + command has occurred. It will also show an application where it makes sense to change the value of n other than with SUM + and SUM - commands.

A quadratic solver which appears on pages 208-211 of the *HP-15C Advanced Functions Handbook* uses a so-called "tricky property of the SUM + and SUM - commands" in a way that is equivalent to carrying twenty significant digits in the calculation of the discrimiinant. As I was working my way through the *hp 33s user's guide* I found the following statement on page 1-19: "... During some complicated internal calculations, the calculator uses 15-digit precision for immediate results. ..." That sounded a lot like the "tricky properties". I did some tests that convinced me that the "tricky properties" were available in the hp 33s. I then decided to try to translate the HP-15C program for use with the hp 33s. Steps 011 through 025 of the HP-15C program are

```
011 CLEAR SUM
012 RCL 8
013 STO 7
014 RCL / I
015 RND
016 RCL I
017 SUM -
018 RCL 9
019 x <> 7
020 x <> y
021 RCL 8
022 SUM -
023 R Down
024 SUM -
025 RCL 7
```

and so on where there is an additional SUM - at step 052 and there are no SUM + commands in the loop. That means that the HP-15C is able to accept inputs to the statistics registers which would cause the number of entries (n) to become negative. The statistics routines in the HP-41, the HP-32S and several other HP machines can also do that. The statistics routine in the hp 33s cannot. After a little thought it occurred to me that hp 33s routine may not care how the value for the

number of entries (n) had been accumulated in register 28. To prove that I did a CL SUM and followed it by three SUM + commands where 2 was in the y register and 3 was in the x register. I recalled the means and saw the values 3 and 2 as expected. Then I stored 28 (the number of the statistics register which holds the value of n) in I, entered a 3 in the display, and did a STO+ (i). I recalled the means and saw the values 1.5 and 1.0 . To make a long story short I was able to successfully translate the HP-15C program for use on the hp 33s by storing a four for n in statistics register 28 after the CL SUM command and before the SUM - commands.

The resulting program for the hp 33s with test cases appears in the Articles section as "A Cadillac Quadratic Solver for the hp 33s."

SIGMA- on the HP-33S and your quadratic solver

*Message #6 Posted by **Karl Schneider** on 11 Mar 2006, 1:18 a.m.,*
in response to message #5 by Palmer O. Hanson, Jr.

Palmer --

So that was the motivation! Congratulations are in order for a successful porting of some of the fine work in the HP-15C AFH.

I suspect that the "tricky property" involves some internal numerical techniques to carry out products for the quadratic summations (X^2, Y^2, and XY) with minimal loss of accuracy.

Also, I believe that the AFH program -- and your adaptation of it -- is a perfect illustration of the point I made earlier: Specifically, that the added "validation" of **n** for SUM- and standard deviation in the HP-33S was a misguided "enhancement".

When the statistical-summation registers are employed only in their intended manner, using only CLEAR SUM, SUM+, and SUM-, **n** will be an integer. If the user never "deletes" more data than had been previously entered, **n** will remain non-negative. The value of **n** can be modified to an "invalid" value only by indirectly accessing register 28.

As for disallowing SUM- for **n** not a positive integer: That won't prevent "improper use" of SUM-, whose purpose is to allow removal of erroneous or selected data from the summations. What if the user first enters the data 5, 3, and 7 using SUM+, then "deletes" the datum 8 using SUM-? That wouldn't be valid, yet the HP-33S would allow it.

The HP calculators that were developed in-house do not impose misguided and ineffective restrictions on the summation functions. This allows users to fully exploit the functions as needed. Cases in point are the AFH program and summation of numerical integation over successive intervals.

-- KS

Edited: 13 Mar 2006, 4:10 a.m.

Re: Anomaly with the HP 33s

*Message #7 Posted by **Antonio Maschio** on 8 Mar 2006, 12:05 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

My 33S (SN CNA 5150xxxx) does accept a SUM- after a CLEAR SUM command. Or, better, doesn't complain, and pushes 0 on TOS.

Maybe it's a revised model?

-- Antonio Maschio

Re: Anomaly with the HP 33s

*Message #8 Posted by **Palmer . Hanson, Jr.** on 8 Mar 2006, 2:18 p.m.,*
in response to message #7 by Antonio Maschio

Are you sure that anything is really happening in your machine? My hp 33s is S/N 53200443 presumably a later unit than yours. When I try to do the Sum - after the CLR SUM I get a zero returned to the display and no error indication. But, if I recall the statistics registers 28 through 33 I don't find that anything has been entered.

Re: Anomaly with the HP 33s

*Message #9 Posted by **John Smitherman** on 9 Mar 2006, 7:40 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Interesting find Palmer. I'm not sure that I have ever used the Sum - command immediately after the Clear Sum but it is good to know about this difference. It would be interesting to compare this behavior with other Kinpo and non-Kinpo calculators.

In the 80's I worked between a 15c, 34c, 41cv and a 97. Some of those machines also issued a Clear x or Clear Stack when Clear Sum was used. I don't remember the details any longer but I had to be careful when moving around them.

Regards,

John

Re: Anomaly with the HP 33s

*Message #10 Posted by **bill platt** on 9 Mar 2006, 9:43 a.m.,*
in response to message #9 by John Smitherman

15c and 11c clear the stack.

Re: Anomaly with the HP 33s

*Message #11 Posted by **John Smitherman** on 11 Mar 2006, 1:59 p.m.,*
in response to message #10 by bill platt

I just tested my 34c and it does not clear the stack after a Clear Sum.

John

Clearing stack with CLEAR SIGMA

*Message #12 Posted by **Karl Schneider** on 10 Mar 2006, 1:12 a.m.,*
in response to message #9 by John Smitherman

John Smitherman posted,

> Quote:

> In the 80's I worked between a 15c, 34c, 41cv and a 97. Some of those machines also issued a Clear x or Clear Stack when Clear Sum was used.

As Bill Platt said, the HP-11C and HP-15C clear the stack when CLEAR SIGMA is performed. The HP-10C and HP-12C do, also.

However, the HP-32S, HP-32SII, and HP-33S do not. Also, the HP-41C* and HP-42S do not.

Why is this? Here's the answer:

The Voyagers (10, 11, 12, 15) and many earlier models have no "clear stack" function, and they calculate sample standard deviation on both the X- and Y-data when the **"s"** function is performed. So, if "debris" is entered from the y-register into Y-data when only X-data is explicitly entered, the standard deviation function may fail entirely due to SQRT(NEG) caused by the bogus Y-datum. Automatically clearing the stack when clearing summation registers for entry of data will help prevent erroneous results. (A user complained about failed standard deviation in the Forum several archives ago, when he did a calculation that placed results on the stack in the midst of data entry. The fix is to zero out the registers containing the contaminated and unneeded summations involving Y-data.)

The HP-32S, HP-32SII, and HP-33S calculate standard deviation separately for X-data and Y-data using distinct functions, so these models are not affected by the potential error.

The HP-41C* and HP-42S calculate sample standard deviation on both the X- and Y-data, as the Voyagers do. However, they also provide a function "CLST" to clear the stack in a separate operation.

So, there's a usually a valid reason for everything you see on these calculators...

-- KS

Re: Clearing stack with CLEAR SIGMA

*Message #13 Posted by **Valentin Albillo** on 10 Mar 2006, 6:27 a.m.,*
in response to message #12 by Karl Schneider

Hi, Karl:

Karl posted:

"So, there's a usually a valid reason for everything you see on these calculators.."

> A further valid reason for having CLEAR SIGMA to also perform CLST in the HP-11C and most specially the HP-15C is that by doing so you free an additional location on the keyboard to include yet another function.
>
> This is really important for the HP-15C, as the number of keys is the same as all other Voyagers, yet it has many more functions to assign to them. Using separate keys for CLEAR SIGMA and CLST would be a tremendous waste, and would probably mean that CLST wouldn't be included. Also, using the very same physical key for as many distinct functions as possible is mandatory.
>
> Would you believe that, in the HP-15C, the [+] key is used for *seven* different purposes ? :-)

Best regards from V.

11C/15C keyboard layout and functions

*Message #14 Posted by **Karl Schneider** on 11 Mar 2006, 5:21 p.m.,*
in response to message #13 by Valentin Albillo

Hi, Valentin --

Yes, indeed the layout and organization of the HP-15C keyboard (based, of course, on that of the HP-11C) is an absolute marvel of coherent thought and organization. Even after adding a substantial amount of functionality for the 15C, the grouping of functions on the keyboard was actually improved somewhat over the 11C. Note the following improvements on the 15C over the 11C:

- All statistical functions (except CLEAR SIGMA) are on the bottom row
- All three conversion functions are side-by-side
- Pi and its shift key are closer together
- x<>(i) and x<>I were replaced by a more-versatile "x<> "

Another bit of good thinking was to place SOLVE above the "divide" key, which is used for solving an exactly-determined linear system of equations.

So, if one could revisit 1981-1982 to improve the HP-15C (as well as other Voyagers, respectively), how could that have been done *without changing its hardware or paradigm in any way?* Fixed specifications include the following: Voyager packaging; 7-segment, 10-digit display; RAM; ROM space; microprocessor; and battery.

We've discussed this before, a few archives ago, with the question framed a bit differently. I can think of only the following improvements to the HP-15C within the limitations I have specified:

- Place LN and e^x on keys 12 and 13, rather than e^x and 10^x

This was implemented on the successor Pioneer-series models. Perhaps there was a pleasing symmetry with e^x, 10^x, and y^x side-by-side. Also, keycodes 11, 12, 13, 22, 23, 24, and 25 all had blue-shifted inverses of transcedental functions (maybe *that* was the reason!). However, LN is just more useful than 10^x.

- Show A, B, C, D, and E in program keycodes where appropriate (for labels and matrix identifiers), rather than the corresponding positional keycodes 11, 12, 13, 14, and 15.

This was implemented on the Pioneer-series HP-20S, but might have run into issues of development time and ROM space for the HP-15C.

- Move CLx above the backarrow as a yellow-shifted function, put "SHOW" or "MANT" as the blue-shifted function, and perform "CLEAR PREFIX" as on the HP-41 and the Pioneer-series models: by re-pressing the shift key.

Clearing a prefix key by performing a "no op" or "display mantissa" function was probably carried over from the LED-display Spice models such as the HP-34C, which had no annunciator for a shift key. I believe that considerable 34C microcode was ported to the 11C, which in turn was used in the 15C.

That's about it. *For what the HP-15C was*, those are about the only feasible improvements I can think of -- absolute perfection was nearly achieved. Certainly, a few other functions would have been useful, such x-estimator (present on the HP-10C and HP-12C), $y^{1/x}$, x^2, and "ALL" display

format. However, there just wan't available space, at least without resorting to key combinations that were arcane, unintuitive, or inconvenient.

BTW: What are the seven uses of the [+] operation? I can identify four, six, or eight, depending on how one is counting:

> Two real scalars
> Two complex scalars
> Two matrices
> One matrix and one real scalar (in either order)
> STO + (real scalar to numbered register or matrix element)
> RCL + (real scalar from numbered register or matrix element)

Best regards,

-- KS

Edited: 11 Mar 2006, 5:28 p.m.

Re: 11C/15C keyboard layout and functions

*Message #15 Posted by **Palmer O. Hanson, Jr.** on 11 Mar 2006, 9:37 p.m.,*
in response to message #14 by Karl Schneider

I don't have an HP-15C and as a result don't have a manual. I purchased the *HP-15C Advanced Functions Handbook* after I saw it mentioned in Kahan's paper "Mathematics Written in Sand". When I decided to translate the quadratic solvers I ran into a problem -- commands such as g TEST 2 didn't help me understand what was happening. I had to analyze the programs and look other places in the book in order to decipher what was happening. So my question is, why did they do it that way? It seems to me that it would be possible to put the actual commands in the display, just like the 32S and 33s.

Re: 11C/15C keyboard layout and functions

*Message #16 Posted by **Valentin Albillo** on 11 Mar 2006, 9:55 p.m.,*
in response to message #15 by Palmer O. Hanson, Jr.

Hi, Palmer:

Palmer posted:

" So my question is, why did they do it that way? It seems to me that it would be possible to put the actual commands in the display, just like the 32S and 33s.""

> As it has been commented a number of times, they did it that way because, as you know, the HP-15C doesn't have alphanumeric capabilities, so there's no way to execute a function by spelling its name, you must press the assigned key, which means 12 key locations would be needed to make available the 12 implemented logical tests.
>
> Due to the many distinct functions available in the HP-15C and the small, fixed number of keys, wasting 12 key locations wasn't an option and instead the two commonest tests were asigned to individual locations, while the 10 remaining ones where assigned to the TEST prefix, thus saving as much as 9 key locations for other functions. This explains why they weren't put on the keyboard.

> As for why they weren't put "in the display, just like the 32S and 33S" it might have to do with the simple fact that, as stated, the HP-15C does not have alphanumeric capabilities, plus it only has a 7-segment LCD display. It's just too hard (physically impossible some might say ...) to display "X less than or equal to Y ?" under such constraints, don't you think ?

Best regards from V.

Re: 11C/15C keyboard layout and functions

*Message #17 Posted by **Valentin Albillo** on 11 Mar 2006, 9:37 p.m.,*
in response to message #14 by Karl Schneider

Hi, Karl:

Karl posted:

"Show A, B, C, D, and E in program keycodes where appropriate (for labels and matrix identifiers), rather than the corresponding positional keycodes 11, 12, 13, 14, and 15. This was implemented on the Pioneer-series HP-20S, but might have run into issues of development time and ROM space for the HP-15C."

> It was also implemented in a Voyager as well, the HP-16C, which showed A,B,C,D,E, and F instead of the numeric keycode. As for ROM space, yes, the HP-15C had serious problems with this, with features being suggested and still awaiting implementation when they were absolutely out of it.
>
> I think that's why they didn't include the much more useful "Create Identity Matrix" function instead of the existing "Initialize Matrix Indexes" (MATRIX 1), which can be implemented in three steps (1, STO 0, STO 1) and thus only saves two, apart from the marginal benefit of leaving the stack unaltered. While programming the HP-15C, I've needed many times to create an identity matrix and so always missed that particular function dearly.

"Certainly, a few other functions would have been useful, such x-estimator (present on the HP-10C and HP-12C), $y^{1/x}$, x^2, and "ALL" display format"

> The HP-15C *does* have the x^2 function, look under "square root".

"BTW: What are the seven uses of the [+] operation?"

> The six you mention, plus [ON]-[+] initiates a self-test operation.

Best regards from V.

Re: 15C/16C keyboard layout and functions

*Message #18 Posted by **Karl Schneider** on 11 Mar 2006, 11:14 p.m.,*
in response to message #17 by Valentin Albillo

Hi, Valentin --

Thanks for the response. Just a few clarifications:

> Quote:
>
> It *(single letters in keycodes)* was also implemented in a Voyager as well, the HP-16C, which showed A,B,C,D,E, and F instead of the numeric keycode.

Indeed, but the HP-16C always shows A, B, C, D, E, or F -- even for the functions that do not involve the label or hexadecimal digit. This is because, no doubt, that the letters are prominently double-shot molded on the keys, making a more visible identifier (like 0 through 9) than the two-digit code. The HP-20S and HP-21S, however, make the functional distinction in the displayed keycodes.

> Quote:
>
> The HP-15C *does* have the x^2 function, look under "square root".

Oops, an incomplete statement on my part. I meant, "x^2 *as an unshifted function.*" Practically all HP calc's after the HP-35 had x^2, but few until the HP-33S included it as unshifted. It is used so frequently...

> Quote:
>
> The six you mention, plus [ON]-[+] initiates a self-test operation.

I considered that one, but that's not really an addition operation, *per se.*

Regarding the HP-16C: How might that one have been improved prior to release in 1982? I'm not an expert on required computer-science function set, but it would have been nice if it had the same RAM as the HP-15C, for purposes of programming. The calc is very useful for conversion of data formats, but custom programs are required. It is my understanding (from an Eric Smith post?) that the 15C had two chips for user RAM, whereas the other Voyagers had only one. I'm not sure if the microcode for 16C's automatic memory reallocation (similar to that of the HP-11C and HP-34C) would have complicated the addition of more RAM.

Best regards,

-- KS

Edited: 12 Mar 2006, 12:15 a.m.

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Short & Sweet Math Challenge #14: Cooking Conjectures !

*Message #1 Posted by **Valentin Albillo** on 7 Mar 2006, 8:52 a.m.*

Hi all,

A month has elapsed, and March, 7th is a pretty good day for another S&SMC, this time **S&SMC#14, Cooking Conjectures !**

Preamble

Number Theory is a fascinating branch of Mathematics, where we mostly deal with such basic, fundamental entities as integer numbers. Despite the apparent simplicity, experience shows that it's actually very easy to make integer-related conjectures that seem extremely simple on the outside, yet are nearly *intractable*. A good example would be the infamous Fermat Last Theorem (FLT), which remained a conjecture for several centuries despite the strongest, most strenuous attempts at proving it.

FLT was at long last proved, thus leaving its *conjecture* status (despite its name) to actually become a *theorem* proper, but many other important conjectures are still awaiting for either some clever demonstration, which will break new barriers and advance knowledge, or else a counterexample which proves them false, which doesn't usually advance knowledge an inch but at least gives peace of mind and conclusively stops further costly, time-wasting attempts to try and prove them. When such a counterexample is found, we say that the conjecture is ***cooked***, i.e., unsound, false. For this very S&SMC#14, put on your chef's hat and let's try and cook some nice conjectures for dinner !

The Challenge

For each of these three *plausible* conjectures, you must find a *cook*, i.e., the lowest counterexample that falsifies them. In all cases you are done if you manage to find but *one* counterexample, within the stated ranges. Optimizing for maximum speed will be first priority, then for program size and simplicity. These are the conjectures to cook:

Conjecture 1: Well-done

Some famous mathematician of old noted the fact that, apparently, you could find any number of integer solutions to the equations:

$a^2 + b^2 = c^2$ (e.g.: $3^2 + 4^2 = 5^2$)
$a^3 + b^3 + c^3 = d^3$ (e.g.: $3^3 + 4^3 + 5^3 = 6^3$)
...

where the number of terms added up is the *same* as the power, but he was able to prove that there were no non-trivial integer solutions to:

$a^3 + b^3 = c^3$

where the number of terms added up was *less* than the power. He thus conjectured that such equations as:

$$a^4 + b^4 + c^4 = d^4$$
$$a^5 + b^5 + c^5 + d^5 = e^5$$
...

etc., would also have no non-trivial solutions at all. Now, *you must prove him wrong by finding a counterexample for the 5th-power case*, i.e., write a program that finds one solution of:

$$\mathbf{a^5 + b^5 + c^5 + d^5 = e^5}$$

for non-zero, positive integer values **a**, **b**, **c**, **d**, **e** less than 150. Such a solution eluded mathematicians for two centuries till it was found in 1966 using tremendous computing power for the time. Just duplicate the feat using your small HP handheld calculator and your programming ingenuity.

Conjecture 2: Medium

Another less well-known mathematician stated the following conjecture:

"Every positive integer greater than 5 is the sum of a *prime* and a *power*"

For instance:

```
...
1234 = 991 +  3^5
1235 =  79 + 34^2
1236 =  11 + 35^2
1237 = 337 + 30^2
1238 =  13 + 35^2
...
```

etc. *You must find the smallest counterexample N which cannot be expressed as the sum of a prime and a power*, limiting your search to the range from N = 6 to 2000. Of course the prime numbers are 2,3,5,... (so 1 is *not* considered to be a prime), and the powers are $1^1 = 1$, $2^2 = 4$, $2^3 = 8$, $3^2 = 9$, $2^4 = 16$, ..., (so 0 is *not* considered to be a power for the purposes of decomposition into the sum of a prime and a power, but 1 *is*).

Conjecture 3: Rare

Finally, a more recent and amusing conjecture is that all positive integer numbers can be made into a palindromic number (i.e., one which reads the same from right or from left, such as 123474321) by reversing their digits and adding the result to the original number, then repeating these steps until you get a palindromic number. For instance, 78 gets palindromic in 4 cycles:

```
cycle 1:    78 +   87 =  165
cycle 2:   165 +  561 =  726
cycle 3:   726 +  627 = 1353
cycle 4:  1353 + 3531 = 4884, palindromic
```

You must find the smallest alleged counterexample N, for N up to 200, which fails to produce a palindromic result after M cycles, where M should go up to 200 cycles minimum, preferably up to 1000 cycles. Any number N which fails to produce a palindromic result after M cycles, for suitably large M (say 200, 500, or 1000) will be considered a counterexample for the purposes of this challenge.

Your program must ask for the maximum number of cycles to perform, M, and must output *any and all values* of N up to 200 which do not produce a palindromic result. Be aware that the numbers involved will get *very big* very soon. Your program must cater for this, without ever producing overflow or losing significant digits.

Caveat Emptor

The usual caveats apply, namely:

1. Do *not* post just solutions, actual code is *mandatory*. If you won't post code to accompany your alleged solutions at the time of posting them, then do not post the solutions, period. Wait till you can post both.

2. Code must be for an HP calculator preferably, but other vintage handhelds are acceptable as well. Posting code written in Visual Basic, Java, FORTRAN, or any other PC language will be considered unpolite and disrespectful.

3. Try to achieve a proper balance between you manually doing most of the work and having a "PRINT (solution)" program which does nothing of interest, and you contributing no enlightening ideas of your own and having instead a dumb, brute-force program which delivers the goods but takes ages to run. The ideal is to use some clever ingenuity to significantly speed up the program while still letting it do the hard work as it should. Remember the old computerese proverb:

   "The Program was made for man, not man for the Program"

   Anyway, you'll need some reasonable algorithmic and programming ingenuity if you don't want to kill your batteries in one go.

I'll post my own original solutions next Monday, which will be *three simple programs 7-, 8-, and 9-lines long for the HP-71B*. Though far from being the last word in state-of-the-art programming, they're didactically simple and they're fast and they get the work done reasonably quickly. I'll post background and relevant comments as well.

Let's see yours.

Best regards from V.

Re: Short & Sweet Math Challenge #14: Cooking Conjectures !

*Message #2 Posted by **GE** on 8 Mar 2006, 9:45 a.m.,*
in response to message #1 by Valentin Albillo

</lurk mode> Regarding challenge 3, I "know" that the answer is 196. <lurk mode> very much appreciating your challenges (without ever submitting code...)

Re: Short & Sweet Math Challenge #14: Cooking Conjectures !

*Message #3 Posted by **Bram** on 9 Mar 2006, 6:35 a.m.,*
in response to message #1 by Valentin Albillo

Hi Valentin,

Nice challenges and nicely formulated. I immediately started thinking about them, but, unpleasantly enough, I can't think of any other solution than to scan possibilities, which is disapproved in the first place. So for the moment no contributions from my side.
Still, as I was anxious to know the answer, I did write a brute-force program for my 32SII for the first challenge to see how fast it would run. Well, fast enough, but the amount of computations will take a few days to complete, despite the fact that I don't examine combinations that I already have computed but in different order.
Obviously this #14 is not my cup of tea, but I like reading it and I'm looking forward to your approaches. As always.

groeten,
Bram

Re: Short & Sweet Math Challenge #14: Cooking Conjectures !

*Message #4 Posted by **Valentin Albillo** on 9 Mar 2006, 7:24 a.m.,*
in response to message #3 by Bram

Hi, Bram:

Bram posted:

"Obviously this #14 is not my cup of tea, but I like reading it and I'm looking forward to your approaches. As always."

> Thanks for your interest and kind words but don't despair so soon. Even if Conjecture 1 would seem hard, it actually isn't that much, and you still have Conjectures 2 & 3 which are easier to cook.
>
> However, the HP32SII is probably not the ideal calc for this #14, because of its extremely limited amount of RAM. After you've entered some clever programming you'll be left with too few bytes for necessary variables, and even the program itself can't be much more refined than a pure brute-force search in that little RAM.
>
> If you can, I suggest you try instead one of these models: HP41CV/CX, HP42S, HP-71B, HP48/49 series. Even if you don't have any of these models available, you can always get Emu71 or other free emulators from the net, and try your might with that.
>
> Don't give up, I know you can succeed ! :-) You might also consider that if all interested people simply get the lazy bug and decide to just wait and see whatever solutions I will eventually post, I might consider the response a total failure and stop altogether posting any further challenges ... in other words, if I do work hard to produce them in the first place, then interested people are expected to work as well trying to solve them for good, else no deal.
>
> This isn't intended as a showcase of my abilities but an interaction between all of us who care for this, where we'll get to see some fun math and interesting programming techniques for a variety of models, and hopefully enjoy it all and learn something valuable in the process.

Best regards from V.

Re: Short & Sweet Math Challenge #14: Cooking Conjectures !

*Message #5 Posted by **Maximilian Hohmann** on 9 Mar 2006, 7:53 a.m.,*
in response to message #3 by Bram

Hello!

Thank you for this nice challenge, really something worth thinking about whike driving to work and back...

> Quote:
>
> Bram: Nice challenges and nicely formulated. I immediately started thinking about them, but, unpleasantly enough, I can't think of any other solution than to scan possibilities, which is disapproved in the first place. So for the moment no contributions from my side.

The same for me, I'm afraid. Nevertheless (I'm an engineer, not a mathematician ;-)), I tried a brute force "attack" on challenge no.1 with a little C-programme on my PowerBook (I wish I had this Casio pocket

calculator with "C" programming language, that would make my attempt a valid entry...) and it took 18 seconds (*) to find the result(s) (**). Which means: definitely no answer within my remaining lifetime on any vintage programmable calculator!

The only alternatives that come to mind would be an iterative approach or an optimisation (simplex method?) approach, but both would not fit into any of my programmable calculators.
Looking forward to see the real smart solutions!

Greetings, Max

(*) and 27 Minutes, if searching up to 300 instead of 150 ... which probably tranlates to a millenium on the hp-41
(**) my very first real brute-brute-brute approach would have taken several hours, so at least *some* thinking had to go into it.

Re: Short & Sweet Math Challenge #14: Cooking Conjectures !

*Message #6 Posted by **Valentin Albillo** on 9 Mar 2006, 8:29 a.m.,*
in response to message #5 by Maximilian Hohmann

Hi, Maximilian:

Maximilian posted:

"Thank you for this nice challenge, really something worth thinking about whike driving to work and back... "

> You're welcome, glad you find it interesting.

"I tried a brute force "attack" on challenge no.1 [...] and it took 18 seconds [...] which means: definitely no answer within my remaining lifetime on any vintage programmable calculator!"

> Believe me, it's not as hard as it seems. Obviously launching a pure brute-force search with the equivalent of four or five for-next loops is certain to take ages, as I mentioned in my original posting. But some clever refinements plus careful reading of the given conditions can make all the difference in the world, to the point where a vintage handheld, and certainly such models as the modern 48/49 series, can solve it in a few hours at most, if not mere minutes.

"Looking forward to see the real smart solutions! "

> I think you're overestimating the real difficulty. That's usually the way with my challenges: most people find them extremely difficult at first, till they realize that they're actually quite manageable, even easy given the right approach. Else, I wouldn't post them, it's no fun to ask solutions to challenges that would forcibly require the use of a fast, full-fledged computer.

Go ahead and if you don't manage to cope with Conjecture 1, try Conjectures 2 & 3 instead, they're probably easier (that's why I labelled them "Well-done" (hardest), "Medimum" (so-so hard) and "Rare" (easiest) :-)

Thanks for your interest and best regards from V.

Re: Short & Sweet Math Challenge #14: Cooking Conjectures !

*Message #7 Posted by **.** on 9 Mar 2006, 8:34 a.m.,*
in response to message #5 by Maximilian Hohmann

Hi,

Any chance that you could put your C solution online? I'd be happy to port it to the HP49 series and make it a valid entry (yes, you can use C with these, and the result is *very* fast).

Re: Short & Sweet Math Challenge #14: Cooking Conjectures !

*Message #8 Posted by **Maximilian Hohmann** on 9 Mar 2006, 8:43 a.m.,*
in response to message #7 by .

Hi!

> Quote:
>
> Any chance that you could put your C solution online? I'd be happy to port it to the HP49 series and make it a valid entry (yes, you can use C with these, and the result is *very* fast).

I have uploaded it here: http://www.bombie.de/tmp/hochfuenf.c

Greetings, Max

Re: Short & Sweet Math Challenge #14: Cooking Conjectures !

*Message #9 Posted by **Marcus von Cube, Germany** on 9 Mar 2006, 11:42 a.m.,*
in response to message #8 by Maximilian Hohmann

Hi Max,

a PB-2000C version is in your mailbox.

Marcus

Re: Short & Sweet Math Challenge #14: Cooking Conjectures !

*Message #10 Posted by **Marcus von Cube, Germany** on 11 Mar 2006, 9:05 a.m.,*
in response to message #5 by Maximilian Hohmann

Hi Max & Valentin,

> Quote:
>
> (I wish I had this Casio pocket calculator with "C" programming language, that would make my attempt a valid entry...) and it took 18 seconds (*) to find the result(s) (**)

I *do* have a PB-2000C and I was able to drain a set of expensive batteries with the program without ever coming near a solution...

So I tried to do something about it and I shortened the loops as good as I could. Here is the program:

```
/*
  Short&Sweet Math Challenges No.14 http://www.hpmuseum.org/
```

```
  Version for Casio PB-2000C


*/


/* IMIN: starting point */
#define IMIN 150


/* IMAX: highest number to search */
#define IMAX 150


/* There is no command line in Casio C */
main()
{
  double a5     = 0.0;
  double b5     = 0.0;
  double c5     = 0.0;
  double d5     = 0.0;
  double e5     = 0.0;
  double sum    = 0.0;
  double sumc   = 0.0;
  double sumd   = 0.0;
  double diff   = 0.0;
  double z      = 0.0;
  double vsmall = 1.0E-10;
  int    imin   = 0;
  int    imax   = 0;
  int    i      = 0;
  int    ia     = 0;
  int    ib     = 0;
  int    ic     = 0;
  int    id     = 0;
  int    ie     = 0;
  double *powtab = NULL;
  int    lpowtab = 0;
  int    output  = 0;


  /* get the parameters */
  printf( "imin=" );
  scanf( "%d", &imin );
  if ( imin == 0 ) imin = IMIN;


  printf( "imax=" );
  scanf( "%d", &imax );
  if ( imax == 0 ) imax = IMAX;


  printf( "output=" );
  scanf( "%d", &output );


  printf("SSMC #14.1: Searching up to %d\n", imax);


  /* power table to save multiplictions */
  lpowtab = imax + 1;
  powtab  = (double *) malloc(lpowtab * sizeof(powtab[0]));


  if (powtab == NULL) {
    printf("*** ERROR ***\nMemory allocation failed.\n");
    return;
  }


  for (i = 1 ; i < imin ; i++) {
    z = (double) i;
    powtab[i] = z * z * z * z * z;
  }


  /* outermost loop for "e" */
  for (ie = imin ; ie <= imax ; ie++) {
    z = (double) ie;
```

```
    e5 = powtab[ie] = z * z * z * z * z;
    if (output) {
      clrscr();
    }
    printf("e=%-4d e^5=%-15.0f\n", ie, e5);


    /* compute lower bound of "d" loop */
    z = e5 - 3 * powtab[ie-1];
    id = z <= 2 ? 1 : (int) pow( z, 0.2 );
    if (output) {
      gotoxy(12,1);
      printf("%-3d",id);
    }
    for (; id < ie; id++) {
      d5 = powtab[id];
      if (output) {
        gotoxy(12,1);
        printf("%-3d",id);
        gotoxy(16,1);
        printf("%-15.0f",d5);
      }


      /* compute lower bound of "c" loop */
      z = e5 - 3 * d5;
      ic = z <= 2 ? 1 : (int) pow( z, 0.2 );
      if (output) {
        gotoxy(0,1);
        printf("         %-3d",ic);
      }
      for (; ic <= id; ic++) {
        c5 = powtab[ic];
        sumc = d5 + c5;
        if (output) {
          gotoxy(8,1);
          printf("%-3d",ic);
          gotoxy(16,1);
          printf("%-15.0f",sumc);
        }
        /* check if c^5 + d^5 exeeds e^5 */
        if ( sumc > e5 ) break;


        /* compute lower bound of "b" loop */
        z = e5 - d5 - 2 * c5;
        ib = z <= 2 ? 1 : (int) pow( z, 0.2 );
        if (output) {
          gotoxy(0,1);
          printf("     %-3d",ib);
        }


        for (; ib <= ic; ib++) {
          b5 = powtab[ib];
          sumd = sumc + b5;
          if (output) {
            gotoxy(4,1);
            printf("%-3d",ib);
            gotoxy(16,1);
            printf("%-15.0f",sumd);
          }
          /* check if b^5 + c^5 + d^5 exeeds e^5 */
          if ( sumd > e5 ) break;


          /* compute lower bound of "a" loop */
          z = e5 - sumd;
          ia = z <= 2 ? 1 : (int) pow( z, 0.2 );
          if (output) {
            gotoxy(0,1);
            printf("%-3d",ia);
          }
          for (; ia <= ib; ia++) {
            a5 = powtab[ia];
            sum = sumd + a5;
            diff = sum - e5;


            if (-vsmall < diff && diff < vsmall) {
```

```
              if (output) clrscr();
              printf("SOLUTION: a=%4d b=%4d c=%4d\n          d=%4d e=%4d\n",
                     ia, ib, ic, id, ie);
              beep(1);
              if (output) getchar();
            }
            else if ( sum > e5 ) {
              /* a^5 + b^5 + c^5 + d^5 exeeds e^5 */
              break;
            }
            else {
              if (output) {
                gotoxy(0,1);
                printf("%-3d",ia);
                gotoxy(16,1);
                printf("%-15.0f",sum);
              }
            }
          }
        }
      }
    }
  }


  free(powtab);
  powtab = NULL;


  printf("\nFinished\n");
}
```

I'm relucant to post the result, because I've only tested the program above with time consuming screen output enabled and even after giving it a whole night it didn't reach more than e=70. At the time of this writing, the software is running again, this time with a restricted set of values for e to check ;-). I hope that it will come to a solution before Sunday.

To provide a solution for an HP calculator of old, I ported it back to DOS Borland C and let it run on my venerable HP 200lx. The machine seems to be much faster than the Casio, having reached e=65 after about 15 or 20 minutes. The Casio runs interpreted code (just like BASIC) while the HP runs a compiled DOS program.

I strongly believe that the search algorithm must be improved greatly to have a chance on a slow calculator.

Marcus

Re: Short & Sweet Math Challenge #14: Cooking Conjectures !

*Message #11 Posted by **Marcus von Cube, Germany** on 11 Mar 2006, 6:25 p.m.,*
in response to message #10 by Marcus von Cube, Germany

After a few hours of hard computational work, the HP 200lx was finally able to deliver:

27^5+84^5+110^5+133^5=144^5

My poor Casio has at least arrived at showing the same result after being told to start with e=144...

Re: S&SMC#14 Part 3 - BASIC solution

*Message #12 Posted by **Marcus von Cube, Germany** on 9 Mar 2006, 8:23 a.m.,*
in response to message #1 by Valentin Albillo

Hi Valentin,

this time I had some spare time to try to solve at least one of your challenges. Here is a BASIC program for the third conjecture.

The program

(Indentation and empty lines added later in the listing)

```
100 REM S&SMC 14, Problem 3
110 INPUT "Number of cycles=";NC
120 INPUT "From=";N1,"To=";N2
130 DIM D(1,199):REM digits


140 FOR N=N1 TO N2
160  REM Split N in digits
170  ID=0:L=0
180  T=N
190  D(ID,L)=T-10*INT(T/10)
200  T=INT(T/10)
210  L=L+1
220  IF T<>0 THEN 190
225  L=L-1


230  REM Cycle loop
240  FOR C=1 TO NC
250   GOSUB 1000:REM display
260   REM Add and Test
270   F=-1:CY=0


280   FOR I=0 TO L
290    D1=D(ID,I):D2=D(ID,L-I)
300    F=F AND (D1=D2)
310    IF F AND (I>=L-I)THEN I=L:C=NC:GOTO 350:REM Palindromic
320    S=D1+D2+CY:CY=0
330    IF S>9 THEN S=S-10:CY=1
340    D(1-ID,I)=S
350   NEXT I


360   ID=1-ID:REM swap source&dest
365   IF CY=1 THEN L=L+1:D(ID,L)=1
370  NEXT C


380  IF F=0 THEN 410
390 NEXT N
400 END


1000 REM display
1005 PRINT N;C;":";
1010 FOR II=0 TO L
1020  PRINT CHR$(48+D(ID,II));
1030 NEXT II
1040 PRINT
1050 RETURN
```

I wrote the program on a TI-74 with bare 8K RAM. The BASIC used here is pretty standard and I assume that a HP-71 could run the same software with minor changes (: -> @).

How is it done?

I didn't make the attempt to handle the sums as integers or real numbers because the number of digits available (10 to 14) wouldn't be enough. Splitting an array of 10 digit numbers in individual digits seemed to be too time consuming. So I traded memory for speed in this first attempt. Each individual digit is stored as a number in an array.

The array is defined with DIM D(1,199). TI-Basic does not support single precision or integer variables so this is a real waste of memory. The array caters for two numbers with up to 200 digits. A posible modification could be to use two character strings (with a maximum length of 255 in most BASICs) or to PEEK/POKE directly into memory.

The first dimension is used to switch between the source and the destination number. There is only one source number, read from left to right for the first summand and from right to left for the second. The other number is the sum. After each cycle, the roles are changed (see line 360).

While adding, two things happen. A comparison is made between the two digits added (line 300) and the result of the comparison is ANDed into a flag (F). If the flag is still set after half of the digits are processed, the number is a palindrome and the rest of the two inner loops are skipped (line 310.)

Secondly, a carry (CY) is set whenever the sum is greater than 9. This carry is than added in the next step of the digit loop (lines 320-340.)

The results

The program took about half an hour to find the result 196 with 200 cycles. The size of the array should be enough for more than 400 cycles (the longest number I got has 88 digits). The following output was created with a modified version of the software that can PRINT to a datafile on the PC (via the PC interface).

```
1  1 :1
2  1 :2
3  1 :3
4  1 :4
5  1 :5
6  1 :6
7  1 :7
8  1 :8
9  1 :9
10  1 :10
10  2 :11
11  1 :11
12  1 :12
12  2 :33
13  1 :13
13  2 :44
14  1 :14
14  2 :55
15  1 :15
15  2 :66
16  1 :16
16  2 :77
17  1 :17
17  2 :88
18  1 :18
18  2 :99
19  1 :19
19  2 :110
19  3 :121
20  1 :20
20  2 :22
21  1 :21
21  2 :33
22  1 :22
23  1 :23
23  2 :55
24  1 :24
24  2 :66
25  1 :25
25  2 :77
26  1 :26
26  2 :88
27  1 :27
27  2 :99
28  1 :28
28  2 :110
28  3 :121
```

```
29  1 :29
29  2 :121
30  1 :30
30  2 :33
31  1 :31
31  2 :44
32  1 :32
32  2 :55
33  1 :33
34  1 :34
34  2 :77
35  1 :35
35  2 :88
36  1 :36
36  2 :99
37  1 :37
37  2 :110
37  3 :121
38  1 :38
38  2 :121
39  1 :39
39  2 :132
39  3 :363
40  1 :40
40  2 :44
41  1 :41
41  2 :55
42  1 :42
42  2 :66
43  1 :43
43  2 :77
44  1 :44
45  1 :45
45  2 :99
46  1 :46
46  2 :110
46  3 :121
47  1 :47
47  2 :121
48  1 :48
48  2 :132
48  3 :363
49  1 :49
49  2 :143
49  3 :484
50  1 :50
50  2 :55
51  1 :51
51  2 :66
52  1 :52
52  2 :77
53  1 :53
53  2 :88
54  1 :54
54  2 :99
55  1 :55
56  1 :56
56  2 :121
57  1 :57
57  2 :132
57  3 :363
58  1 :58
58  2 :143
58  3 :484
59  1 :59
59  2 :154
59  3 :605
59  4 :1111
60  1 :60
60  2 :66
61  1 :61
61  2 :77
62  1 :62
62  2 :88
63  1 :63
63  2 :99
64  1 :64
64  2 :110
64  3 :121
65  1 :65
65  2 :121
```

```
66  1 :66
67  1 :67
67  2 :143
67  3 :484
68  1 :68
68  2 :154
68  3 :605
68  4 :1111
69  1 :69
69  2 :165
69  3 :726
69  4 :1353
69  5 :4884
70  1 :70
70  2 :77
71  1 :71
71  2 :88
72  1 :72
72  2 :99
73  1 :73
73  2 :110
73  3 :121
74  1 :74
74  2 :121
75  1 :75
75  2 :132
75  3 :363
76  1 :76
76  2 :143
76  3 :484
77  1 :77
78  1 :78
78  2 :165
78  3 :726
78  4 :1353
78  5 :4884
79  1 :79
79  2 :176
79  3 :847
79  4 :1595
79  5 :7546
79  6 :14003
79  7 :44044
80  1 :80
80  2 :88
81  1 :81
81  2 :99
82  1 :82
82  2 :110
82  3 :121
83  1 :83
83  2 :121
84  1 :84
84  2 :132
84  3 :363
85  1 :85
85  2 :143
85  3 :484
86  1 :86
86  2 :154
86  3 :605
86  4 :1111
87  1 :87
87  2 :165
87  3 :726
87  4 :1353
87  5 :4884
88  1 :88
89  1 :89
89  2 :187
89  3 :968
89  4 :1837
89  5 :9218
89  6 :17347
89  7 :91718
89  8 :173437
89  9 :907808
89  10 :1716517
89  11 :8872688
89  12 :17735476
89  13 :85189247
```

```
89  14 :159487405
89  15 :664272356
89  16 :1317544822
89  17 :3602001953
89  18 :7193004016
89  19 :13297007933
89  20 :47267087164
89  21 :93445163438
89  22 :176881317877
89  23 :955594506548
89  24 :1801200002107
89  25 :8813200023188
90  1 :90
90  2 :99
91  1 :91
91  2 :110
91  3 :121
92  1 :92
92  2 :121
93  1 :93
93  2 :132
93  3 :363
94  1 :94
94  2 :143
94  3 :484
95  1 :95
95  2 :154
95  3 :605
95  4 :1111
96  1 :96
96  2 :165
96  3 :726
96  4 :1353
96  5 :4884
97  1 :97
97  2 :176
97  3 :847
97  4 :1595
97  5 :7546
97  6 :14003
97  7 :44044
98  1 :98
98  2 :187
98  3 :968
98  4 :1837
98  5 :9218
98  6 :17347
98  7 :91718
98  8 :173437
98  9 :907808
98  10 :1716517
98  11 :8872688
98  12 :17735476
98  13 :85189247
98  14 :159487405
98  15 :664272356
98  16 :1317544822
98  17 :3602001953
98  18 :7193004016
98  19 :13297007933
98  20 :47267087164
98  21 :93445163438
98  22 :176881317877
98  23 :955594506548
98  24 :1801200002107
98  25 :8813200023188
99  1 :99
100  1 :100
100  2 :101
101  1 :101
102  1 :102
102  2 :303
103  1 :103
103  2 :404
104  1 :104
104  2 :505
105  1 :105
105  2 :606
106  1 :106
106  2 :707
107  1 :107
```

```
107  2 :808
108  1 :108
108  2 :909
109  1 :109
109  2 :1010
109  3 :1111
110  1 :110
110  2 :121
111  1 :111
112  1 :112
112  2 :323
113  1 :113
113  2 :424
114  1 :114
114  2 :525
115  1 :115
115  2 :626
116  1 :116
116  2 :727
117  1 :117
117  2 :828
118  1 :118
118  2 :929
119  1 :119
119  2 :1030
119  3 :1331
120  1 :120
120  2 :141
121  1 :121
122  1 :122
122  2 :343
123  1 :123
123  2 :444
124  1 :124
124  2 :545
125  1 :125
125  2 :646
126  1 :126
126  2 :747
127  1 :127
127  2 :848
128  1 :128
128  2 :949
129  1 :129
129  2 :1050
129  3 :1551
130  1 :130
130  2 :161
131  1 :131
132  1 :132
132  2 :363
133  1 :133
133  2 :464
134  1 :134
134  2 :565
135  1 :135
135  2 :666
136  1 :136
136  2 :767
137  1 :137
137  2 :868
138  1 :138
138  2 :969
139  1 :139
139  2 :1070
139  3 :1771
140  1 :140
140  2 :181
141  1 :141
142  1 :142
142  2 :383
143  1 :143
143  2 :484
144  1 :144
144  2 :585
145  1 :145
145  2 :686
146  1 :146
146  2 :787
147  1 :147
147  2 :888
```

```
148  1 :148
148  2 :989
149  1 :149
149  2 :1090
149  3 :1991
150  1 :150
150  2 :201
150  3 :303
151  1 :151
152  1 :152
152  2 :403
152  3 :707
153  1 :153
153  2 :504
153  3 :909
154  1 :154
154  2 :605
154  3 :1111
155  1 :155
155  2 :706
155  3 :1313
155  4 :4444
156  1 :156
156  2 :807
156  3 :1515
156  4 :6666
157  1 :157
157  2 :908
157  3 :1717
157  4 :8888
158  1 :158
158  2 :1009
158  3 :10010
158  4 :11011
159  1 :159
159  2 :1110
159  3 :1221
160  1 :160
160  2 :221
160  3 :343
161  1 :161
162  1 :162
162  2 :423
162  3 :747
163  1 :163
163  2 :524
163  3 :949
164  1 :164
164  2 :625
164  3 :1151
164  4 :2662
165  1 :165
165  2 :726
165  3 :1353
165  4 :4884
166  1 :166
166  2 :827
166  3 :1555
166  4 :7106
166  5 :13123
166  6 :45254
167  1 :167
167  2 :928
167  3 :1757
167  4 :9328
167  5 :17567
167  6 :94138
167  7 :177287
167  8 :960058
167  9 :1810127
167  10 :9020308
167  11 :17050517
167  12 :88555588
168  1 :168
168  2 :1029
168  3 :10230
168  4 :13431
169  1 :169
169  2 :1130
169  3 :1441
170  1 :170
```

```
170  2 :241
170  3 :383
171  1 :171
172  1 :172
172  2 :443
172  3 :787
173  1 :173
173  2 :544
173  3 :989
174  1 :174
174  2 :645
174  3 :1191
174  4 :3102
174  5 :5115
175  1 :175
175  2 :746
175  3 :1393
175  4 :5324
175  5 :9559
176  1 :176
176  2 :847
176  3 :1595
176  4 :7546
176  5 :14003
176  6 :44044
177  1 :177
177  2 :948
177  3 :1797
177  4 :9768
177  5 :18447
177  6 :92928
177  7 :175857
177  8 :934428
177  9 :1758867
177  10 :9447438
177  11 :17794887
177  12 :96644658
177  13 :182289327
177  14 :906271608
177  15 :1712444217
177  16 :8836886388
178  1 :178
178  2 :1049
178  3 :10450
178  4 :15851
179  1 :179
179  2 :1150
179  3 :1661
180  1 :180
180  2 :261
180  3 :423
180  4 :747
181  1 :181
182  1 :182
182  2 :463
182  3 :827
182  4 :1555
182  5 :7106
182  6 :13123
182  7 :45254
183  1 :183
183  2 :564
183  3 :1029
183  4 :10230
183  5 :13431
184  1 :184
184  2 :665
184  3 :1231
184  4 :2552
185  1 :185
185  2 :766
185  3 :1433
185  4 :4774
186  1 :186
186  2 :867
186  3 :1635
186  4 :6996
187  1 :187
187  2 :968
187  3 :1837
187  4 :9218
```

```
187  5 :17347
187  6 :91718
187  7 :173437
187  8 :907808
187  9 :1716517
187  10 :8872688
187  11 :17735476
187  12 :85189247
187  13 :159487405
187  14 :664272356
187  15 :1317544822
187  16 :3602001953
187  17 :7193004016
187  18 :13297007933
187  19 :47267087164
187  20 :93445163438
187  21 :176881317877
187  22 :955594506548
187  23 :1801200002107
187  24 :8813200023188
188  1 :188
188  2 :1069
188  3 :10670
188  4 :18271
188  5 :35552
188  6 :61105
188  7 :111221
188  8 :233332
189  1 :189
189  2 :1170
189  3 :1881
190  1 :190
190  2 :281
190  3 :463
190  4 :827
190  5 :1555
190  6 :7106
190  7 :13123
190  8 :45254
191  1 :191
192  1 :192
192  2 :483
192  3 :867
192  4 :1635
192  5 :6996
193  1 :193
193  2 :584
193  3 :1069
193  4 :10670
193  5 :18271
193  6 :35552
193  7 :61105
193  8 :111221
193  9 :233332
194  1 :194
194  2 :685
194  3 :1271
194  4 :2992
195  1 :195
195  2 :786
195  3 :1473
195  4 :5214
195  5 :9339
196  1 :196
196  2 :887
196  3 :1675
196  4 :7436
196  5 :13783
196  6 :52514
196  7 :94039
196  8 :187088
196  9 :1067869
196  10 :10755470
196  11 :18211171
196  12 :35322452
196  13 :60744805
196  14 :111589511
196  15 :227574622
196  16 :454050344
196  17 :897100798
196  18 :1794102596
```

```
196  19 :8746117567
196  20 :16403234045
196  21 :70446464506
196  22 :130992928913
196  23 :450822227944
196  24 :900544455998
196  25 :1800098901007
196  26 :8801197801088
196  27 :17602285712176
196  28 :84724043932847
196  29 :159547977975595
196  30 :755127757721546
196  31 :1400255515443103
196  32 :4413700670963144
196  33 :8827391431036288
196  34 :17653692772973576
196  35 :85191620502609247
196  36 :159482241005228405
196  37 :664304741147513356
196  38 :1317620482294916822
196  39 :3603815405135183953
196  40 :7197630720180367016
196  41 :13305261530450734933
196  42 :47248966933966985264
196  43 :93507933867933969538
196  44 :177104867844767940077
196  45 :947154635293536341848
196  46 :1795298270686072793597
196  47 :9749270977546801719568
196  48 :1840844206400459244904 7
196  49 :92502871604050616929528
196  50 :175095833209091234750057
196  51 :925153265399993573340628
196  52 :175119664079998713569215 7
196  53 :92641619586999576026037 28
196  54 :17537224026299926194218357
196  55 :92918473189299188236491928
196  56 :17583793647749848637397 3857
196  57 :93421731016239326101371 2428
196  58 :17584346203247865220274 24867
196  59 :94426818225816607522917 73438
196  60 :17786453745152322604573635887
196  61 :96640091285774647759309104658
196  62 :18228028168154929551752810 9327
196  63 :90618210739714224070371019 1608
196  64 :17123731247041844824974114 73217
196  65 :88361142726470292965716252 05388
196  66 :17671139534403958504034349321776
196  67 :85383533877444544434477942439447
196  68 :15987695885488798897895577 5977805
196  69 :66865653641476787876741463 5656756
196  70 :13263130728295357575348292 71313622
196  71 :35894448021138933328941119 74449853
196  72 :71788895932288756668772240 58899706
196  73 :13258878097456662332665448018788423
196  74 :45747659181913285659330927106673654
196  75 :91385319354816681317562845302348408
196  76 :17186963970964325263622469069370 6727
196  77 :89947703580606588888857159863067 4898
196  78 :17979530727012417777771322071614 49896
196  79 :87873946897235595555485532798650 47867
196  80 :16474800379447118011108106559729985745
196  81 :71233793175007298122189281057030833206
196  82 :13146759625002559624437855114170566423
196  83 :45613266766118146968707407116686633055 4
196  84 :91116633632235194047403825233363256220 8
196  85 :17134315726556047709480874055572662233 27
196  86 :89466582002106525794388614711200175664 98
196  87 :17893315300422394267788614031240046132996
196  88 :87816479304635435956564863353640397472867
196  89 :16464395860927077280313081680728079493 4745
196  90 :71208345569197939083443909388018765428 1206
196  91 :13142659124730677817688771878593842086614 23
196  92 :45559339373126555995575490654631264042855 54
196  93 :91117579835263012090151090210252637976811 08
196  94 :17123625957151502418030218042061517695252227
196  95 :89348885628667526499233299462576693647884398
196  96 :17869776026833505299846659892515337630676 8796
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 196  200
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```

Marcus

Edited: 9 Mar 2006, 8:24 a.m.

Re: Short & Sweet Math Challenge #14: Cooking Conjectures !

*Message #13 Posted by **Eamonn** on 10 Mar 2006, 12:05 p.m.,*
in response to message #1 by Valentin Albillo

Hi Valentin,

Thanks you for another S&SMC. I always find them fun to try, but lately it's been an even tougher challenge to find time to work on them.

I wrote a program in HP-71B Basic to find a solution for the first part of the challenge. I was going to write it in Sharp Basic, but the Sharp handhelds I have only support 10 significant digits and the program needs to be able to handle integers with 11 digits.

I don't have an actual HP-71B, so I used emu71. This was the first time I used this emulator and I agree that it is a great piece of software.

Here is my program. There are some small optimizations to reduce the number of cases that are tested (including starting the outer loop at 150 and working backward - thanks for the hint). However, it still took about 10 minutes to find the answer, even when running with emu71.

```
10 FOR E=150 TO 5 STEP -1 @ E5=E^5 @ FOR D=E-1 TO 4 STEP -1 @ D5=D^5 @ C1=INT ((E5-D5)^.2)
15 IF C1>D THEN D=0 @ GOTO 70
20 FOR C=C1 TO 3 STEP -1 @ C5=C^5 @ B1=INT((E5-D5-C5)^.2) @ IF B1>C THEN C=0 @ GOTO 60
30 FOR B=B1 TO 2 STEP -1 @ B5=B^5 @ A=INT((E5-D5-C5-B5)^.2) @ IF A>B THEN B=0 @ GOTO 50
40 IF A^5+B5+C5+D5=E5 THEN 100
50 NEXT B
60 NEXT C
```

```
70 NEXT D
80 NEXT E
90 STOP
100 PRINT A;" ";B;" ";C;" ";D
110 PRINT E
```

It finds the solution 27^5 + 84^5 + 110^5 + 133^5 = 144^5.

I'll see if I can make time to try the other parts of the challenge this weekend.

Best Regards,

Eamonn

Re: Short & Sweet Math Challenge #14: Cooking Conjectures !

*Message #14 Posted by **Gerson W. Barbosa** on 12 Mar 2006, 1:28 p.m.,*
in response to message #1 by Valentin Albillo

Hello Valentin,

Here is my attempt to cook conjecture #1. Ok, it's in QBASIC, but the conversion to HP-71B basic should be straightfoward. So, not to be completely off the rules, I tested it on the HP-200LX. After 26 minutes and 15 seconds the answer was found:

144 133 110 84 27

The program could be ported to the HP-42S but it would take even longer to run. Perhaps the 49G+ gets the same result in less than 10 minutes. Though the algorithm finds the right answer, it may still have flaws, which everybody is welcome to point me out. Of course, it is easier when we know the answer. If I hadn't seen Eamonn's and other people's solutions, I might not have even tried. Thanks all of you!

As always, I am looking forward to your solutions.

```
5  CLS
10 DEFDBL A-H, O-Z
15 DEFINT I-N
25 DIM Q(150)
30 FOR I = 2 TO 150
35   T = I * I
40   Q(I) = T * T * I
45 NEXT
50 FOR I = 150 TO 6 STEP -1
55    E5 = Q(I)
60    LOCATE 1, 1: PRINT I
65    FOR J = I - 1 TO 5 STEP -1
80      FOR K = J - 1 TO 4 STEP -1
85        FOR L = K - 1 TO 3 STEP -1
87          IF Q(J) + Q(K) > E5 THEN 110
90          FOR M = L - 1 TO 2 STEP -1
91            IF Q(J) + Q(K) + Q(L) > E5 THEN 105
92            S = Q(J) + Q(K) + Q(L) + Q(M)
94            IF S < E5 THEN 110
98            IF S = E5 THEN 130
100         NEXT M
105       NEXT L
110     NEXT K
115   NEXT J
120 NEXT I
130 CLS: PRINT I, J; K; L; M



-----------------------------------------
```

Edited to include Emu71 version:

```
25 STD @ DIM Q(150)
30 FOR I=2 TO 150 @ Q(I)=I^5 @ NEXT I
50 FOR I=150 TO 6 STEP -1
55 E5=Q(I) @ DISP I
65 FOR J=I-1 TO 5 STEP -1
80 FOR K=J-1 TO 4 STEP -1
85 FOR L=K-1 TO 3 STEP -1
87 IF Q(J)+Q(K)>E5 THEN 110
90 FOR M=L-1 TO 2 STEP -1
91 IF Q(J)+Q(K)+Q(L)>E5 THEN 105
92 S=Q(J)+Q(K)+Q(L)+Q(M)
94 IF S<E5 THEN 110 ELSE IF S=E5 THEN 130
100 NEXT M
105 NEXT L
110 NEXT K
115 NEXT J
120 NEXT I
130 PRINT I,J;K;L;M
```

Since this takes roughly one hour to find the answer (Emu71 @ 500MHz), I think my previous estimation of running time on the 49G+ is wrong: I'd say *less than 10 hours* instead of *less than 10 minutes* :-(

Edited: 12 Mar 2006, 4:20 p.m.

A question about conjecture #1

*Message #15 Posted by **Gerson W. Barbosa** on 12 Mar 2006, 5:36 p.m.,*
in response to message #14 by Gerson W. Barbosa

In order to test the algorithm, I made a slight modification in the QBasic program. So beginning with 580, the following results were obtained in about 5 minutes (Pentium III @ 500 MHz, QBX - Compiled QBASIC):

```
 576           532  440  336  108
 432           399  330  252   81
 288           266  220  168   54
 144           133  110   84   27
```

Exactly as expected, since (n*a)^5+(n*b)^5+(n*c)^5+(n*d)^5=(n*e)^5. Now, a question arises: besides {133, 110, 84, 24} and their multiples, are there any other four-number sets (and their multiples) that 'cook' the conjecture? Or is this set unique?

I've just found the answer to this question. According to this paper, NEW RESULTS IN EQUAL SUMS OF LIKE POWERS, the set is unique. Perhaps I should attend to an introductory course on Number Theory :-)

Edited: 12 Mar 2006, 6:22 p.m.

Re: A question about conjecture #1

*Message #16 Posted by **Gerson W. Barbosa** on 15 Mar 2006, 8:57 p.m.,*
in response to message #15 by Gerson W. Barbosa

I think I had better stick to my first idea:

$85359^5 = 85282^5 + 28969^5 + 3183^5 + 55^5$ was found by J. Frye (J.-C. Meyrignac, pers. comm., Sep. 9, 2004):

http://mathworld.wolfram.com/DiophantineEquation5thPowers.html

What will come next?

Gerson.

Re: A question about conjecture #1

*Message #17 Posted by **Marcus von Cube, Germany** on 16 Mar 2006, 2:16 a.m.,*
in response to message #16 by Gerson W. Barbosa

> Quote:
>
> $85359^5 = 85282^5 + 28969^5 + 3183^5 + 55^5$

This is even beyond the accuracy of my double precision Sharp PC-E500. The sum has 25 digits while the Sharp can handle 20 digit precision. You need at least 83 bits (unsigned binary) to store a number of that size.

Marcus

Re: A question about conjecture #1

*Message #18 Posted by **James M. Prange (Michigan)** on 16 Mar 2006, 3:24 a.m.,*
in response to message #17 by Marcus von Cube, Germany

But verified on the 49 series, in "exact" mode.

Regards,
James

Re: A question about conjecture #1

*Message #19 Posted by **Marcus von Cube, Germany** on 16 Mar 2006, 7:28 a.m.,*
in response to message #18 by James M. Prange (Michigan)

James,

I simply forgot about the CAS machines which come with arbitrary precision integer arithmetic. The TI Voyage 200 can calculate the sum as well.

Marcus

Re: SSMC #14/2 in RPL

*Message #20 Posted by **Marcus von Cube, Germany** on 12 Mar 2006, 5:09 p.m.,*
in response to message #1 by Valentin Albillo

Hi Valentin,

here is my attempt at the second problem in RPL on an HP49g+.

First Step: Computing Prime Numbers

The following program, named MKPR, computes a list of primes. The upper limit is given on the stack:

```
%%HP: T(3)A(R)F(.);
\<< { 2. } 'PRIME' STO 3. SWAP
  FOR i 1. \-> j
    \<<
      DO i PRIME j GET
        IF DUP2 SQ \>=
        THEN
          IF / FP
          THEN j 1. + 'j' STO 0.
          ELSE 1.
          END
        ELSE DROP2 PRIME i + 'PRIME' STO 1.
        END
      UNTIL
      END
    \>> 2.
  STEP
\>>
```

It computes the following list if 2000 is entered on the stack:

{ 2. 3. 5. 7. 11. 13. 17. 19. 23. 29. 31. 37. 41. 43. 47. 53. 59. 61. 67. 71. 73. 79. 83. 89. 97. 101. 103. 107. 109. 113. 127. 131. 137. 139. 149. 151. 157. 163. 167. 173. 179. 181. 191. 193. 197. 199. 211. 223. 227. 229. 233. 239. 241. 251. 257. 263. 269. 271. 277. 281. 283. 293. 307. 311. 313. 317. 331. 337. 347. 349. 353. 359. 367. 373. 379. 383. 389. 397. 401. 409. 419. 421. 431. 433. 439. 443. 449. 457. 461. 463. 467. 479. 487. 491. 499. 503. 509. 521. 523. 541. 547. 557. 563. 569. 571. 577. 587. 593. 599. 601. 607. 613. 617. 619. 631. 641. 643. 647. 653. 659. 661. 673. 677. 683. 691. 701. 709. 719. 727. 733. 739. 743. 751. 757. 761. 769. 773. 787. 797. 809. 811. 821. 823. 827. 829. 839. 853. 857. 859. 863. 877. 881. 883. 887. 907. 911. 919. 929. 937. 941. 947. 953. 967. 971. 977. 983. 991. 997. 1009. 1013. 1019. 1021. 1031. 1033. 1039. 1049. 1051. 1061. 1063. 1069. 1087. 1091. 1093. 1097. 1103. 1109. 1117. 1123. 1129. 1151. 1153. 1163. 1171. 1181. 1187. 1193. 1201. 1213. 1217. 1223. 1229. 1231. 1237. 1249. 1259. 1277. 1279. 1283. 1289. 1291. 1297. 1301. 1303. 1307. 1319. 1321. 1327. 1361. 1367. 1373. 1381. 1399. 1409. 1423. 1427. 1429. 1433. 1439. 1447. 1451. 1453. 1459. 1471. 1481. 1483. 1487. 1489. 1493. 1499. 1511. 1523. 1531. 1543. 1549. 1553. 1559. 1567. 1571. 1579. 1583. 1597. 1601. 1607. 1609. 1613. 1619. 1621. 1627. 1637. 1657. 1663. 1667. 1669. 1693. 1697. 1699. 1709. 1721. 1723. 1733. 1741. 1747. 1753. 1759. 1777. 1783. 1787. 1789. 1801. 1811. 1823. 1831. 1847. 1861. 1867. 1871. 1873. 1877. 1879. 1889. 1901. 1907. 1913. 1931. 1933. 1949. 1951. 1973. 1979. 1987. 1993. 1997. 1999. }

You should set numeric and approximate mode before creating the list. The list is hopefully correct; if not, please complain!

Second Step: Computing Powers

The next RPL program, named MKPOW, creates a list of powers as indicated in the challenge. The upper limit is entered on the stack:

```
%%HP: T(3)A(R)F(.);
\<< { 1. } 'POWR' STO \-> n
  \<< 2. n LN 2. LN /
    FOR p 2. n p XROOT
      FOR i POWR i p ^
        IF DUP2 POS
        THEN DROP2
        ELSE + 'POWR' STO
        END
      NEXT
    NEXT
  \>> POWR SORT 'POWR' STO
\>>
```

Here is the result:

{ 1. 4. 8. 9. 16. 25. 27. 32. 36. 49. 64. 81. 100. 121. 125. 128. 144. 169. 196. 216. 225. 243. 256. 289. 324. 343.

361. 400. 441. 484. 512. 529. 576. 625. 676. 729. 784. 841. 900. 961. 1000. 1024. 1089. 1156. 1225. 1296. 1331. 1369. 1444. 1521. 1600. 1681. 1728. 1764. 1849. 1936. }

If anything is wrong with my list, post a comment, please!

Final Step: Search for Sums

Here is my attempt, named SSMC14, to find a number which cannot be represented as a sum of elements taken from each of the lists:

```
%%HP: T(3)A(R)F(.);
\<< 6. SWAP
  FOR n
    n 3 DISP
    0. \-> p
    \<<
      DO p 1. + 'p' STO n POWR p GET -
        IF DUP 0. >
        THEN PRIME SWAP POS
        ELSE n HALT 1.
        END
      UNTIL
      END
    \>>
  NEXT
\>>
```

If it finds a solution, it hits a breakpoint. The prgramm must be killed manually or can be continued to search for more solutions. The upper limit is entered on the stack. Both lists must be created beforehand.

Here is my result:

1549

Marcus

Re: SSMC #14/2 in RPL

*Message #21 Posted by **Valentin Albillo** on 12 Mar 2006, 6:49 p.m.,*
in response to message #20 by Marcus von Cube, Germany

Hi, Marcus:

Your result is correct. Timing ?

Best regards from V.

Re: SSMC #14/2 in RPL

*Message #22 Posted by **Marcus von Cube, Germany** on 13 Mar 2006, 2:52 a.m.,*
in response to message #21 by Valentin Albillo

> Quote:
>
> Your result is correct. Timing ?

Wow!

Creating the lists is a matter minutes (PRIME, 2:10) or Seconds (POWR, 0:04). The search itself took

25 minutes. All measurements were done on a 49g+

Marcus

Re: SSMC #14/2 in RPL

*Message #23 Posted by **Arnaud Amiel** on 13 Mar 2006, 3:53 a.m.,*
in response to message #20 by Marcus von Cube, Germany

Unfortunately I haven't had time to look at the SSMC but I would have used the NEXTPRIME command on the 49.

It works correctly up to a few millions.

Arnaud

Re: SSMC #14/2 in RPL

*Message #24 Posted by **Marcus von Cube, Germany** on 13 Mar 2006, 4:42 a.m.,*
in response to message #23 by Arnaud Amiel

Arnaud,

NEXTPRIME might be worth a try to speed up building the PRIME list but we cannot gain more than about 2 minutes here. On the other hand, the programs posted should work on the lower end machines, too.

The 48S cannot sort the power list but the roles of the two lists in program SSMC14 can be reversed and the prime list is always sorted. This results in a performance penalty because the userRPL code must operate on the longer of the two lists and the built-in operation POS works on the shorter. The 48G has SORT and can use a sorted POWR list.

I'll probably do some tests on my 48 series machines, too.

Marcus

Re: SSMC #14/2 in RPL - Revised

*Message #25 Posted by **Marcus von Cube, Germany** on 13 Mar 2006, 5:53 a.m.,*
in response to message #20 by Marcus von Cube, Germany

I revised the above solution slightly and added a controlling program to get some timing information.

MKPOW

```
%%HP: T(3)A(R)F(.);
\<< { 1. } 'POWR' STO
  \-> n
  \<<
    2
    n LN 2 LN /           @ log2 n as upper limit
    FOR p
      2
      n p XROOT           @ n^1/p as upper limit
      FOR i
        POWR i p ^
        IF DUP2 POS       @ check if already in list
        THEN DROP2
        ELSE + 'POWR' STO @ add to list
        END
      NEXT
```

```
    NEXT
  \>>
  POWR SORT 'POWR' STO    @ sort list (only on 48G and up)
\>>
```

MKPR

```
%%HP: T(3)A(R)F(.);
\<<
  { 2. 3. } 'PRIME' STO   @ set up list with first elements
  5 SWAP                  @ loop from 5 to limit on stack
  FOR i
    2 \-> j               @ j indexes into the list for divisors
    \<<
      DO
        i                 @ number to test
        PRIME j GET       @ get divisor from list
        IF DUP2 SQ \>=    @ check if beyond reasonable limit
        THEN
          IF / FP         @ check if divisible
          THEN
            'j' INCR DROP @ not divisible, try next divisor
            0             @ continue with DO-UNTIL
          ELSE
            1             @ leave DO-UNTIL loop
          END
        ELSE
          DROP2           @ drop i and divisor
          PRIME i +
          'PRIME' STO     @ add new prime to list
          1               @ leave DO-UNTIL loop
        END
      UNTIL               @ flag is already on the stack
      END
    \>>
  2 STEP                  @ next odd number to try
\>>
```

SSMC14

```
%%HP: T(3)A(R)F(.);
\<<
  FOR n                   @ both limits must be on stack!
  n 3 DISP                @ inform user
  0 \-> p                 @ p indexes into the POWR list
    \<<
      DO
        n                 @ number to test
        POWR 'p' INCR GET @ first summand from POWR list
        -                 @ other summand
        IF DUP 0 >        @ test if both summands are positive
        THEN
          PRIME SWAP POS  @ leave DO-UNTIL if summand is a prime
        ELSE
          DROP n          @ Heureka! Show just the result on the stack
          1E99 'n' STO    @ leave FOR-NEXT
          1               @ leave DO-UNTIL
        END
      UNTIL               @ flag is already on the stack
      END
    \>>
  NEXT
\>>
```

SSMC14-V2
Slower but works with unsorted POWR list on HP48S

```
%%HP: T(3)A(R)F(.);
\<<
  FOR n
  n 3 DISP
  0 \-> p
    \<<
      DO
        n
        POWR 'p' INCR GET
        -
```

```
        IF DUP 0 >
        THEN POWR SWAP POS
        ELSE DROP n 1E99 'n' STO 1
        END
      UNTIL
      END
    \>>
  NEXT
\>>


TIM
Timing loop

%%HP: T(3)A(R)F(.);
\<<
  TIME
  2000 MKPOW TIME 600 .1 BEEP
  2000 MKPR  TIME 600 .1 BEEP
  6 2000 SSMC14 TIME 600 .1 BEEP
\>>
```

The software is currently executing on an HP48G, I'll post timing information later.

Marcus

Here are the execution times on a 48G:

MKPOW: 00:00:16 (h:m:s)
MKPR: 00:09:09
SSMC14: 02:05:10

This is roughly factor 4 compared to the 49g+.

Marcus

Edited: 13 Mar 2006, 8:16 a.m.

Re: Short & Sweet Math Challenge #14: Cooking Conjectures !

*Message #26 Posted by **Gerson W. Barbosa** on 12 Mar 2006, 10:34 p.m.,*
in response to message #1 by Valentin Albillo

Here is my Emu71 version for problem #1 slightly modified to avoid some unnecessary additions. Now it is about 50% faster:

```
>LIST
25 STD @ DIM Q(150) @ FOR I=2 TO 150 @ Q(I)=I^5 @ NEXT I
50 FOR I=150 TO 6 STEP -1 @ E5=Q(I) @ DISP I
65 FOR J=I-1 TO 5 STEP -1 @ FOR K=J-1 TO 4 STEP -1 @ FOR L=K-1 TO 3 STEP -1
70 S1=Q(J)+Q(K) @ IF S1>E5 THEN 110
80 FOR M=L-1 TO 2 STEP -1 @ S2=S1+Q(L) @ IF S2>E5 THEN 105
90 S3=S2+Q(M) @ IF S3<E5 THEN 110 ELSE IF S3=E5 THEN 130
100 NEXT M
105 NEXT L
110 NEXT K @ NEXT J
120 NEXT I
130 PRINT I,J;K;L;M
>
>RUN
 150
 149
 148
 147
 146
 145
 144
```

```
144                  133  110  84  27
```

Running time: 47 min 21 sec @ 500MHz (previously 1 hour 10 min 36 sec).

Regards,

Gerson.

S&SMC#14: My Original Solutions and Comments [LONG]

*Message #27 Posted by **Valentin Albillo** on 13 Mar 2006, 6:13 a.m.,*
in response to message #1 by Valentin Albillo

Hi all:

Thanks to all of you who were interested in this S&SMC#14, and most specially to the outstanding ones (Marcus von Cube, Eamonn, Gerson W. Barbosa, Mr. Hohmann) who actually cared to take the time to develop and post their very clever solutions, I really hope you enjoyed it and consider the afforded time well spent. These are my original solutions, with comments.

Conjecture 1: Well-done

This is a particular case of a plausible conjecture issued by **Euler** in 1769, which resisted every effort to prove or disprove it for almost *two centuries* until it was finally disproved in 1966 when the first counterexample was found by Lander and Parkin, using a then quite powerful CDC 6600 computer.

Now, we're asked to duplicate that feat, namely finding a non-trivial solution to $\mathbf{A^5+B^5+C^5+D^5=E^5}$ in non-zero integers, using our favorite handhelds. A straightforward, dumb brute-force search would require *excessive* running times (flattening several sets of batteries in the process), but a few refinements here and there will cut down the task by *several orders of magnitude*. However, these refinements need a significant amount of RAM to implement, which means only advanced models like the HP-41CX, HP42S, HP-71B, and HP48/49 can be profitably used.

Here's my original 7-line, 251-byte solution for the HP-71B

```
1 DESTROY ALL @ OPTION BASE 0 @ K=150 @ DIM P(K)
2 FOR I=0 TO K @ P(I)=I*I*I*I*I @ NEXT I @ R=.2 @ L=2^R @ M=3^R @ N=4^R
3 FOR E=K TO 1 STEP -1 @ T=P(E) @ DISP E
4 FOR D=E-1 TO E/N STEP -1 @ F=T-P(D) @ U=F^R
5 FOR C=INT(U) TO U/M STEP -1 @ G=F-P(C) @ V=G^R @ FOR B=INT(V) TO V/L STEP -1
6 IF NOT FP((G-P(B))^R) THEN A=(G-P(B))^R @ DISP A;B;C;D;E @ END
7 NEXT B @ NEXT C @ NEXT D @ NEXT E
```

upon running, it eventually outputs:

```
>RUN

    27  84  110  133  144
```

which is the sought-for *counterexample*, as indeed

$$\mathbf{27^5 + 84^5 + 110^5 + 133^5 = 61917364224 = 144^5}$$

The running time is a short 90 min. in an actual, physical HP-71B, and only 13 seconds under Emu71 in my IBM laptop. To achieve such short times the following techniques are used to speed the search, they key of which is to iteratively reduce the problem to a similar yet easier one:

- first of all, a table of 5^{th}-powers for integer arguments from 0 to 150 is *precomputed*, so that during the search the extremely frequent need of raising values to the 5^{th} power is reduced to indexing an array element, which is significantly *faster*.

- some other needed constants are precomputed as well, which saves additional time when they're used inside the search's nested loops, namely 1/5, $2^{1/5}$, $3^{1/5}$, $4^{1/5}$

- the outer loop traverses all possible values for E in *reverse order*, from the largest possible value to the smallest.

- for earch value of E, we must try to decompose E^5 as the sum of four 5^{th}-powers. Assuming D is the *largest* one, we must search for a decomposition of E^5-D^5 in *three* 5^{th}-powers where, as D is the largest element by definition, we only need to search for values of D in the limited range:

  $(E^5/4)^{1/5} <= D < (E^5)^{1/5}$ i.e. $E/4^{1/5} <= D < E$

  which we traverse in reverse order as well. For each value of D, we must now try to decompose E^5-D^5 as the sum of *three* 5^{th}-powers, so *we've reduced our problem to a similar but simpler one*, and the same argument is repeated till a single summand is left, which we simply check to ascertain whether it is a 5^{th}-power or not (i.e.: the fractional part of its fifth root equals 0). When this condition is met, we've found a counterexample so the program outputs it and stops.

Conjecture 2: Medium

We're asked for the smallest integer number from 6 to 2000 that can't be decomposed as the sum of a prime and a non-zero power.

A brute-force search would again require excessive running time, but *we can trade RAM for speed* once more. This is my original 9-line, 259-byte solution for the HP-71:

```
1 DESTROY ALL @ OPTION BASE 1 @ M=2000 @ D=LOG(M) @ N=INT(SQR(M))
2 INTEGER P(M),Q(310) @ FOR B=2 TO N
3 FOR E=2 TO INT(D/LOG(B)) @ P(B^E)=1 @ NEXT E @ NEXT B @ P(1)=1 @ Q(1)=2 @ I=2
4 FOR N=3 TO M-1 STEP 2 @ FOR D=3 TO INT(SQR(N)) STEP 2 @ IF MOD(N,D)=0 THEN 6
5 NEXT D @ Q(I)=N @ I=I+1
6 NEXT N @ T=I-1 @ FOR N=6 TO M
7 FOR D=1 TO T @ E=N-Q(D) @ IF E<=0 THEN DISP N @ END ELSE IF P(E) THEN 9
8 NEXT D @ DISP N @ END
9 NEXT N
```

upon running, it outputs:

```
>RUN

    1549
```

which is the *smallest counterexample*. The running time is a fast 30 min. in a physical HP-71B, and only 6 seconds under Emu71 in my IBM laptop, thanks to these simple yet efficient techniques:

- first of all, this challenge's actually far easier than it seems at first. Actually, for the search to proceed fast and smoothly, we need but two things: (1) to have all relevant prime numbers instantly at hand, and (2) to be able to test *extremely quickly* whether a given integer is a perfect power or not. This is achieved as follows:

- all primes up to 2000 are *precomputed and stored* in an array so that they can be retrieved very fast during the search

- in order to quickly check whether a given integer is a perfect power or not, we stablish a 2000-element *'flag'* array where each element has the value 1 or 0 depending on whether the index is a perfect power or not, i.e., P(7)=0, P(8)=1 (as $8=2^3$), etc. This could be achieved using much less RAM by packing eight such 'flags' per byte in a string, for instance, but here speed is our top priority so we simply define an integer array and let each individual element act as a 'flag'.

- with primes and very fast power-detection available, the main search just traverses all possible values from 6 to 2000, in ascending order. For each, every prime is subtracted in turn and the result is checked to see if it is a perfect power, skipping to the next value if it is. When no prime subtracted will result in a perfect power remaining, the corresponding value is output as a valid *counterexample*.

- by the way, the prime array is dimensioned to have 310 elements because there are some 300+ prime numbers in the range from 2 to 2000 (actually, 303). If you've got INTEGRATE capabilities in your HP model, you can very quickly compute an *approximate* value for the required number of elements as follows:

```
approx. #primes up to M = INT(INTEGRAL(2,M,1,1/LN(IVAR))
```

  so that the line:

```
2 INTEGER P(M),Q(310) @ ...
```

  becomes:

```
2 INTEGER P(M),Q(INTEGRAL(2,M,1,1/LN(IVAR))) @ ...
```

  and this allows you to expand the search to numbers greater than 2000 by simply changing the value assigned to M at line 1, without having to consult tables for the proper size of array Q. As the integration's *uncertainty* is specified as 1, (i.e: FIX 0 or SCI 0 for models that use the display setting instead), the integral is computed *very quickly*.

  Now, you'll agree with me that a line which dimensions an array with a size *defined by a non-elementary integral* isn't that frequent a sight.

Conjecture 3: Rare

This is a well-known conjecture *as yet unproved or disproved*, though everybody and his uncle feels that **196** is a true counterexample, as it has failed to produce a palindrome after hundreds and hundreds of millions of cycles. For instance, after 670,000,000 cycles you're dealing with numbers *280,000,000-digit long*(!!), yet no palindrome in sight ...

In order to implement this challenge, *multiprecision addition* is mandatory, which can be done with arrays or else with strings, which is the technique I've used in my original 8-line, 364-byte solution for the HP-71B:

```
1 DIM M$[500],N$[500] @ INPUT "#Cmax=";M @ FOR I=0 TO 200 @ N$=STR$(I) @ K=0
2 CALL MADD(N$,M$,K) @ IF M$=REV$(M$) THEN 4 ELSE IF K<M THEN N$=M$ @ GOTO 2
3 DISP I;"fails (";M$;" after";M;"cycles)"
4 NEXT I @ DISP "OK" @ END


5 SUB MADD(A$,C$,K) @ DIM B$[500] @ L=LEN(A$) @ E=10^11 @ C$="" @ C=0
6 B$=REV$(A$) @ FOR I=L TO 1 STEP -11 @ C=VAL(A$[I-10,I])+VAL(B$[I-10,I])+C
7 D$=STR$(MOD(C,E)) @ C$=RPT$("0",11-LEN(D$))&D$&C$ @ C=C DIV E @ NEXT I
8 C$=LTRIM$(STR$(C)&C$,"0") @ K=K+1 @ END SUB
```

The algorithm is completely straightforward and no special techniques are needed, though both for speed and to avoid obscuring the inner works with trivial utility routines, I've made use of several string-handling keywords (REV$, RPT$, LTRIM$) which are available in a number of very common LEX files and ROMs (STRNGLEX, REVLEX, RPTLEX, JPC ROM, etc). The program works as follows:

- the multiprecision results will be stored in strings (which in the case of the HP-71B would allow us to handle *up to 65000-digit numbers!*), initially dimensioned to hold up to 500-digit numbers, more than enough for up to 1000 cycles.

- to perform the multiprecision addition of a number and its mirror image, a call to the MADD subprogram is made. This subprogram takes the number as one of its string arguments pased by value, and returns the result of the addition as another string argument passed by reference. For instance:

```
>CALL MADD("78",M$,0) @ M$

  165

>>CALL MADD("8263485213753244473212",M$,0) @ M$

  10387229637326370316840
```

  because 78+87 = 165 and 8263485213753244473212+21237444235731258436 28 = 10387229637326370316840. Actually, the subprogram's code could be inserted directly in the main program proper, so we could get rid of the subprogram altogether and get a slightly faster, shorter program (7 lines instead of 8) but 'outsourcing' particular tasks to subprograms encourages modular programming and makes for clearer, cleaner code and provides additional functionality as well.

  After calling the subprogram, the main program just checks if the new result is *palindromic*, or if we've exhausted the number of cycles, and iterates as needed.

Upon running, it produces the following, for assorted maximum number of cycles (10, 20, 40, 100, 200, 1000):

```
>RUN

#Cmax=10

  89 fails (8872688 after 10 cycles)
  98 fails (8872688 after 10 cycles)
 167 fails (17050517 after 10 cycles)
 177 fails (17794887 after 10 cycles)
 187 fails (17735476 after 10 cycles)
 196 fails (18211171 after 10 cycles)

OK

>RUN

#Cmax=20

  89 fails (93445163438 after 20 cycles)
  98 fails (93445163438 after 20 cycles)
 187 fails (176881317877 after 20 cycles)
 196 fails (70446464506 after 20 cycles)

OK

>RUN


#Cmax=40
```

```
 196 fails (13305261530450734933 after 40 cycles)

OK

>RUN

#Cmax=100

 196 fails (44757771534490515617290699271561508443627774644 after 100 cycles)

OK

>RUN

#Cmax=200

 196 fails (91044954674176565529826980225562963230120725528 1
            21032358265631979728035565670376460540 08 after 200 cycles)

OK

>RUN

#Cmax=1000

  196 fails (35346644392413689785837714402912114362859098083
             41408344020861450405992918328457190349563871687
             95800463971545914548326676428378028814710683108
             50549641273388365259932008237493462055424091251
             57901200166876923521977766210101074152201325440
             26439582289914006246477437313605494900387117318
             73088382467552483640965506947400858697069355944
             18174493380829951504425811945379423290791058264
             41012030342772858788740429334664452 after 1000 cycles)

OK
```

So it's clear that **196** is a very firm *candidate* for a counterexample. Of course, it's not the only one, other candidates include (up to N=2000): 295, 394, 493, 592, 689, 691, 788, 790, 879, 887, 978, 986, 1495, 1497, 1585, 1587, 1675, 1677, 1765, 1767, 1855, 1857, 1945, 1947, and 1997.

That's all. Thanks again and

Best regards from V.

Re: S&SMC#14: My Original Solutions and Comments [LONG]

*Message #28 Posted by **J-F Garnier** on 14 Mar 2006, 3:33 a.m.,*
in response to message #27 by Valentin Albillo

Hello Valentin,

Unfortunatly, I had little time for your challenge, but the first part looked especially interesting for me, trying to reproduce a proof made on 1966 on a large computer with a small handheld of the '80s.

And your solution is so simple, as usual ...

Do you have a reference to the original paper from Lander and Parkin? I would like to know more on how they proceeded.

J-F

Re: S&SMC#14: My Original Solutions and Comments [LONG]

*Message #29 Posted by **Valentin Albillo** on 14 Mar 2006, 5:41 a.m.,*
in response to message #28 by J-F Garnier

Hi, Jean-François:

Jean-François posted:

"Unfortunatly, I had little time for your challenge, but the first part looked especially interesting for me, trying to reproduce a proof made on 1966 on a large computer with a small handheld of the '80s."

> Yes, I missed your usual top-quality contributions to my challenges, it's a real pity you couldn't give it a try. And I agree on the fun factor of having a quite petite handheld doing essentially the same as an original mainframe computer which used to fill a whole room:
>
> The awesome CDC 6600 mainframe computer
>
> This CDC 6600 was designed by Seymour Cray himself, of Cray supercomputers fame, and had a 60-bit processor capable of 4.58 Mflops, impressive for its time indeed.

"And your solution is so simple, as usual ..."

> Thanks, J-F, but I insist, my challenges *are* simple, that's why I call them "Short & Sweet". They never require more than a few lines of code, and simple code at that.

"Do you have a reference to the original paper from Lander and Parkin? I would like to know more on how they proceeded."

> Reference, yes:
>
> *"Lander, L. J. and Parkin, T. R. "A Counterexample to Euler's Sum of Powers Conjecture." Math. Comput. 21, 101-103, 1967."*
>
> Unfortunately, the paper itself, no. It seems to be available only from non-free subscription services. As far as I know, their procedure was similar to mine, only more ambitious because they also attacked more general equations, involving powers up to the 6^{th}. It's quite possible for they to have made use of congruences (i.e. particular remainders when using specific divisors, etc) to discard ranges of tentative values for the inner loops.
>
> I did try a few congruences but the program got more complicated and worse, no speed was actually gained. In a CDC 6600 assembly-language program or compiled code, using just integer operations, congruences would be very effective. But for the floating point HP-71B environment, no gains are made in this case.
>
> Thanks for your interest, and please don't miss my next challenge, come next April 1st.

Bes regards from V.

Re: S&SMC#14: My Original Solutions and Comments [LONG]

*Message #30 Posted by **Marcus von Cube, Germany** on 14 Mar 2006, 9:01 a.m.,*
in response to message #29 by Valentin Albillo

Hi Valentin,

> Quote:
>
> ... and please don't miss my next challenge, come next **April 1st**

Can we expect an April's fool joke?

Marcus

Re: S&SMC#14: My Original Solutions and Comments [LONG]

*Message #31 Posted by **Etienne Victoria** on 14 Mar 2006, 11:14 a.m.,*
in response to message #28 by J-F Garnier

Hello Jean-François,

And don't miss the Euler.net for interesting stuff on conjectures.

Cordialement.

Etienne

Re: S&SMC#14: My Original Solutions and Comments [LONG]

*Message #32 Posted by **GE** on 15 Mar 2006, 7:57 a.m.,*
in response to message #31 by Etienne Victoria

Thank you for an interesting challenge.
I was disappointed to see that no actual math trick could be used here, that was rather a programmer's challenge.
Please accept my apologies for posting a solution without code, I was just thrilled to 'know' the solution of one of the challenges.
Actually I tried Challenge 1 on my 1BBBB, and it ran about the same as solutions showed her, but with no optimizations and I felt it was too slow and ridiculous to be posted here.
To make for my inappropriate post, here is a small challenge for you : solve 28^x = 19^y + 87^z for x, y and z integers.
There IS some math trickery possible...
See you on the 1st of April.

Re: S&SMC#14: My Original Solutions and Comments [LONG]

*Message #33 Posted by **J-F Garnier** on 21 Mar 2006, 6:38 a.m.,*
in response to message #32 by GE

Hi GE,

28^x = 19^y + 87^z for x, y and z integers

You didn't give us the solution...

J-F

Re: S&SMC#14: My Original Solutions and Comments [LONG]

*Message #34 Posted by **Valentin Albillo** on 21 Mar 2006, 6:53 a.m.,*
in response to message #33 by J-F Garnier

Hi, Jean-François:

Jean-François posted:

"Hi GE, 28^x = 19^y + 87^z for x, y and z integers You didn't give us the solution..."

> There is *no* solution to the equation you mention in your post, so it's no big surprise the person you're addressing would fail to provide one.
>
> Per my posted commitment I read or answer nothing by anonymous posters so I don't quite know what's all about. Some kind of joke, perhaps ?

Best regards from V.

Re: S&SMC#14: My Original Solutions and Comments [LONG]

*Message #35 Posted by **Chris Dean** on 21 Mar 2006, 8:11 a.m.,*
in response to message #34 by Valentin Albillo

Valentin et al

I had a go at this myself with no joy

> Quote:
>
> See you on the 1st of April.

Could this have been a clue!

Regards

Chris

Re: S&SMC#14: My Original Solutions and Comments [LONG]

*Message #36 Posted by **Valentin Albillo** on 21 Mar 2006, 8:36 a.m.,*
in response to message #35 by Chris Dean

Hi, Chris:

Chris posted:

"I had a go at this myself with no joy. Quote: See you on the 1st of April. Could this have been a clue!"

> Can't say. As stated, I didn't read the original post J-F mentions, so I don't know what was asked or any further comments about it, though judging from

> J-F's post, it seems that a solution was asked to a diophantine equation which has none.
>
> It that was indeed the case, how this is supposed to be considered enjoyable by people wasting their time and computer resources on an impossible task is beyond me. Perhaps the mere idea of having people indulge in fruitless efforts seemed indeed enjoyable to the original poster, but I can't say for sure, who knows ...

Best regards from V.

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41CV Battery Life

*Message #1 Posted by **Francois Fornier** on 7 Mar 2006, 8:16 a.m.*

Hello all,

I'm new to the forum, but have been following it for a few months and rejoined the fray quite recentky when I acquired a 41CV with Time Module, X-Functions Module & Quad Module (like many other, my dream machine of the 80s).

For a very short background, the first calc worth mentioning I ever played with, on which I did my first stints at programming, was a 67 borrowed from a friend. That was too expensive, so I moved to TI57 (lost), then 32C (NOK) and finally Sharp PC1500 (still working fine!).

I know the Quad module is useless with it, but in the absence of evidence that it is really incompatible, I've left it in the calc for fear of losing it.

I also added a NoVRAM module (an incredible package, thanks Diego).

Modules are arranges as follows: Slot 1: Time Slot 2: NoVRAM Slot 3: Quad Mem Slot 4: X-Funcs

The first time around, I found the battery life was a bit short, so I recorded the date I last changed it: jan 17 06

Today, when I switched it on the BAT indicator lit up. After 7 weeks!

So my question is: what's the typical battery life for a CV like mine (I thought it was something like a year rather than weeks)?

Any idea what could be the cause for such drain? Quad mem? Internal problem?

Thanks in advance for any suggestion that would help me get to the bottom of this.

cheers, François

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

Re: 41CV Battery Life

*Message #2 Posted by **Diego Diaz** on 7 Mar 2006, 11:20 a.m.,*
in response to message #1 by Francois Fornier

Hi Francois,

First, I won't recommend you to keep the QUAD RAM plugged in... this will surely conficts with the resident RAM chips.

Under normal circumstances a NoVRAM/NoV-32 requires some 13-17mA while running (that means "just" while you're pressing keys or a program/function is running/performing) the rest of the time it "sleeps", draining some uAmps (mostly like if it was not present at all...)

Chances are that some ill code into NoVRAM's RAM memory iterupst the polling point for the HP-41 to tunrn off thus keeping itself in running mode while you still think your calc has been switched off...

Also, (I know it's my fault but I'm *REALLY* busy lately) the auto off feature was misimplemented inthe last NoVRAM code version, and it could lead to a similar situation, due to the fact that you're also using a TIMER module.

There ser several other reasos that can also produce such behavior and are not related to NoVRAM module:

Your TIMER mofule is *hungry* or it has some unwanted alarms/auto-run programmed that make the calc turns on unadvertedly.

To easily determine which module is involved (if any) I'd recommend you to unplug NoVRAM while not in use (you won't lose a bit by doing so)...

Hope this helps.

Diego.

Re: 41CV Battery Life

*Message #3 Posted by **Francois Fornier** on 7 Mar 2006, 4:57 p.m.,*
in response to message #2 by Diego Diaz

Hi Diego,

thanks for the detailed explainations. You have at least convinced me to drop the Quad Mem in my drawer.

You may be right about the NoVRAM...

I removed it along with the Quad Mem and the BAT indicator went off! So I put it back in and it went on again.

I'll leave it like that for a while to see if there is a difference, but would really like to be able to keepp it in at all times. When do you think you can update your code?

Also, I have no alarms running in the Time module. I mostly use it as a watch/stopwatch.

Is there an easy way to measure the consumption of a given module?

best, François

Re: 41CV Battery Life

*Message #4 Posted by **Garth Wilson** on 7 Mar 2006, 5:26 p.m.,*
in response to message #3 by Francois Fornier

> Quote:
>
> Also, I have no alarms running in the Time module. I mostly use it as a watch/stopwatch.

I don't know about the 41cv with plug-in time module, but I use the alarms regularly on my 41cx (as an alarm clock) and a set of batteries still lasts me a couple of years.

Re: 41CV Battery Life

*Message #5 Posted by **Diego Diaz** on 8 Mar 2006, 8:39 a.m.,*
in response to message #4 by Garth Wilson

Hi,

You're right regarding TIMER, Garth. It "shouldn't" make any difference in a regular use...

The trouble could arise if some unwanted auto-run alarm sets the calc into ON state repeatedly (if such can occur... I've never done or even try)... mostly besause the NoVRAM will draw current during the whole wake-up cycle.

In any case, this is a fairly unprobable situation, the more likely is that some garbage reached the polling area of the NoVRAM's RAM preventing it from going into sleep mode as it should. If this is the case, clearing the RAM is highly advisable.

If my work (yes, the one I do for a living... ;-) allows me, some more spare time in the next few weeks I will port the "Auto-OFF" bug solution code from NoV-32... not a heavy task but time requiring...

On the best case, any NoVRAM/NoV-32 will reduce your average battery life by a factor of 2 (light use) to 5 (heavy use), it should still last some months though.

Regards.

Diego.

Re: 41CV Battery Life

*Message #6 Posted by **Francois Fornier** on 8 Mar 2006, 6:52 p.m.,*
in response to message #5 by Diego Diaz

OK, so my best bet now, assuming garbage in NoVRAM RAM is the culprit, is to clear it. But how do I go about it? Simply reprogram it with the utility?

best, François

Re: 41CV Battery Life

*Message #7 Posted by **Etienne Victoria** on 9 Mar 2006, 1:46 a.m.,*
in response to message #6 by Francois Fornier

François,

Pour effacer la section RAM de ton NoVRAM, tu dois y graver le fichier NovClear.HEX contenu dans le NovRam documentation zip du site de Diego.

Ceci remettra la RAM à 0 sans toucher à la configuration ROM que tu aurais gravée par ailleurs.

Cordialement.

Etienne

To clear the NovRam RAM, you have to use the NovClear.Hex file contained in Diego's NovRam documentation zip package.

Burning this file on your chip will zero the RAM, preserving your ROM configuration.

Best regards.

Etienne

Edited: 9 Mar 2006, 1:48 a.m.

Re: 41CV Battery Life

*Message #8 Posted by **Diego Diaz** on 9 Mar 2006, 4:45 a.m.,*
in response to message #6 by Francois Fornier

Hi all,

Although this method effectively erases RAM contents, it also kills Flash ROM requiring two reprogramming phases (one for the ClearRAM, and another one to recover original -HEPAX- emulation) and thus it is somewhat cumbersome... It is necessary in case of "severe" RAM illness though, and that's why it is included.

As far as you've depicted your calculator's behavior, it seem that you still have full functionality, so try this HEPAX based procedure to clean your the RAM memory.

- Write "OK" into Alpha register.

- Assign "CLRAM" to a key of your choice, and set USER mode (just for your convenience)

- place 11 into "X" register. (this points to page #B)

- execute "CLRAM"

- repeat for "X" = 10, 9 and 8... and you're done...

Power cycle your calc for HEPAX to rebuild its FILESYS.

Hope this helps.

Regards from the Canaries

Diego.

Re: 41CV Battery Life

*Message #9 Posted by **Francois Fornier** on 9 Mar 2006, 8:45 a.m.,*
in response to message #8 by Diego Diaz

Thanks Diego,

will try this tonight. And check that BAT indicator stays off this time...

Thanks also for _not_ RTFMing me on this, even though I now feel I deserved it... ;-)

And lastly thanks to Etienne for chipping in with the NovClear procedure.

Enough thanks for today!

best, Francois

Re: 41CV Battery Life

*Message #10 Posted by **Francois Fornier** on 9 Mar 2006, 6:29 p.m.,*
in response to message #9 by Francois Fornier

Bad news...

Nothing changed. I have tried all methods, and the result is the same... BAT indicator stays on.

I also tried a Clonix6P config with the same result.

Any ideas?

Re: 41CV Battery Life

*Message #11 Posted by **Diego Diaz** on 10 Mar 2006, 3:46 p.m.,*
in response to message #10 by Francois Fornier

Hi,

The BAT indicator will lit up if you're using the same set of batteries... even with ClonixLP.

That's because your battery are in the very low end of its useful life, so a tiny 5mA *extra* current at power up (with Clonix plugged in) makes the voltage drop below the BAT threshold.

It should be ok if you place a new set...

Best regards.

Diego

Re: 41CV Battery Life

*Message #12 Posted by **Francois Fornier** on 10 Mar 2006, 5:17 p.m.,*
in response to message #11 by Diego Diaz

Hi Diego,

yes, I understand that now, it's just that when it went off after removing the NoVRAM, I thought I could use it as an indicator of the problem...

So, what I'd need to find out is a way to verify that the power drain remains acceptable with the configuration I want to use. Because the problem may well be with the calc itself, but the only way to know right now is to get fresh batteries and leave your module out...

François

Ooops sorry!...and another little question

*Message #13 Posted by **Etienne Victoria** on 9 Mar 2006, 12:40 p.m.,*
in response to message #8 by Diego Diaz

Oooops.....sorry!

And thanks Diego for stating the correct procedure.

May I ask a small question ?

I have both a Clonix (programmed with the low-power code) and a NovRam and use them fine in a normal 41.

However, I wish I could the Clonix in :

- a 41 CV that I've sped up myself - or a Blanknut Cx which seems to be factory sped-up. (I'm the 2nd owner and the first one sweared he never opened it).

Diego would you advise me to speed down the CV or is there any other way ?

I do need the Clonix to program a 44468 ROM to control instruments.

Thank you very much for these jewels!

Etienne

Re: Ooops sorry!...and another little question

*Message #14 Posted by **Diego Diaz** on 10 Mar 2006, 3:59 p.m.,*
in response to message #13 by Etienne Victoria

Hi Etienne,

Speed down an HP-41 is indeed as easy as speed it up... these are the good news.

The bad news are that neither NoVRAM code nor ClonixLP can be used in a sepeeded up 41...

In order to get your CV back to nominal speed (360Khz) just replace the cap between pins 9 & 10 of the the nut processor with a 150pF one... Cahnces are that the speede up procedure was simply placing a second cap in series qith said capacitor, so you'll only need to remove the "alien" capacitor.

Mail me if you have find it difficult to locate such capacitor.

Best wishes.

Diego.

Speed down...

*Message #15 Posted by **Etienne Victoria** on 10 Mar 2006, 6:46 p.m.,*
in response to message #14 by Diego Diaz

Hi Diego,

Thank you for your answer!!

As I did the speed up myself on the CV, I'll speed it down easily! I'll also solder completely the board as I did with my 41Cs.

As for the Blanknut Cx, I'll open it, follow your advice and report back.

If this works, I think I'll solder the Clonix directly in the Blanknut.

Thanks again and friendly regards from France!

Etienne

Re: Speed down...

*Message #16 Posted by **Diego Diaz** on 10 Mar 2006, 11:19 p.m.,*
in response to message #15 by Etienne Victoria

Hi Etienne,

It's ok if you want to permanenetly attach the Clonix module into your 41 shell, just remember you more likely be unable to reprogram it afterwards!

In any case please let me know of your pregress... some pics will be very welcomed too... ;-)

Regards.

Diego.

Re: Speed down...

*Message #17 Posted by **Etienne Victoria** on 11 Mar 2006, 3:18 a.m.,*
in response to message #16 by Diego Diaz

Diego,

Many thanks for everything!

In my config (all fullnuts):

1) The NoVRAM acts as a backup module with the HEPAX filesystem + 2 ROMS and I move it from calc to calc all the time.

2) The Clonix is already *in* an old battered 41 which is a) my Hp-3468 front-end: taking, recording and printing measures with the 44468 ROM.

b) the heart of my IL system with 44468 Data Acq., Ext-IO (Thanks Hans for HpILCOM), Sandbox (Thanks Ángel! If only we could have a fullnut version!!), CCD-OSX (Thanks Raymond!),

As soon as I have the CV or Cx working, I'll gladly report here with pictures!

Friendly regards from France!

Etienne

Edited: 11 Mar 2006, 3:18 a.m.

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12c TVM

*Message #1 Posted by **lary** on 7 Mar 2006, 2:06 a.m.*

Try this example taken from Hp Journal (oct. 77) :

n=111.1111111 i=2.222222222 PV=333.3333333 PMT=4.444444444

and solve for FV

Results

HP92 : -5931.82294 (source HP Journal)

HP37E : -5931.82294

HP38E/C : -5931.82294

HP12C : -5926.306294 ???

HP10B : -5931.82294

HP17BII : -5931.82294

HP10B : -5931.82294

HP48G : -5931.82294

All but the 12C give the correct mathematical result (-5931.82294) but only the 12C gives the correct financial result(-5926.306294). In case of noninteger n, the 12c use the fractional part as a odd first period (cf hp 12c user's manual pp.50-51). With others calculators you'll have to do it yourselve (cf hp17BII owner's manual p.160).

Does anyone knows why the 12c is the only calculating with odd period ?

Re: 12c TVM

*Message #2 Posted by **Vieira, L. C. (Brazil)** on 7 Mar 2006, 9:20 p.m.,*
in response to message #1 by lary

Hi, Lary;

in fact, you can even control how the HP12C TVM features deal with the odd 'n' (with fractional portion

different of zero).

If you press [STO][EEX] you will toggle the small $_C$ annunciator status. If the $_C$ is visible, then the fractional portion of 'n' is considered as part of the compound interest calculation. Otherwise, if the $_C$ is not visible, the fractional portion of 'n' is used seaparately, and the equivalent amount of interest due to it is computed as single interest and added to the final interest amount. In fact, as we are dealing with compound interest and a fractional period of time, the final amount of compound interest is smaller than the amount of single interest.

I am not sure if the other calculators have this sort of control.

I hope this post's contents are related to what you are asking about.

Cheers.

Luiz (Brazil)

Re: 12C TVM

*Message #3 Posted by **Karl Schneider** on 10 Mar 2006, 2:36 a.m.,*
in response to message #1 by lary

"Lary" --

The odd-period handling looks like a practical, real-world enhancement, designed to handle, in one step, the interest-accruing partial period after which a loan is initiated to the start date of the first regular period. The two examples of loans on pp. 59-61 (as well as my own new-car loan in the 1980's) were set up like this.

The example from the 1977 HP Journal article (JOURNALS\77OCTAC.PDF from CD #6 of the MoHPC CD-ROM set) was for the desktop HP-92, which did not have this partial-period feature. It may have been an enhancement for the HP-12C.

And why didn't the Pioneer-series financial calc's (HP-10B, HP-14B, HP-17B/17BII) retain this feature? Maybe a desire for consistency of algorithm and results between the models. Only the 17B/17BII had the built-in calendar functions (present in the HP-12C and HP-92) for calculating the number-of-days length of the partial period. Without the "delta-days" function, handling the partial period is more of a manual exercise, anyway.

PS: The "C" annunciator that Luiz talked about for this problem represents some cleverness in the Voyager platform, which included five models sharing the same display unit. C stands for "compunding" on the financial HP-12C; "complex mode" on the scientific HP-15C; and "carry bit" on the computer-science HP-16C.

-- KS

Edited: 10 Mar 2006, 2:42 a.m.

Re: 12C TVM

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 11 Mar 2006, 1:53 p.m.,*
in response to message #3 by Karl Schneider

Hi, Karl;

> Quote:

> PS: The "C" annunciator that Luiz talked about for this problem represents some cleverness in the Voyager platform, which included five models sharing the same display unit. C stands for "compounding" on the financial HP-12C; "complex mode" on the scientific HP-15C; and "carry bit" on the computer-science HP-16C.

Indeed... From a time when designers, engineers and related 'staff' used to be composed by creative, brainy guys... and somehow users got the chance to dare facing chalenges and delve into their solutions.

I miss that.

Cheers.

Luiz (Brazil)

(PS: I do not mean that todays users do not do that, instead some of them run to their computer already running some `ready to use` SW package and let the solution come already 'packed')

Edited: 11 Mar 2006, 1:57 p.m.

Re: 12c TVM

*Message #5 Posted by **tony(nz)** on 10 Mar 2006, 6:50 a.m.,*
in response to message #1 by lary

I think you could get FV= -5931.822944 on the 12C by using a PV and FV adjustment of 200=4.44.../.0222... (perpetuity equivalent). First use PMT=0,PV=333.33...+200=533.33... then solve for FV and add the 200 again. n=111.11... and i=2.22... and have the "c" showing. I know you didn't want to know this<G>

Cheers, Tony

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Gummy Wheel Fix

*Message #1 Posted by **Peter Hendy** on 6 Mar 2006, 11:28 p.m.*

I have downloaded details of how to replace the drive wheel on an old HP67 but no details on the correct O Rings to use. Size must be critical. Can anyone help with the O Ring specification or type ?

Re: Gummy Wheel Fix

*Message #2 Posted by **Jan** on 7 Mar 2006, 8:05 a.m.,*
in response to message #1 by Peter Hendy

You can also use a piece of a rubber fuel- or oil-tube. I repaired my 41 card-reader with a piece of a rubber tube used (I guess for brake fluid or fuel) in a small motorcycle. When you have opened the card reader you can usually estimate what the outer diameter must be by inspecting the remains of the old rubber wheel or the distance from the wheel-axis centre to the card. Exact fits with an accuracy of 1/10 of a milimeter are not really necessary as long as the rubber gets in touch with the card: after all it is flexible and will give way to the card even when it is (slightly!) too large in diameter.

Gummy Wheel Fix

*Message #3 Posted by **Peter Hendy** on 7 Mar 2006, 8:24 p.m.,*
in response to message #2 by Jan

Thanks to all for the prompt answers and suggestions. Suppose I should open the thing up and have a look before I go any further or ask anymore questions....Thank You.

Re: Gummy Wheel Fix

*Message #4 Posted by **Jan** on 7 Mar 2006, 8:14 a.m.,*
in response to message #1 by Peter Hendy

The inner diameter is crucial. You can check it by measuring or estimating the diameter of the axis. The wheel should fit tightly enough to the axis so that there is no slipping during operation. The outer diameter can be estimated from the remains of the old rubber wheel or by estimating the distance between the centre of the wheel axis and the card surface. The outer diameter is allowed to be a little too large since the rubber is flexible enough to give way and be pushed aside, but one should not overdo this of course.

Re: Gummy Wheel Fix

*Message #5 Posted by **David Smith** on 7 Mar 2006, 10:23 a.m.,*
in response to message #1 by Peter Hendy

If you MUST use o-rings you need size 005. These are 1/64" smaller than what almost every place stocks (size 006). Silicone ruber fuel line works much better. One problem can be finding it that has the inner and outer diameters well centered.

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Libraries - HP 49g+

*Message #1 Posted by **Patricio** on 6 Mar 2006, 8:36 p.m.*

I am having SERIOUS problems running some libraries I got from hpcalc.org (e.g. ChemDat49). I'm a TOTAL rookie, and I don't seem to get a clear set of steps to follow. Please, if someone can clear out some of my existential intrigues: # What is the difference between saving a library in : 0: IRAM 1: ERAM 2: FLASH # How do I 1. Install and 2. Run the libraries? I have no problems in copying files to the HP, but I can't get them to work! :S # I want to purge a library I saved in 0: IRAM, but a message appears: "Library in use". How can I solve that? Besides, I can see no visual evidence of that library running. Please be considerate with your answers... I'm just new at this. If you prefer you can answer to my email, not to jam this forum with many posts. patto17@hotmail.com Thanks a lot! Patricio

Re: Libraries - HP 49g+

*Message #2 Posted by **Tim Wessman** on 6 Mar 2006, 9:58 p.m.,*
in response to message #1 by Patricio

I went to google groups and went to comp.sys.hp48 and searched for "using libraries 49g+"

A lot of links look promising. The one entitled "installing libraries on the 49g+?" a few rows down seems at first glance to contain what you need.

http://groups.google.com/group/comp.sys.hp48/search?group=comp.sys.hp48&q=using+libraries+49g%2B&qt_g=1&searchnow=Search+this+group

TW

Re: Libraries - HP 49g+

*Message #3 Posted by **James M. Prange (Michigan)** on 6 Mar 2006, 10:11 p.m.,*
in response to message #1 by Patricio

> Quote:
>
> I am having SERIOUS problems running some libraries I got from hpcalc.org (e.g. ChemDat49). I'm a TOTAL rookie, and I don't seem to get a clear set of steps to follow.

I'm not familiar with that particular library, but for some general information, see: http://www.hpcalc.org/install.php and http://www.hpcalc.org/hp49/docs/faq/.

Note that libraries developed for the 49G may run on the 49g+, but that's not guaranteed.

> Quote:
>
> Please, if someone can clear out some of my existential intrigues:

> # What is the difference between saving a library in : 0: IRAM 1: ERAM 2: FLASH

0:IRAM is volatile static RAM shared with "System RAM", that is, your HOME directory and it's subdirectories, a "temporary object" area, the user stack, and so on. When you store something in port 0, it decreases the free memory available for other uses. Note that port 0 is cleared by a memory clear operation. 1:ERAM is also static RAM, but it's not shared with "system RAM", and is not cleared by a memory clear operation. If I'm not mistaken, objects in ports other than 0 have to be copied to the temporary object area in system RAM when you want to run them, so using a library from port 0 should be faster. A few libraries and SysRPL programs may have to be run from port 0 only. Both port 0 and port 1 objects will eventually be lost or corrupted if the calculator is left without batteries. 2:FLASH is non-volatile flash memory, so it's probably a "safer" place to store things, but it's also slower than static RAM. On the 49g+, you can use an SD Card (or MultiMediaCard), in which case you'll also have a 3:SD branch in the filer. These cards are also flash memory. The 49g+ stores objects on the card as binary-transferred files, just like binary-transferred files stored on a PC. Libraries may be stored on a card, but port 3 libraries can't be ATTACHed.

> Quote:
>
> # How do I 1. Install and 2. Run the libraries?

1: First, read any documentation that accompanies the library. Unless it's stated otherwise, move the library to port 0, 1, or 2, and then invoke a warmstart by pressing and releasing the C key while holding down the ON key. Most libraries are auto-attaching, so the warmstart will run their configuration programs and ATTACH them. For some libraries, you may have to run the ATTACH command to attach them to the current directory.

2: Press RightShift LIB (over the 3 key) to see the libraries in the menus. Press the menu key for your library, after which you'll see the library's commands in the menus.

> Quote:
>
> I have no problems in copying files to the HP, but I can't get them to work! :S # I want to purge a library I saved in 0: IRAM, but a message appears: "Library in use". How can I solve that?

Try the DETACH command.

> Quote:
>
> Besides, I can see no visual evidence of that library running.

Well, "installing" a library doesn't usually "run" it, it just makes the library's commands available.

> Quote:
>
> Please be considerate with your answers... I'm just new at this.

Understood, but it's difficult to know which information a "newbie" will find useful.

> Quote:
>
> If you prefer you can answer to my email, not to jam this forum with many posts.
> patto17@hotmail.com Thanks a lot! Patricio

I hope that others in this forum may find responses useful, so I'm answering here. Note that the usenet group comp.sys.hp48 may be more helpful for questions on the RPL models; see http://groups.google.com/group/comp.sys.hp48? if you're not familiar with it.

Regards,
James

Edited: 7 Mar 2006, 1:50 a.m.

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HP71 memory module question

*Message #1 Posted by **Christoph Giesselink** on 6 Mar 2006, 3:55 p.m.*

I know that the integrated soft configurated RAM of a 1LP2 Centipede chip has 2K nibbles (#800). Configure this RAM not on a size boundary (#800) is failing (for example try to config at #4FC00 instead of #4F800). Fail mean, the module will be configured on the next lower address matching with the size boundary, in the case of our example #4F800.

The HP28C has the possibilty to add additional RAM (RAM module chips from the HP71B) at #50000 (soft configured). I also expected that the configure address must also be boundary of it's size. So HP71B chips with 4KB and 32KB will work, because #50000 is a size boundary of 4KB and 32KB. But not a 64KB chip. But I found an old article about upgrading the HP28C to 64KB.

IMHO this will only work when

- the HP71B RAM module hasn't the boundary limitation (Saturn bus)

or

- a HP71B 64KB RAM module is build internally by 4KB or 32KB modules linked together

Any ideas?

TNX

Christoph

Re: HP71 memory module question

*Message #2 Posted by **Eric Smith** on 6 Mar 2006, 4:22 p.m.,*
in response to message #1 by Christoph Giesselink

The front-port 64K RAM modules for the 71B are configured as though they are two 32KB (64Knibble) chips, so the size of each chip is #10000 hex. They should work OK on the 28C since one will be configured at #50000 and the other at #60000.

The card-reader-port modules work similarly; the 32KB, 64KB, 96KB, and 128KB modules look to the 71B as one, two, three, or four 32KB chips, respectively.

I vaguely recall seeing a writeup somewhere stating that this was done due to the 71B firmware being able to handle ROMs of 64KB, but RAMs only up to 32KB. Or something like that.

Re: HP71 memory module question

*Message #3 Posted by **J-F Garnier** on 7 Mar 2006, 7:07 a.m.,*
in response to message #2 by Eric Smith

Hi Eric,

Do the 64Kb to 128kb (or even the 160kb) modules have one interface IC per 32k RAM, or only one that manages all the RAM chips?

J-F

Re: HP71 memory module question

*Message #4 Posted by **Eric Smith** on 7 Mar 2006, 4:36 p.m.,*
in response to message #3 by J-F Garnier

In the card-reader-port RAM modules, they use one interface chip per 32KB of RAM. I'm not sure about the front-port 64KB module, as I only have one and am not inclined to disassemble it.

Re: HP71 memory module question

*Message #5 Posted by **Christoph Giesselink** on 7 Mar 2006, 12:49 p.m.,*
in response to message #2 by Eric Smith

Many TNX for the information.

Background: I recently had another look at the French "VOYAGE AU CENTRE DE LA HP48c/s". I don't understand any French word ;(, but there nice pictures inside. :) On page 16 there's a picture about memory configuration, explicitly naming a 6KB and a 34KB HP28C version.

I know a lot more about this machine now then on my first "reading". So my interest on the "obscure" 6KB model was waked up. After some tries I found the subroutine at #00F11 (ROM 1CC) allocating the additional memory. With Eric's information that every module has max. 32KB everthing works fine. The HP28C firmware request memory with C=ID until it get C=0. So an upgraded HP28C with 66KB has two additional seperated 32KB modules inside with no conflict with the size boundaries.

For a real emulation inside Emu28 I have to spend a dataset for every additional memory module with it's state and base address. Currently I only emulate/simulate one memory module with a maximum size of 128KB (max size specified in the HP71 HDS) with the extention that this module can be placed on every 32KB boundary. This is only a simulation because a real HP28C with 66KB has two 32KB modules which can be unconfigured seperately.

At the moment I'm a little bit undecided. In general I try to simulate the calculator hardware as close as possible (here the necessary for four datasets to hold the information of four RAM modules (4*32=128)) on the other side the current implementation with one big module is much simpler and has the same effect, getting the requested RAM available for the OS. But everybody with my actual knowledge level know, that this is impossible with the real hardware! On on side I claim to publish an emulator (I don't want to worm up the discussion about emulator and simulator definition here), on the other side the easier implementation is just a functional simulation of the extented RAM > 32KB.

Especially Eric and JFG as developers of similar software, what's your opinion about the topic above?

Regards

Christoph

Re: HP71 memory module question

*Message #6 Posted by **J-F Garnier** on 7 Mar 2006, 4:03 p.m.,*

in response to message #5 by Christoph Giesselink

Hi Christoph and Eric,

On my Emu71, I definitively took the easiest way: implement the memory with big 32k or 64k chips, without trying the reproduce the low-level details. For instance, Emu71 uses a single 32kb "chip" for the main memory, instead of the 4x4kb modules- each 4kb module being in turn made of 4x1kb 1LG8 chips - of the real hardware.

In the same way, keyboard and display are not simulated at low level in Emu71, but only at intermediate level (memory buffers). On the other hand, I think that it's very important to simulate the I/O environment, namely the HPIL devices, which are integral parts of the system.

This is my way of thinking calculator emulator/simulator: the exact internals don't matter, as long as no realistic user program (i.e. program that a user can key in, this includes I/O access and of course machine code) can make the difference, so any previous written software can be run on the emulator/simulator.

My Emu41/Emu71 don't even try to reproduce the look of the HP41/HP71, but they run most known software or modules (not all, for instance service modules only partially run - but they are not what I consider as realistic program).

Kind regards to both.

J-F

Edited: 7 Mar 2006, 4:19 p.m.

Re: HP71 memory module question

*Message #7 Posted by **Eric Smith** on 7 Mar 2006, 4:39 p.m.,*
in response to message #5 by Christoph Giesselink

I think either approach is reasonable. If you make it less like the real hardware (for the sake of efficiency or simplicity), it might be worthwhile to describe the differences in the documentation.

Re: HP71 memory module question

*Message #8 Posted by **Mike (Stgt)** on 8 Mar 2006, 9:22 a.m.,*
in response to message #5 by Christoph Giesselink

Hi Christoph!

Just ask if there could exist a user or a program that is able to detect that this is "only" an emulation (or a fake) and not the real HW. Then - I assume your statement "what runs on my emulators will do so on real HW too" still holds true - how many routines that work on real HW will fail on your EMUs??? IMHO an emulation does the same as one distinct layer of a real thing, the question is which stratum at what cost and for what gain. And I regard a robust firmware-interpreter as a good emulator.

Ciao.....Mike

Re: HP71 memory module question

*Message #9 Posted by **Christoph Giesselink** on 8 Mar 2006, 4:26 p.m.,*
in response to message #8 by Mike (Stgt)

The phrase "functional simulation" describe not everything. When you only look onto the memory with it's address area and size the program will not see any difference. It exactly behave like on the real machine. The main difference is on configuration and unconfiguration of memory modules > 32KB or multiple 4K modules. The HP28C OS see no difference with it's implementation, so it's working. But there's a difference when the user program try to unconfigure only one memory module, which doesn't work like expected.

We can of course say, nobody (also the HP28C OS) will unconfigure the extended memory modules, there's just no need for it. Furthermore I don't know anybody who's programming the HP28C in assembly, the 30 or 40 ROM entry-points I published for the 28C 1CC ROM aren't for sure not enough for serious assembler programming. Finally, hi HP calculator enthusiasts, is there somebody out there, having a memory upgraded HP28C?

The memory extension implementation in Emu28 is something like when you ask a hill climber why he's climbing onto top of a hill: "Because it's there!"

But to end the discussion, I yesterday changed implementation by adding two memory controllers which behave hopefully exactly like in the original calculator. On the next version of Emu28 creating a new document will support 4, 32 and 64KB additional RAM. These are exactly the combinations which have been sold end of 80-ties. The combinations of 4+4=8KB or 32+4=36KB are possible by the hardware emulation (with a modified state file) but not enabled in the frontend.

Regards

Christoph

Re: HP71 memory module question

*Message #10 Posted by **Mike (Stgt)** on 9 Mar 2006, 6:11 a.m.,*
in response to message #9 by Christoph Giesselink

Your approach "as close as possible to the real HW" results in 'high-quality'-emulators, just an other HW-platform for existing OS' and possibly future enhancements. In contrast, my NutEm is **only** a firmware interpreter and **does not** emulate the errors of the Nut chip. I do not know if other HP41-emulators do so.

Ciao.....Mike

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no fraction mark in the output of an hp49G+

*Message #1 Posted by **Benny Vanrutten** on 6 Mar 2006, 11:01 a.m.*

On the hp49G+ I like to convert a binary to real:

11111000b B->R then I got 248, I like to have there 248 without ",". I allready changed flag 105, set the mode to std and tried many other flags. Who can help?

Thanks a lot.

Benny

Re: no fraction mark in the output of an hp49G+

*Message #2 Posted by **Tim Wessman** on 6 Mar 2006, 11:13 a.m.,*
in response to message #1 by Benny Vanrutten

Do you want "256." or "256," or "256" ?

If you want "256.", clear flag 51. Set flag 51 for "256,". If you want "256" then that is an integer not a real. Run R->I to get a zint.

TW

Re: no fraction mark in the output of an hp49G+

*Message #3 Posted by **benny vanrutten** on 6 Mar 2006, 12:11 p.m.,*
in response to message #2 by Tim Wessman

Thanks Tim,

I need 248

The R->I does the job. The funniest thing is that I loaded the same flags (with RCLF and STOF) from my HP4GX into my HP49G+ and I do not have the problem on that(hp48GX) machine.

Kind regards, Benny

Re: no fraction mark in the output of an hp49G+

*Message #4 Posted by **Thomas Okken** on 6 Mar 2006, 12:29 p.m.,*
in response to message #3 by benny vanrutten

The HP-48 does not distinguish between "real" and "integer" -- I assume the convention of showing reals like "248," even when their fractional part is zero, is something that was added in the 49.

- Thomas

Re: no fraction mark in the output of an hp49G+

*Message #5 Posted by **benny vanrutten** on 6 Mar 2006, 2:26 p.m.,*
in response to message #4 by Thomas Okken

Hi Thomas,

The HP48GX gives the answer I need, but giving the same command to the HP49G+ responds in the value followed by the unwanted fraction mark. The HP48G advanced users guide however describes the B->R command as Binary to REAL, the result is affected by the mode FIX or STD.

Kind regards,

Benny

Re: no fraction mark in the output of an hp49G+

*Message #6 Posted by **Crawl** on 6 Mar 2006, 4:07 p.m.,*
in response to message #5 by benny vanrutten

The difference between 248 and 248. is important on the 49G+.

248 is the exact number, "Two hundred Forty Eight".

248. is the decimal approximation.

While the mode (exact vs. approximate) is important, the difference can be illustrated by

1 divided by 3 = 1/3, the exact fraction.

1. divided by 3 = 0.3333333333, the decimal approximation.

Re: no fraction mark in the output of an hp49G+

*Message #7 Posted by **James M. Prange (Michigan)** on 6 Mar 2006, 6:19 p.m.,*
in response to message #3 by benny vanrutten

The 48 series has system flags -1 through -64 and user flags 1 through 64. The 49 series has system flags -1 through -128 and user flags 1 through 128.

"Exact" versus "approximate" modes are controlled by system flag -105; within a program, clear it for exact mode, or set it for appoximate mode. For interactive use, hold down the RightShift key while pressing the ENTER key to toggle between exact and approximate modes.

Regards,
James

Edited: 6 Mar 2006, 6:26 p.m.

Re: no fraction mark in the output of an hp49G+

*Message #8 Posted by **James M. Prange (Michigan)** on 6 Mar 2006, 6:33 p.m.,*
in response to message #3 by benny vanrutten

The 49 series lacks built-in B->I and I->B UserRPL commands, so converting between these object types are 2-step processes. You could write your own programs:

```
B->I
<< B->R R->I >>


I->B
<< I->R R->B >>
```

Regards,
James

Re: no fraction mark in the output of an hp49G+

*Message #9 Posted by **Benny Vanrutten** on 7 Mar 2006, 3:51 a.m.,*
in response to message #8 by James M. Prange (Michigan)

Thanks James,

That's (B->I) exactly what I added to my program last night.

Benny

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Calculus vs calculation

*Message #1 Posted by **Antonio Maschio** on 6 Mar 2006, 5:43 a.m.*

Hi, sorry if this not the right place to post such question, but I'm Italian, and I want to know from English-speaking people:

What's the difference between calculus and calculation? What's the right plural for both?

I ask this because two dictionaries I consulted give different definitions and different plurals!

"Ask the source, so."

Thanks in advance.

Antonio Maschio

Re: Calculus vs calculation

*Message #2 Posted by **Marcus von Cube, Germany** on 6 Mar 2006, 7:24 a.m.,*
in response to message #1 by Antonio Maschio

Hi Antonio,

I'm not a native speaker either but let me explain what I believe is correct.

Calculation

[pl. calculations]

A calculation deals with numbers, they are summed, multiplied, etc. A calculator is a tool to do such operations. In business terms, a calculation is done in advance to know if a businiss will be profitable, or afterwards, to check if it was. The TVM formulas built into the business calculators are typical applications for calculations.

Calculus

[no plural]

Calculus and Algebra are two main areas of math. Both deal with formulas more than with numbers. Calculus deals with the properties of functions, their derivatives and integrals. A central term is the limit of some term where one of the parameters goes towards infinity or zero. Two simple examples follow.

$$\lim_{x \to \infty} \frac{1}{x} \qquad (A)$$

$$2$$

```
      x
lim  ---
x->0  x        (B)
```

(A) The more you increase x, the smaller the quotient 1/x will be. But how big the value for x may be, the result of 1/x is never zero. Calculus now deals with the case that x is actually bigger than any number and defines the limit to be zero.

(B) If you divide x^2 by x the result is always x, isn't it? The answer is no, because x can be any real value, including zero. The problem: $0^2/0$ cannot be computed that way! The term is undefined for x=0 but calculus can still deal with it. As long as x is not equal to zero, x^2/ x can be simplified to just the term x. Now make x as small as you like. The limit is zero.

Marcus

Re: Calculus vs calculation

*Message #3 Posted by **Antonio Maschio** on 6 Mar 2006, 8:56 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Very very clear!

Thanks!

(Europeans are not second to anyone!)

-- Antonio

Re: Calculus vs calculation

*Message #4 Posted by **Ed Look** on 6 Mar 2006, 10:22 a.m.,*
in response to message #2 by Marcus von Cube, Germany

These two definitions are totally correct. However, there are two further definitions for "calculus". It also can be loosely used to mean "calculation", and most often, if used, in the sense of a plan, or scheme, or plot: "all the events that came about fitted well with his devious calculus on this operation"... come to think of it, "calculation" sometimes also has this meaning!

But it ultimately derives from its original Latin meaning of a stone or rock, which was used in ancient times to help one in... calculating! I believe some medical people might sometimes still refer to a hard mass as a calculus.

Re: Calculus vs calculation

*Message #5 Posted by **Antonio Maschio** on 6 Mar 2006, 11:09 a.m.,*
in response to message #4 by Ed Look

Right, calculus has this meaning too (hard mass in the medical sense) even in Italian.

But do you think I can use both term equivalently, in the sense of "series of operation with numbers of variables, formulas or whatever"?

-- Antonio

Re: Calculus vs calculation

*Message #6 Posted by **bill platt** on 6 Mar 2006, 11:20 a.m.,*
in response to message #5 by Antonio Maschio

No, they are not equivalent. It depends on what you are trying to say. There are connotative layers of meaning as well as what is in the dictionary.

And don't forget the word "compute" as opposed to "calculate." These words are close and often interchangeable; yet one might be better suited than the other in certain circumstances.

Re: Calculus vs calculation

*Message #7 Posted by **Ed Look** on 6 Mar 2006, 1:57 p.m.,*
in response to message #6 by bill platt

Yeah, no one ever got complimented or reprimanded over dirty or illegal computations, but for their "cold calculation" or "shifty calculus" (although that could mean keying in an integral or differential equation on your HP calculator)!

Re: Calculus vs calculation

*Message #8 Posted by **Walter B** on 6 Mar 2006, 4:37 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Don't be a native English speaker either, but IMO "calculus" corresponds to "Analysis" in German, at least to the part dealing with differentiation and integration. There is also an English word "analysis". It seems "calculus" is a part of mathematical "analysis" in English, too.

Re: Calculus vs calculation

*Message #9 Posted by **bill platt** on 6 Mar 2006, 5:11 p.m.,*
in response to message #8 by Walter B

for an american child, his or her first exposure to that word, "Calculus" is likely to be some time in middle school when he learns that after he learns Algebra and geometry, he will then have to take a course in analytical geometry (sometimes called trigonometry), and then "calculus." Most students regard this transition with trepidation. Introductions to calculus have been made to him in physics or analytical geometry: the concepts of asymtote and infinity was strange enough, but now he will have to understand the concepts of "infinetesimal" and "limit". And so "calculus" has a certain connotation in american language of transcendance, (and not merely of the transcendentals either ;-)and higher learning. It certainly has analysis as a part of it, but it is by no means a synonym. Sometimes the word "calculus" is used in literary contexts to get at the idea of a reasoned and difficult or rather non-apparetn thought process.

"Calculation" on the other hand is a word that one is exposed to vbery early, as in "something that a calculator does." It has a connotation of "mechanical" or uniform, straightforward, work with numbers, yet even "calculation" has an air of the intellectual or brainy about it, in some circumstances.

Here are some sentences that this native speadker of american english has produced on the fly:

[pre]"When the onboard computer failed, astronaut J.S. Bach calculated his trajectory by hand."

Note that it would have worked essentially the same had I said:

[pre]"When the onboard computer failed, astronaut J.S. Bach computed his trajectory by hand."

Edited: 6 Mar 2006, 5:13 p.m.

Re: Calculus vs calculation

*Message #10 Posted by **Ben Salinas** on 7 Mar 2006, 3:23 p.m.,*
in response to message #8 by Walter B

Yes, analysis is another branch of mathematics. Basically, (as far as I understand it), analysis is the math of formally proving calculus. So rather than taking integrals, you prove limits, and directly apply definitions of calculus to yield theoretical results. Analysis is mainly theory, while calculus is plugging and chugging, so to speak.

Re: Calculus vs calculation

*Message #11 Posted by **bill platt** on 7 Mar 2006, 4:44 p.m.,*
in response to message #10 by Ben Salinas

Hi Ben! I hear you are in beantown! Hope you like it there...we are not so far from there.

Have you figured out all the nuances of the veritable 15c yet?

Regards,

Bill

Re: Calculus vs calculation

*Message #12 Posted by **Karl Schneider** on 6 Mar 2006, 10:03 p.m.,*
in response to message #1 by Antonio Maschio

Antonio --

There have been some good responses to your question, but I'll "chime in", anyhow...

Calculation is the process of performing mathematical computations using known quantities. It is what calculators do.

The *Calculus* are special analytical methods of symbolic mathematics, developed primarily by Newton and Leibniz, to determine the solutions to many kinds of computational problems. These methods involve use of infinitesimal quantities known as *differentials*.

Represented graphically, these problems include the slope at any point of a curved line (differential calculus), and the area over some interval between a straight axis and a curved line (integral calculus).

Of course, these two problems are inter-related by the Fundamental Theorem of Calculus.

Limit analysis is an area of symbolic mathematics that utilizes algebra and techniques of calculus (e.g., L'Hopital's Rule).

Wikipedia has some informative entries in English, Italian, and other languages, as well.

-- KS

Re: Calculus vs calculation

*Message #13 Posted by **Marcus von Cube, Germany** on 7 Mar 2006, 7:06 a.m.,*
in response to message #12 by Karl Schneider

Karl,

the reason why I used the limit calculation as a calculus example is my own experience at school. In the physics class we were dealing with speed and acceleration before the topic of differentials had been discussed in the math class. So the physics teacher chimed in and explained what it means to compute the speed of a moving object in a moment of time by letting the time interval become infinitely small.

Marcus

Re: Calculus vs calculation

*Message #14 Posted by **bill platt** on 7 Mar 2006, 9:41 a.m.,*
in response to message #13 by Marcus von Cube, Germany

YEP, same thing happend with me. Honors Physics in 11th grade; took Calculus in 12th grade.

Re: Calculus vs calculation

*Message #15 Posted by **Antonio Maschio** on 7 Mar 2006, 3:20 a.m.,*
in response to message #1 by Antonio Maschio

Thanks very much to everyone. Now the concept is clear to me (despite my *bad* dictionaries).

Hope I'll find a way to be equally useful for any question on your side.

Ciao!

-- Antonio

Re: Calculus vs calculation

*Message #16 Posted by **Ed Look** on 7 Mar 2006, 3:55 p.m.,*
in response to message #15 by Antonio Maschio

Hee hee hee (evil laugh).

I gave my son (teenager) a HP-39G; you know, the one with IR transmission capability. I can try to amplify its transmitter power and if you have one, too, so that on his next Italian test, you can beam over the answers. I think that calculator also has alphanumeric capability as well. Unfortunately, it may not have all the grammatical marks necessary for Italian! ;)

(I guess I fully understand why Europe only sells the HP-40G, which has a nice CAS, but has a disabled IR function.)

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Astro ROM image for Clonix, anyone?

*Message #1 Posted by **Geir Isene** on 6 Mar 2006, 3:18 a.m.*

Is there someone out there with one of the Astro ROMs that can make an image for a Clonix and upload it somewhere (TOS or elsewhere)?

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HP-35

*Message #1 Posted by **David** on 5 Mar 2006, 7:14 p.m.*

Hello all,

I just picked up an HP-35 calculator from a guy that was emptying out his garage and preparing to leave the state. I got it for free (along with some other items). I thought it was interesting, but worthless. Before I threw it in the trash, I decided to check out e-bay and I saw that they are collectible. That's when I stumbled across this informative forum. So.....

I believe it is a "Version 2". It is ser. no. 1143a 3****. It has the raised dot on the 5. It appears to be in good working order and it pretty good condition. It has the original grey case, as well as the charger and the owners manual. Also the leather case. The owners manual also has the accessory order card and the service card, in the back.

Is there anything else that i should check for to see if this unit is special? (I know it's not a "red dot". And the serial number is inside the battery compartment instead of between the feet.) What is the approximate value? (Although I don't think I want to sell it) This is all so interesting.

Maybe I have found myself a new hobby.

Dave

Re: HP-35

*Message #2 Posted by **Karl Schneider** on 6 Mar 2006, 12:54 a.m.,*
in response to message #1 by David

David --

Glad to see another person who appreciates the technological history!

My HP-35 has a serial #1143A2nnnn, and is a 2nd version. It says only "HEWLETT-PACKARD" on the bottom edge, not "HEWLETT-PACKARD 35", because it was HP's only calculator model at the time. My unit has the serial number between the feet, however.

The only models that are really "distinctive" to collectors are the early "red dot" units, some of which have a computational bug, where $e^{\ln 2.02}$ is calculated as 2.00.

I think that the 4th version is much better aesthetically -- previous versions look almost like prototypes.

Is the section about the HP-35 at this website's homepage helpful?

-- KS

Re: HP-35

*Message #3 Posted by **Jeff O.** on 6 Mar 2006, 8:46 a.m.,*
in response to message #1 by David

> Quote:
>
> Is there anything else that i should check for to see if this unit is special?

It is an HP-35, the world's first handheld calculator with transcendental functions. It is quite special! Granted, it might be a little more special if it were a red-dot, but it is a version 2, and has the earliest possible serial number prefix. Following-up on something Karl mentioned, early units had a few "bugs" where they did not provide absolutely correct answers to some very specific arguments in some of the functions. As Karl mentioned, taking the natural logarithm of 2.02 and then the antilog of the result returned 2., rather than 2.02. There was also a bug in the trigonometric functions for certain inputs. Some examples were:

```
Function                Buggy                    Correct
ARC SIN 0.0002          5.729577893 x 10E-3      0.01145916
ARC COS 0.0002          89.99427042              89.98854
ARC TAN 0.0002          5.729577893 x 10E-3      0.01145916
ARC TAN 1.00020002      45                        45.00573
```

So checking for the above anomalies will tell you if your unit was sent back to HP for repair. If it has the bugs, you have an original, pristine, untouched unit with its “quirks” still intact. If not, you have a unit that the owner went to the trouble to send back, and HP repaired a problem that in the present day would be ignored. Either way, it is special.
Approximate value based on eBay sales would be $40 to $100 (assuming it is not essentially "mint-in-box"). Unless you really need $40 to $100, you should by all means keep it.

> Quote:
>
> Maybe I have found myself a new hobby.

If so, be prepared for quizzical looks from friends and family. Also, beware the slippery slope from hobby to, ...obsession. You will obviously need a version 2 with or without bugs as required to complement the unit you have. Versions 3 and 4 are also a necessity, and a version 1 would be really, really nice. One each of the 45, 55, 65, 70 and 80 to fill out the classic series would also be nice. But wait, the 45 comes in at least three versions, so you’ll need one of each of those.....

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41CX Turbo !!!!

*Message #1 Posted by **gileno** on 5 Mar 2006, 6:53 p.m.*

Ebay Link

Re: 41CX Turbo !!!!

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 5 Mar 2006, 8:17 p.m.,*
in response to message #1 by gileno

These called my attention:

> Quote:
>
> this HP-41CX scientific calculator comes with extremely rare factory option TURBO BOOST mode circuitry activated with side slide switch.

Does it mean the HP41CX Turbo was a factory option? Didn't know about that. Also:

> Quote:
>
> About 25 program slide-strips for the card reader with HP carry case

Should these be the 25 magnetic cards?

Cheers.

Luiz (Brazil)

Re: 41CX Turbo !!!!

*Message #3 Posted by **Raymond Del Tondo** on 5 Mar 2006, 9:10 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Hi,

no, I doubt the TURBO was made by HP.
I think it was made by the dealer where he bought the unit.
Aside from that, the turbo switch implementation in the W&W HP-41CY Turbo looks much nicer, and you still can use the wall charger.

On the unit on sale, there also seems to be a small chip on the bottom of the separator plastic, but this could be a glitch of the cheap digicam;-)

About the mag cards: I also understand that there are 25 cards included.

However, another US eBay dealer sold a similar CX Turbo (NOT CY!)
for big money a while ago, so this unit could be a good deal,
taking into account the various included accessories...

Maybe I should announce my HP-41CV Turbo, too;-)

Regards

Raymond

Re: 41CX Turbo !!!!

*Message #4 Posted by **Ronald** on 6 Mar 2006, 3:57 p.m.,*
in response to message #3 by Raymond Del Tondo

Yes, I think this is really special, HP 82153A **LASER**Wand is really special.....-:)

Ronald

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HP are running a competition around the 12C

*Message #1 Posted by **Bruce Horrocks** on 5 Mar 2006, 5:54 p.m.*

Dear All,

In case you haven't spotted this, HP are asking for amazing HP-12C success stories to accompany the 25th anniversary celebrations for this model. If anyone wants to enter then go here:
http://h30248.www3.hp.com/offers/12c/index.html

Re: HP are running a competition around the 12C

*Message #2 Posted by **Antonio Maschio** on 6 Mar 2006, 4:18 a.m.,*
in response to message #1 by Bruce Horrocks

Yes, but I wonder why the 12C is still being sold, while 11C and 15C are not. Do you think there wouldn't be no buyers, today, for those wonderful scientific machines? And why such marvelous models like 32S and 32SII are now out of the way? Maybe because they are RPN? 12C is, and has never been discontinued.

Bah!

Antonio

Re: HP are running a competition around the 12C

*Message #3 Posted by **Vassilis Prevelakis** on 6 Mar 2006, 7:49 a.m.,*
in response to message #1 by Bruce Horrocks

```
Bruce Horrocks wrote:
> In case you haven't spotted this, HP are asking for amazing HP-12C
> success stories to accompany the 25th anniversary celebrations for
> this model.
```

Already discussed here:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=87177#87177

**vp

Edited: 6 Mar 2006, 7:50 a.m.

Re: HP are running a competition around the 12C

*Message #4 Posted by **Walter B** on 7 Mar 2006, 4:49 p.m.,*
in response to message #1 by Bruce Horrocks

What I would appreciate more is the forthcoming 20th anniversary of HP-42S - oops, out of production - so sorry, it's just scientific, no business... (grim laughter!)

HP are running a competition around the 12C

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After HP48sx

*Message #1 Posted by **Walter B** on 5 Mar 2006, 5:03 p.m.*

This museum ends with this model in 1986. Later calcs are described very shortly here, but without pictures, feature sets etc. Are there any other places where I can find this information? Right now I'm looking for the features of 19BII, but that's just one example.

Thanks in advance for some source(s).

Re: After HP48sx

*Message #2 Posted by **Marcus von Cube, Germany** on 6 Mar 2006, 2:08 a.m.,*
in response to message #1 by Walter B

Look at Viktor Toth's great site: http://www.rskey.org/detail.asp?manufacturer=Hewlett-Packard&model=HP-19BII

Marcus

Re: After HP48sx

*Message #3 Posted by **Walter B** on 7 Mar 2006, 5:25 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Marcus,

thanks for recalling this link I forgot! However, the information contained in MoHPC is far more reliable. IMO the only disadvantage is it ends in 1986.

For example, I learned at MoHPC the 19bii offers RPN - can't find this feature in Victor's site.

Is there no site containing HP calc teens (out of production) in equivalent depth as MoHPC?? I'm looking for features and high res photos.

Re: After HP48sx

*Message #4 Posted by **bill platt** on 8 Mar 2006, 8:28 a.m.,*
in response to message #3 by Walter B

don't forget Craig Finseth's amazing HPDatabase

www.finseth.com

Like Dave, he tries to make it as accurate as possible. a couple of times I have fed him bug discoveries etc or minor inconsistencies and he has fixed them and said thanks. Thanks Craig! And Dave!

No fotos at Craig's, but detail descriptions yes.

Edited: 8 Mar 2006, 8:29 a.m.

Re: After HP48sx

*Message #5 Posted by **GE** on 8 Mar 2006, 10:09 a.m.,*
in response to message #3 by Walter B

V.Thoth's site is a must.
In rare cases is information actually not exact, and it goes in much less detail than the MoHPC, but I like the very visual layout. Calculators are easy to browse by maker or other criteria, and it is a godsend for collectors interested in many brands.
My only regret is that there is no "Updates" page. I find myself browsing for new material the hard way from time to time.

Re: After HP48sx -- Thank you

*Message #6 Posted by **Walter B** on 9 Mar 2006, 4:45 p.m.,*
in response to message #5 by GE

Thanks for your infos - these are sites I have in my link list. So apparently that's all what's available. A lot of data ... my favourite place will stay here at this museum. Thanks, Dave, for this site!

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19c

*Message #1 Posted by **Walter B** on 5 Mar 2006, 4:45 p.m.*

Some time ago, I found an hp19c. I tested and it is fully functional when connected to 6VDC :) Even managed to get some thermo printer paper for a reasonable prize. Just what's missing is the battery pack. Has anybody here an idea where to get it from? Or is it an easy DIY job to build one? Any hints are appreciated! Thanks in advance!

Edited: 5 Mar 2006, 4:47 p.m.

Re: 19c

*Message #2 Posted by **Vassilis Prevelakis** on 5 Mar 2006, 5:11 p.m.,*
in response to message #1 by Walter B

if you do not use the battery pack, make sure the DC supply you are using is fully regulated, otherwise you are running the risk of damaging the CMOS RAM in your HP19C.

You did not mention whether you have the door to the battery compartment. If you do have it, things are much easier.

**vp

Re: 19c

*Message #3 Posted by **Walter B** on 6 Mar 2006, 3:37 a.m.,*
in response to message #2 by Vassilis Prevelakis

> Quote:
>
> You did not mention whether you have the door to the battery compartment.

I have this door and it's functional. I just don't have any part at all of the battery pack (neither plastic nor metal).

Re: 19c

*Message #4 Posted by **Vassilis Prevelakis** on 6 Mar 2006, 9:23 p.m.,*
in response to message #3 by Walter B

If yo have the door, then the pack itself is very simple to build. It consists of 4 AA NiCd rechargable cells arranged in the obvious manner. The cells connect to the two OUTSIDE tabs in the battery compartments. The inner tabs are to keep the pack in place and also show the polarity of the OUTSIDE tabs. AFAIK the inner tabs are not connected to anything inside the 19C.

On the far end of the pack you need springs to push the pack towards the tabs and make contact.

**vp

19C Oddity . . .

*Message #5 Posted by **Mark Lynch** on 6 Mar 2006, 10:43 a.m.,*
in response to message #1 by Walter B

Can't help with the battery pack, sorry, but do have a favorite piece of 19C trivia: Examine the decimal point (any) in the display with a magnifying glass. There is a very tiny hp logo in each one.

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Best ROMs for 41

*Message #1 Posted by **Geir Isene** on 5 Mar 2006, 2:41 p.m.*

I'm about to get a Clonix and would like some advice as to which modules would be the best fit and why. I am a 41 programmer and use my 41 for as much as I can in life; It's my PDA, my alarm clock, my quick note taker, my experimantal programming environment, my statistics evaluator and ... my calculator (financial and scientific). I would also like to get into m-code programming.

I am considering the following:

PPC
CCD OS/X
Sandbox
Zenrom
Alpha Rom
Advantage
David Assembler + Labels
Extended I/O
HP-IL Devel
AEC Rom

Any other?

Re: Best ROMs for 41

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 5 Mar 2006, 4:59 p.m.,*
in response to message #1 by Geir Isene

Hi, Geir;

although I use my HP41's since the 80's, I was only able to go deeper after being in contact with the MoHPC contributors/gurus. The last improvement I heard about the HP41 prior to buy an HP42S and an HP28S (and got caught by RPL...) was the Advantage ROM. I was neither aware of the fact that specific, third-part modules were developed to allow users to create their own applications with M-CODE.

Well, now I have an MLDL2000, a NoVRAM and a NoV32. For now, the NoVRAM is programmed to work as a Clonix, but I'll probably change that.

Because the MLDL2000 was my, say, 'first` acquisition, I've been using it extensively and also because it allows easily configuration changing (3 microswitches allow selecting one amongst eight user-defined configurations), I tested many combinations with it. In time: does anybody know about a big chart where all possible conflicts may occur? I mean, not only the duplicate XROM numbers, also the functions/programs names. I am compiling a list myself, but there are so many sources that I could not put them all togheter. Also, there are some rare modules that are not available to us, poor mortals...

Because I am an electrical engineer and I like designing, one of the modules that recently called my attention was the AECROM. It has almost everything I wish I had in a calculator to either study or practice

Engineering. The lack of matrix and complex number arithmetic might be easily spressed with the Advantage ROM.

The functionalities added by the CCD ROM are amazing, mostly when dealing with catalogs and ALPHA entry. I also like very much the CCD's matrix data handling, but I have to accept that the Advantage ROM resources do that better.

If M-CODE and program development are the subject, please add the HEPAX to your list. Unless Diego tell me I'm wrong, in this case I think that the NoVRAM or the NoV32 will be better choices than the Clonix, because you'll have 16KAM (NoVRAM) or 32KRAM (NoV32) to store whatever you want with HEPAX extended functionality. One of the configutrations I use with MLDL2000 (and soon with the NoV32) is exactly that: HEPAX in port# 5, all ports from 8 to 15 (Fh) addressed to RAM pages. Either case, it is plenty of memory to dare almost 7 times with NoVRAM or about 15 times with NoV32 of the main HP41 memory that can be instantly recovered, without the need of using external devices. And if you have an HP41CX, you can still have the full Extended Memory range (with two X-Memory Modules) and define the HEPAX in the 7th. port. If, by any reason, you need to use an HPIL with your HP41CX, just reconfigure your module and set HEPAX in the 8th. port. Yeap, unfortunately you'll loose 4KRAM, but you'll still have at least 12KRAM (NoVRAM) or 28KRAM (NoV32). And remember, you can use any of these 4KRAM blocks to develop M-CODE with either the HEPAX or the David Assembler + Labels.

From your list, the modules I did not use so far:

PPC
ALPHA ROM
HPIL Development ROM

I uploaded the surprinzing TOOLBOX and SANDBOX and tested a few functions of them, and also got some moments with the 41Z ROM, all of them by Angel Martin. But these modules need respectfull attention, not only a simple `trial and error` keystroke fooling. I must read about them prior to go ahead with, and all information about them is already available.

Well, I wrote too much, but remember : these words could only be written after having these modules, meanning a few months ago. I'm far from being the expert guiding you, I'm only trying to tell that experimenting is also a good way to find your best approach.

Good luck and best regards.

Luiz (Brazil)

Edited: 5 Mar 2006, 5:08 p.m.

Re: Best ROMs for 41

*Message #3 Posted by **Geir Isene** on 6 Mar 2006, 3:19 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Thank you very much for that info and viewpoints.

Do you know of a HEPAX manual in pdf somewhere?

Re: Best ROMs for 41

*Message #4 Posted by **Vieira, L. C. (Brazil)** on 6 Mar 2006, 6:07 a.m.,*
in response to message #3 by Geir Isene

Hi, Geir;

I know that at TOS you can find it, though...

Cheers.

Luiz (Brazil)

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New 49G+

*Message #1 Posted by **John Smitherman** on 5 Mar 2006, 1:19 p.m.*

I purchased a new 49G+ this week from HP's web site. I wanted to comment to the forum that the feel of the keyboard of this new s/n 534 is much improved over my older s/n 428. The 534 keys require much less effort to push and are much quieter than compared to the 428 which required more effort to push and produced a somewhat loud and irratating "thumping" sound.

The only other noticeable difference is that the yellow ink used for the alpha keys on the 534 appears to me to be brighter than on the 428. I believe that this is also an improvement for my tired eyes.

Let's hope that with what appears to be an improved key design coupled with the return of keytime in recent ROM updates that the 49G+'s keyboard issues have been eliminated. Time will tell.

Regards,

John

Re: New 49G+

*Message #2 Posted by **e,young** on 6 Mar 2006, 8:11 a.m.,*
in response to message #1 by John Smitherman

The 33s has had improvements made to its keyboard too, so it seems that HP is addressing the design flaws that were present in 49G+ and the 33s. Too bad they didn't get these issues resolved before they released these machines. A lot of bad blood has been generated.

Re: New 49G+

*Message #3 Posted by **John Smitherman** on 6 Mar 2006, 9:38 a.m.,*
in response to message #2 by e,young

Yes, 2005 was a good year for improvements to the 49G+, 33s and 12cp. Maybe we will see more in 2006.

Regards,

John

Re: New 49G+

*Message #4 Posted by **Gene** on 6 Mar 2006, 10:17 a.m.,*
in response to message #3 by John Smitherman

What? HP improve things? you must be joking! :-)

Seriously, I think they have improved things quite a bit, but there are still many things to do even better. And, no excuses for how they got into that mess to begin with.

But, what would you do if you found yourself in a very bad rut? Give up? Go home. Or, incrementally climb back out of the hole?

Reminds me of the guy who was very upset that HP dared be giving training sessions on how to use their financial calculators when he was still having problems with his 49g+ keyboard.

Without understanding, of course, that the person overseeing the training sessions could not possibly help with the problem.

Re: New 49G+

*Message #5 Posted by **e.young** on 6 Mar 2006, 12:01 p.m.,*
in response to message #4 by Gene

The 64,000 dollar question is, have they learned from their mistakes? If they ever introduce any new models (43S?) I wonder if the initial offerings will be plagued by bad keyboards and displays. I also wonder if they will abandon styling gimmicks like the chevron keyboard of the 33s and the horrible color scheme.

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Question about lifespan of refurbished card readers

*Message #1 Posted by **Namir** on 5 Mar 2006, 10:52 a.m.*

Hi all,

I want to ask the folks that fix card readers. What is the expected lifespan of these refurbished card readers:

1. HP-65 card reader 2. HP67 card reader 3. HP-97 card reader 4. HP-41C card reader

All your feedback is appreciated.

Namir

Re: Question about lifespan of refurbished card readers

*Message #2 Posted by **Katie Wasserman** on 5 Mar 2006, 11:03 a.m.,*
in response to message #1 by Namir

I have repaired all 4 readers that you mention (using silicon tubing from Small Parts - part # 210005) about 5-6 years ago and they're all still working fine.

Re: Question about lifespan of refurbished card readers

*Message #3 Posted by **Namir** on 5 Mar 2006, 11:48 a.m.,*
in response to message #2 by Katie Wasserman

That sounds impressive! Thanks Katie for your reply.

Re: Question about lifespan of refurbished card readers

*Message #4 Posted by **David Smith** on 5 Mar 2006, 11:54 a.m.,*
in response to message #3 by Namir

I know of satellite in orbit for over 20 years with an off the shelf silicone rubber drive (yep, medical grade fuel line) on an instrument shutter. It was only needed to work a few months. It is exposed to the vacuum of space, atomic oxygen, nasty temperature swings etc and is still functioning. Another reason not to use o-rings in your rebuild jobs.

Re: Question about lifespan of refurbished card readers

*Message #5 Posted by **Walter B** on 5 Mar 2006, 12:40 p.m.,*
in response to message #4 by David Smith

AFAIK there are silicone rubber o-rings, too. They were used in high vacuum applications.

Edited: 5 Mar 2006, 12:59 p.m.

Re: Question about lifespan of refurbished card readers

*Message #6 Posted by **Bernhard** on 6 Mar 2006, 11:49 a.m.,*
in response to message #5 by Walter B

I use silicon rubber tubes, too. Same kind of tube is on my desoldering station now for 20 years with no signs of wear or decomposition despite of the desoldering fumes. I expect card readers repaired with such tubes to last until the motor or gears themselves give up.

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How can I make my PC print to HP82240B?

*Message #1 Posted by **Danny Elfman** on 5 Mar 2006, 10:39 a.m.*

I got an infrared adaptor, a program to emulate a serial port for the adapter and I installed some printer drivers try to print, but the printer didn't respond at all. Anyone know if it's possible to print files from a PC to the 82240B?

Re: How can I make my PC print to HP82240B?

*Message #2 Posted by **Bill** on 5 Mar 2006, 2:37 p.m.,*
in response to message #1 by Danny Elfman

Are you, by any chance, the musical composer?

Re: How can I make my PC print to HP82240B?

*Message #3 Posted by **Eric Smith** on 5 Mar 2006, 4:36 p.m.,*
in response to message #1 by Danny Elfman

The 82440 printers don't use IRDA protocol, so in general a PC can't talk to them.

Re: How can I make my PC print to HP82240B?

*Message #4 Posted by **James M. Prange (Michigan)** on 5 Mar 2006, 4:44 p.m.,*
in response to message #1 by Danny Elfman

I wouldn't entirely rule it out, but the 82240 printers (and perhaps earlier infrared models?) use a special character encoding, including four error-correction bits with each (8-bit) data byte. See: http://www.hpcalc.org/search.php?query=82240B+technical for the details.

Regards,
James

Re: How can I make my PC print to HP82240B?

*Message #5 Posted by **Eric Smith** on 5 Mar 2006, 5:46 p.m.,*
in response to message #4 by James M. Prange (Michigan)

While it's obviously **possible** to somehow interface a PC to an 82440, there is no **easy** way to do it. Standard PC infrared ports and infrared adapters speak IRDA protocol, which cannot by any stretch of the imagination work with the 82440.

Some built-in PC infrared ports (mostly in laptops) have a "consumer IR" mode that is intended to let them act as a remote control for consumer electronics. In principle those could send to the 82440, but as far as I know, no software to do that has ever been published.

Re: How can I make my PC print to HP82240B?

*Message #6 Posted by **James M. Prange (Michigan)** on 5 Mar 2006, 6:55 p.m.,*
in response to message #5 by Eric Smith

Agreed; I don't know of any "easy" way to do it. Perhaps the least painful way would be to connect a calculator to the PC, and with the calculator in server mode, send it data and tell it to print it via IR. In other words, use the calculator as an RS-232/"RedEye" IR adapter.

I've heard of relatively simple RS-232/"Serial IR" (SIR) converters that can be used for communicating with the 48 series for transfers via IR, but I have my doubts about the feasibility of getting them to send in the RedEye encoding for the 82240 printers. Certainly it would be possible to make the hardware/software to do it, but it wouldn't be an "off the shelf" solution.

Regards,
James

Re: How can I make my PC print to HP82240B?

*Message #7 Posted by **Gerson W. Barbosa** on 5 Mar 2006, 8:48 p.m.,*
in response to message #5 by Eric Smith

At least for the HP-95LX/100LX (and 200LX), it has been published a shareware that prints text or data from the palmtop to the HP 82240B (IR-Print/SM):

http://www.rundel.net/palmtop/hp200/shareware.htm

There is also a DOS freeware version at the site, IR-Print/DOS, but this may run only on those early HP palmtops.

Re: How can I make my PC print to HP82240B?

*Message #8 Posted by **Christoph Giesselink** on 7 Mar 2006, 3:27 p.m.,*
in response to message #7 by Gerson W. Barbosa

I only know it for the 95LX, but this model has some special I/O registers generating the necessary pulse packets with the correct timing. These registers are missing on a normal PC.

I don't know a method with standard PC components using the HP82240B printer. My solution in this case would be a self programmed microcontroller converting the data from serial to the HP secific redeye format.

Cheers

Christoph

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is this normal in a repaired 41CX?

*Message #1 Posted by **Gonzalo Fernandez (Spain)** on 4 Mar 2006, 5:04 p.m.*

I have an HP41CX fullnut I repaired (changed bad memory chip, only 255 registers instead 319 registers) Now the repaired 41CX has 319 registers and 124 extended registers, the time clock works OK. The problem is after not using the calculator for 1-2 days (without batteries), when I put batteries, the screen shows all characters @, "@@@@@@@@@@@@", twelve @ characters. After this, pressing the backspace keys, the calculator powers off. From this point, I can turn on the calculator (ON key, the screen shows 0.0000) but I cannot do a reset (ON + backspace), only after 1-2 minutes I can do a reset (ON + backspace) and the calculator works perfectly.

What is due the initial showing (twelve @ characters) when I put batteries after not using the calculator for 2 days and stored without batteries? I´m sure that is not due to a bad contact between the two halves of the calculator.

Re: is this normal in a repaired 41CX?

*Message #2 Posted by **Klaus** on 6 Mar 2006, 7:01 a.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

Hola Gonzalo!

I once got a 41CX fullnut for repair, with the display showing '@@@@@@@@@@' and I think the buzzer hummed a bit when switching on. I measured the signal lines and I think two of them had very low signal (about 200 mV if I recall correctly), and much noise on them. Since I did not have any replacements (As the lines connect CPU,RAM and ROM, any of the chips could have had a defect), I gave it back to the owner and he wanted to sell it on ebay.

I was also sure it weren't the contacts, as I opened the case an clamped the boards together with a 'monkey wrench?' (<= correct word???).

Perhaps you bad memory chip shorted some signal to ground and thereby damaged another chip? I think you should check your signals if you have access to a scope.

Good luck!

Re: is this normal in a repaired 41CX?

*Message #3 Posted by **Thomas Okken** on 6 Mar 2006, 11:04 a.m.,*
in response to message #2 by Klaus

> Quote:
>
> I was also sure it weren't the contacts, as I opened the case an clamped the boards together with a 'monkey wrench?' (<= correct word???).

This is a monkey wrench:

http://www.penlight.org/images/water/monkey_wrench.jpg

I think the word you were looking for is "vise":

http://www.northerntool.com/images/product/images/34917_lg.gif

Thanks

*Message #4 Posted by **Klaus** on 6 Mar 2006, 11:31 a.m.,*
in response to message #3 by Thomas Okken

Thanks Thomas,

'vise' was the word!

wise advise! Klaus

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Shortcut to toggle between standard and fix?

*Message #1 Posted by **J.C. Boco** on 4 Mar 2006, 4:33 p.m.*

Is tehre a way to toggle between standard display and fix (say 3 digits) display?

I have this output and it's hard to read. I use the DET determinate function on

ii j k 3 4 3 5 2 4

The result (I'm making it up) is say

1.235335653ii + 1.and then it runs off the screen. I want to see the j value and the k value.

I figure if I can set it to 3 digit FIX, there is room to see everything. but it's a pain to do that, and almost equally painful to just enter edit mode and scroll to the right.

Re: Shortcut to toggle between standard and fix?

*Message #2 Posted by **J.C. Bocio** on 4 Mar 2006, 4:34 p.m.,*
in response to message #1 by J.C. Boco

the determent is

ii.....j.....k 5.....4.....3 5.....3.....19

just as an example

Re: Shortcut to toggle between standard and fix?

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 5 Mar 2006, 8:24 p.m.,*
in response to message #1 by J.C. Boco

Hi;

can you tell us which HP calculator you are using?

Cheers.

Re: Shortcut to toggle between standard and fix?

*Message #4 Posted by **J.C.Boco** on 8 Mar 2006, 7:05 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

I'm sorry that took so long.

and sorry for leaving out the most basic of imformation.

HP49g+

Re: Shortcut to toggle between standard and fix?

*Message #5 Posted by **Marcus von Cube, Germany** on 9 Mar 2006, 2:23 a.m.,*
in response to message #4 by J.C.Boco

A simple approach could be a custom menu:

```
{{"FIX3" << 3 FIX >>} STD} 'CST' STO>
```

Pressing [left shift][mode] (custom) results in the display of two functions: [FIX3] and [STD] which activate two different display formats when pressed.

Marcus

Re: Shortcut to toggle between standard and fix?

*Message #6 Posted by **James M. Prange (Michigan)** on 9 Mar 2006, 7:14 p.m.,*
in response to message #5 by Marcus von Cube, Germany

Or a program like the following could be used to toggle between display modes.

```
\<<
  IF -49. FS?
  THEN STD
  ELSE 3. FIX
  END
\>>
```

From FIX or ENG mode, this switches to STD mode, and from STD or ENG mode, it switches to 3 FIX mode.

Use it in a custom menu, assign it to a user key, or just store it in a variable.

Regards,
James

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eBayers continue to confuse me

*Message #1 Posted by **Han** on 3 Mar 2006, 2:46 p.m.*

Check out this non-operating HP48G from eBay. It sold for about $40.00. The description is:

> Quote:
>
> HP-48G Calculator, I can't get it to do anything being sold as is. 5.00 shipping in the US

No manuals, no case... just a supposedly non-working HP48G. Now, mint units often go for $50, with case and manuals included. Sometimes people go wild and bid up to the $90 range, but these oftentimes include extras like a screen guard, or the complete package (box, accessories guide, nameplate, etc). Why spend $40 for a unit that is not guaranteed to work when you can spend about that much for one that does, and comes with a case and manuals?

I made a bid of $15.00. But this was under the assumption that no one would bid anywhere near that much for a non-operating unit -- even for parts.

Edited: 3 Mar 2006, 2:52 p.m.

Re: eBayers continue to confuse me

*Message #2 Posted by **Vassilis Prevelakis** on 4 Mar 2006, 8:30 a.m.,*
in response to message #1 by Han

Excuse me, why do you assume that everybody dealing on eBay is sane?

In developed countries, the growth of the internet allows everybody and I mean *everybody* access to eBay. So its not surprising that you get crazy or stupid or naive people spending their cash on useless items [1].

This is Coburlin's business model, pick a crazy price out of a hat and wait for the sucker to come to you.

**vp

[1] speaking about buying useless items, I am not sure whether my behavior is sane either :-)

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OT: Casio Fx-750P

*Message #1 Posted by **Marcus von Cube, Germany** on 3 Mar 2006, 2:41 p.m.*

Hi!

another off topic post from me, I hope you can stand this ;-)

I've just got a Casio FX-750P off eBay. It came with its cassette/printer accessory FA-20 but without documention. No problem, just find a PDF on the Net! My problem: There isn't any usable info in the wild. I assume very much that the machine wasn't actively marketed outside Japan (it has Japanese characters but no lower case!)

If anybody wants to discuss the machine with me or has some information, just send a mail!

Marcus

P.S: The machine is a close cousin of the PB-700 (no mode key, two enter keys). You can send BASIC files from one machine to the other. Problems arise if you send programs with commands that one machine understands but the other doesn't. String constants with lower case characters are nasty because you can't edit the lines on the FX-750P. :-(

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What Calculator to buy

*Message #1 Posted by **Paul Hoffman** on 3 Mar 2006, 1:53 p.m.*

Hi all,

My 41C just dropped some pixels on it's LCD - OH well!

So what do I buy? I am a retired engineer, but still do some engineering. I don't use the fancy features often enough to remember them. I like all the bells and whistles, but if you can't remember how to use them - it's a pain to go back and relearn how to use them again.

I don't like trying to use a small calculator keyboard like a computer - 'ALPHA' this and 'ALPHA' that etc. - UGH!

The 28S has a better keyboard - it's not as cluttered as the later models.

Give me some ideas.

Thanks - Paul

Re: What Calculator to buy

*Message #2 Posted by **Jan** on 3 Mar 2006, 2:08 p.m.,*
in response to message #1 by Paul Hoffman

Hi,

I would try to buy a good (used) 41 unit again. It's a good calculator as you can probably confirm, it has everything you apparently need, good looks, RPN, and you know it already. They are offered frequently on e-bay and similar sites. However, despite their age the good units are not cheap (100USD+). If buying on e-bay is too much a hassle for you, then the only RPN-scientific alternative presently for sale from HP is the 33S. However, I do not know the details but it suffers occasionally from quality problems.

Re: What Calculator to buy

*Message #3 Posted by **Paul Brogger** on 3 Mar 2006, 2:51 p.m.,*
in response to message #1 by Paul Hoffman

If you can get past the appearance and keyboard layout (some people just can't), the 33s is readily available and I'm guessing has most all the features you need.

It's ~$50.00 at Wal-Mart. Make sure the serial # (usually copied on the outside of the package) starts with CNA53... or greater.

(This doesn't necessarily preclude chasing down another 41 -- it's nice to have a backup unit available.)

Re: What Calculator to buy

*Message #4 Posted by **Stephen Easterling** on 3 Mar 2006, 3:01 p.m.,*
in response to message #1 by Paul Hoffman

The 28S seems like a great idea as long as you use it on a desk or something. It gets clumsy when you try to use it standing up or on the fly. As mentioned already, any good condition 41 series on Ebay would suffice and I doubt it needs to be a pricey 41CX unless you like the stopwatch. If you prefer the layout of the -+x/ buttons on the left of the keypay, try a nice 55 or 65 (LED) unless you prefer LCD. You can usually pick up a 32S (not 32SII) for much less than the cost of the 32SII. I love the 32S. It has only one orange shift key and a relatively uncluttered keyboard. The 33S is not bad, either.

justice to the 28

*Message #5 Posted by **marais** on 3 Mar 2006, 4:37 p.m.,*
in response to message #4 by Stephen Easterling

The uncluttered elegant keyboard of the 28C/S is one of its most ignored features. I often wonder if history will ever do justice to this utterly underestimated calculator.

Andreas

Re: justice to the 28

*Message #6 Posted by **Karl Schneider** on 3 Mar 2006, 11:45 p.m.,*
in response to message #5 by marais

> Quote:
>
> The uncluttered elegant keyboard of the 28C/S is one of its most ignored features. I often wonder if history will ever do justice to this utterly underestimated calculator.

Marias --

I, too, like the dedicated Alpha keyboard of the HP-28C/S. One can't avoid spelling out function names in RPL, so it's nice not to mess with "ALPHA" mode. I have two 28C's, keeping one at work.

I also like the comprehensive unit-definition library and conversion utility that handles compound units and checks for consistency. One can't append units to values as on the HP-48/49, but the functionality is still quite useful.

As for its ultimate legacy, the original HP-28C was a flawed product: it had an insufficient 2 kB of RAM for its advanced functionality (e.g., symbolic algebra), ans was missing some mathematical functions (e.g., COMB and PERM) and directory structure. The HP-28S fixed those things, but the small graphical screen and lack of full I/O and expandability remained as shortcomings. These issues, of course, were addressed by the HP-48S/SX.

Regards,

-- KS

Re: justice to the 28

*Message #7 Posted by **Samuel Heddle** on 6 Mar 2006, 6:07 p.m.,*
in response to message #5 by marais

> Quote:
>
> The uncluttered elegant keyboard of the 28C/S is one of its most ignored features. I often wonder if history will ever do justice to this utterly underestimated calculator.
>
> Andreas

Does anyone else think it's ironic that the 28 has both one of the most uncluttered keyboards, and, other than the other clamshells, has the most keys of any model?

justice to the 28

*Message #8 Posted by **marais** on 8 Mar 2006, 2:14 p.m.,*
in response to message #7 by Samuel Heddle

That's weird, isn't it? My explanation at the time was that it just takes that many keys, and a thoughtful separation into primary and secondary ones. That's why the 48 failed to become my most used calc, even though it's technically superior.

Andreas

Edited: 8 Mar 2006, 2:17 p.m.

Re: justice to the 28

*Message #9 Posted by **Thomas Okken** on 8 Mar 2006, 10:50 p.m.,*
in response to message #7 by Samuel Heddle

> Quote:
>
> Does anyone else think it's ironic that the 28 has both one of the most uncluttered keyboards, and, other than the other clamshells, has the most keys of any model?

Hardly ironic... Compare the HP-67 and HP-97: one has 35 keys, the other has 56, and both have the exact same function set.
Guess which one is more cluttered? ;-)

Re: What Calculator to buy

*Message #10 Posted by **Karl Schneider** on 3 Mar 2006, 11:25 p.m.,*
in response to message #1 by Paul Hoffman

Paul --

> Quote:
>
> My 41C just dropped some pixels on it's LCD - OH well!
>
> So what do I buy? I am a retired engineer, but still do some engineering. I don't use the fancy features often enough to remember them. I like all the bells and whistles, but if you can't remember how to use them - it's a pain to go back and relearn how to use them again.

Since it's an HP-41C, it is in all likelihood an older "fullnut" design (from 1979-1985), and may be repairable. Randy Sloyer at www.FixThatCalc.com has already repaired two of my fullnut 41's to perfect working order -- a 41C and a 41CX.

As others have stated earlier, it's also easy to find a nice used HP-41 on eBay. If you get the top-of-the-line HP-41CX, expect to pay substantially more. Those made from 1983 to "early" 1985 will be of the fullnut design, with better displays, key-feel, and construction. The rest from "late" 1985 to 1990 will be of the more-reliable halfnut design.

> Quote:

> I don't like trying to use a small calculator keyboard like a computer - 'ALPHA' this and 'ALPHA' that etc. - UGH!
>
> The 28S has a better keyboard - it's not as cluttered as the later models.

But the 41 has an alpha mode button! :-)

Yes, I also like the dedicated alpha keyboard of the HP-28C/S (I have two 28C's). But you won't be pleased with the 28C/S as a replacement for a 41C -- its "RPL" mode of operation is significantly different in many respects, especially for programming. Also, it is non-expandable, with no I/O except for the 82240A/B infrared printer.

Other ideas:

The HP-42S was discontinued in 1995. Its programming, command set, and RPN operating paradigm is quite compatible with the HP-41, but you'll have to enter programs via the keyboard. The display isn't very easy to read, which may be of concern to you. They are available via eBay, but not cheaply.

The HP-32SII or HP-32S is also based on traditional RPN, and was discontinued in 2002. I believe that you would be quite pleased with it as a pure calculator (I have one), but they aren't cheap on eBay either.

As others have stated, the HP-33S (developed from the HP-32SII) is the least-cost new RPN calculator to replace an HP-41. However, there is much not to like about its aesthetics. That's why the HP-32SII is expensive on eBay.

Regards,

-- KS

Edited: 3 Mar 2006, 11:29 p.m.

Re: What Calculator to buy

*Message #11 Posted by **Walter B** on 4 Mar 2006, 11:58 a.m.,*
in response to message #1 by Paul Hoffman

Hi Paul,

as others told you already, 41c-type calcs are often seen at eBay. So, if you have some plug in modules, then you may continue to use them.

The 42s was meant to become a replacement for the 41cv - it turned out to have far more power, but NO I/O besides the IR connection to the printer. Anyway, you'll find a similar keyboard layout, compatible progrmming code, and a 2-line dot matrix LCD. It is the most powerful RPN calc ever built. Just look at the museum.

In comparison, the 32s (and 32sii) has very limited space for your programs. But you may like it if you just want a staightforward calc. Choose between the clean keyboard of the 32s with 1 shift key and more menus - and the 32sii with 2 shift keys, less menus and more functions printed on the keyboard plate. The LCD of the 32 has higher contrast than the one of the 42s.

Prices vary. At some strange times you may be lucky. You may improve your chances if you also look at eBay.de and other locations.

Good luck! Walter

Edited: 5 Mar 2006, 1:14 p.m.

Re: What Calculator to buy

*Message #12 Posted by **Bruce Horrocks** on 5 Mar 2006, 8:33 a.m.,*

in response to message #1 by Paul Hoffman

> Quote:
>
> So what do I buy? I am a retired engineer...[snip]
>
> I don't like trying to use a small calculator keyboard like a computer - 'ALPHA' this and 'ALPHA' that etc. - UGH!
>
> The 28S has a better keyboard - it's not as cluttered as the later models.
>
> Give me some ideas.

The 19BII might be just right for you. Has the same form factor as the 28C/S so a separate alpha keypad for easy entry. Has trigs, logs, hyperbolics and unit conversions -- as well as the business stuff (TVM, bond yields etc.) that you can safely ignore if you want.

Has a built-in clock and appointment reminders - really useful for those ad-hoc things like: "there's a programme on the telly that I really don't want to miss so I'll just put a reminider in now in case I get carried away working on this maths/programming/whatever problem." And the alpha keypad makes this *so* much easier that it's worth doing.

Everything is easy to do from the menu - so great for features that you don't use often and can't quite remember in what order things are done.

Still readily available. Relatively expensive but at least there's no scarcity/insanity eBay markup being applied.

Has an RPN option but only on the "HP19BII Business Consultant II" model. Do not confuse this with the "HP19BII Business Consultant" model. ;-)

Downsides: stats are limited to list stats, only programmable through the solver (but which is very powerful). Batteries are a pain to change (but IIRC that they re-designed the battery compartment on recent models - can someone confirm?)

Otherwise, your only option for a decent calc with a real-alpha keyboard is the second-hand market: the 28 series as you suggested or the 95/100/200LX range. If you only want the calculator then an old 95 can be picked up quite cheaply and they have an excellent calc.

The perfect calculator

*Message #13 Posted by **Bruce Horrocks** on 5 Mar 2006, 8:44 a.m.,*
in response to message #12 by Bruce Horrocks

Boot note: Of course, if HP were to release a version of the 19BII with a flash-able ROM then we could get an openRPN sub-project going to turn it into a scientific/engineer's calculator. (It's perfect for this because the keyboard labels don't need changing.)

Re: What Calculator to buy

*Message #14 Posted by **Vassilis Prevelakis** on 5 Mar 2006, 9:11 a.m.,*
in response to message #1 by Paul Hoffman

```
Paul Hoffman wrote:
> So what do I buy? I am a retired engineer, but still do some engineering
```

I think that an HP-97 would be the best calculator for you. It has a large keyboard with excellent feel, large display that can be read even from a distance, and a built it printer.

Although not strictly speaking handheld, you can easily carry it around. I find that the built-in rechargable pack lasts forever and I have a second pack that can be charged in the external cahrge cradle as soon as the low-bat warning comes on my HP-97 display. This allows me not to have the A/C charger attached to my HP-97 all the time (its bad for the battery and limits portability).

All in all an excellent combination.

**vp

PS I also have an HP-41CX around because of it has the TIME module and I can set reminders and alarms. But I use the 97 for most calculations.

Edited: 5 Mar 2006, 9:13 a.m.

Re: What Calculator to buy

*Message #15 Posted by **David Smith** on 5 Mar 2006, 11:57 a.m.,*
in response to message #14 by Vassilis Prevelakis

How 'bout a 97 on the desk and a '67 for life on the run. Programs and cards are interchangeable. There is also the 15C if you like small LCD machines.

Re: What Calculator to buy

*Message #16 Posted by **John Smitherman** on 5 Mar 2006, 5:07 p.m.,*
in response to message #1 by Paul Hoffman

Hi Paul. You did not mention what kinds of things that you did with your 41 so we can only speculate what needs you might have.

If you want to buy something new I would recommend either the 33s or the 49G+. The simpler of the two is the 33s and may meet your needs. The most recent versions of the two dated 52x or newer have been improved.

Regards,

John

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OT: You know you are getting "old" when...

*Message #1 Posted by **bill platt** on 3 Mar 2006, 11:37 a.m.*

You grab a blackwing 602 pencil to take a phone message, and then realize, with dread, that it is probably an irreplaceable antique now and after a search that yes, it is discontinued and is now a collector's item.

I can't begin to think of where I've experienced this feeling before...;-)

Regards,

Bill

(Nuts! You just raised the going price by 14% . . . ;-)

*Message #2 Posted by **Paul Brogger** on 3 Mar 2006, 11:59 a.m.,*
in response to message #1 by bill platt

(Actually, what is a "blackwing 602 pencil"? I'll have to do a Google search.)

Re: (Nuts! You just raised the going price by 14% . . . ;-)

*Message #3 Posted by **bill platt** on 3 Mar 2006, 1:53 p.m.,*
in response to message #2 by Paul Brogger

Hi Paul!

What do you tink of this thread:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=88379#88379

I thought of you and your ability to open up pioneers....

Blackwing is my favorite pencil. I had boxes of them but I am afraid I am down to my last box :-(

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tablet calculators :-)

*Message #1 Posted by **Alain** on 2 Mar 2006, 11:17 p.m.*

All,

It seems the wireless tablet computer is the next big thing: Nokia 770, Microsoft Origami, Intel, etc. These machines are kinda between a PDA and a small laptop computer.

Which means that calculator emulators on these machines would be great: 640x480 tactile screen if not more..

What does that say for the future of calculators and calculator emulators?

-- alain.

Re: tablet calculators :-)

*Message #2 Posted by **Thomas Radtke** on 3 Mar 2006, 1:54 a.m.,*
in response to message #1 by Alain

Most calculators are used in school. Here, you need a small and robust device with moderate power consumption. A real keyboard is always welcome on these tools, too;). I cannot see PDAs et al. being a challenge for the classic calculator.

Thomas

Re: tablet calculators :-)

*Message #3 Posted by **Thomas Okken** on 3 Mar 2006, 5:15 a.m.,*
in response to message #1 by Alain

Tablet computers are not a new idea, but in the past, they seem to have been successful only in industrial applications -- the attraction being that you can use them while holding them with one hand and writing on them with the other.
For anyone else, it's just a laptop with no keyboard...

Re: tablet calculators :-)

*Message #4 Posted by **Vieira, L. C. (Brazil)** on 3 Mar 2006, 6:36 a.m.,*
in response to message #1 by Alain

Hi, Alain; allow me some comments?

> Quote:
>
> (...)640x480 tactile screen if not more

These might be good for low-res graphics, though. I myself feel comfortable with alphanumeric capacity, 12-

digit mantissa, 3-digit exponent of ten, as many digits as possible and necessary for internal numbers, graphics welcome, too. About tactile screen: I prefer keys. Yeap, there is the key bouncing issue and related production costs, but tactile screen depends on keyboard emulation software as well.

> Quote:
>
> (...)the future of calculators and calculator emulators?

This is the sort of subject that we can discuss for too long, or simply wait to see. I have my own perspectives, based on historic events. Once math became a tool and this tool found itself inserted on many other sciences, allowing it to be efficient and precise would consequently allow all 'related' sciences to be efficient and precise as well. Trigs and log tables were written, slide rules were created and some mechanical devices that could perform basic calculations were designed and built. Large electromechanical and electronic computers were designed and built as well, so were desktop, powerful calculators. Pocket size versions became a reality after the memorable HP35.

What comes after?

As we can see, existing tools were replaced by newer ones, more efficient, resourceful and reliable. I see no new replacement after the calculator, only different versions of the same concept. What about a neural interactive device that returns suitably coded resulting values once a number-based question is captured in the neural cortex? That would, indeed, be a replacement: no keys to bounce, no screen to be read in bad light conditions, no batteries to replace, only organic-based nanocells that would harmless be implanted in the base of the backbone.

Wow! With such a NIC (Neural-Interfaced Calculator), who needs a standard, keyboard driven calculator?

O.K., let the flames and blames come!

Sorry, folks, but I actually see no current replacement for a calculator, just some guys showing it in a different package and look and claiming that the calculator has its glorious days in the count. I do not see this coming so soon.

My opinion, again.

Cheers.

Luiz (Brazil)

Edited: 3 Mar 2006, 6:56 a.m.

Re: tablet calculators :-)

*Message #5 Posted by **Dia C. Tran** on 3 Mar 2006, 9:07 a.m.,*
in response to message #4 by Vieira, L. C. (Brazil)

Hi Luiz! While I don't know of any NIC implant but I know that there are people who have it built in. These peopld tend to do a lot of studying though.

You bet! (N.T.)

*Message #6 Posted by **Vieira, L. C. (Brazil)** on 3 Mar 2006, 1:53 p.m.,*
in response to message #5 by Dia C. Tran

Re: tablet calculators :-)

*Message #7 Posted by **Garth Wilson** on 3 Mar 2006, 3:09 p.m.,*
in response to message #4 by Vieira, L. C. (Brazil)

It reminds me of when the Apple Newton came out, the little keyboardless computer which was supposed to recognize handwriting. The first thing I thought was, "Wow, that is some impressive technology!" but the next thing I thought was, "How dumb-- someone has forgotten that the reason we used to use typewriters before we had computers was that typing was faster than writing-- *a lot* faster!" The banks' ATMs now all seem to have touch screens. I don't like the paralax, the lack of feel, and looking through the grime left behind by fingers. At stores that use the glass pad to sign on when we use a credit card, I can't make my signature look real because of the paralax and because of the delay in response of the pad to show where I've written.

For typing with one hand while holding the computer in the other, I'd rather see something like the Frogpad become standard. Although a bit complicated to learn initially, it is said that with some practice you can type 40wpm on this one-hand QWERTY keyboard replacement.

As for bounce, there's no excuse for it in modern computers or calculators. It does not take much computing power or very many lines of code to do the de-bouncing in software. I've done it many times in the products I've designed.

Edited: 3 Mar 2006, 3:10 p.m.

Re: tablet calculators :-)

*Message #8 Posted by **Frank Boehm** on 3 Mar 2006, 9:47 a.m.,*
in response to message #1 by Alain

> What does that say for the future of calculators and calculator emulators?

Probably nothing. This calculator is the only way to go:

http://i5.ebayimg.com/03/i/06/43/cb/03_1.JPG

In fact, it does have many more features than stated; it easily solves integrals, works even *without* electrical power.

Re: tablet calculators :-)

*Message #9 Posted by **Steve S** on 4 Mar 2006, 8:37 p.m.,*
in response to message #1 by Alain

I'm surprised that none of you seem to be aware of xThink's xCal and MathJournal applications. See:

www.xThink.com

Both products were designed for the tabletPC platform. They are each capable of solving hand-written math expressions. xCalc handles arithmatic, including trig and some specialized math, while MathJournal will solve expressions up to and including entry level calculus (providing, in some cases, symbolic solutions.

The ability to interprete hand-written math is MUCH faster than keyboard entry (as, for example, the -48) which, in this context is both awkward and unnatural.

MathJournal 2.0 is about to enter beta trials. Version 2 will add matrix hath, linear algebra and numerous other expanded capabilities. Before you declare that the calculator is the only future for math manipulation, I suggest

that you take another look around...

Re: tablet calculators :-)

*Message #10 Posted by **GE** on 6 Mar 2006, 9:56 a.m.,*
in response to message #9 by Steve S

Let's see what the future of math in the hand is.
Say the following function is defined on integers like :
u(1)= 44
and
u(2*n) = u(n) and
u(2*n+1)=u(n) .
Tell me what this function is.
For many this function is a constant and has value 44.
For no calculator in the world, is this calculable.
So I say that the future of calculators may be calculators as they are now, but my real brain power. See what one can do with hypergeometric functions. I'm looking forward to better tools.

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12C Platinum Dust Problem

*Message #1 Posted by **Jeff** on 2 Mar 2006, 9:45 p.m.*

I have had several of the new and improved 12C Platinums, and they all develop dust inside the display. It's not a huge deal, but is kind of annoying.

Is it just poor design? Can it be blown out.

I'm tired of taking them back to Office Depot.

Many thanks.

Re: 12C Platinum Dust Problem

*Message #2 Posted by **j.brabers@chello.nl** on 3 Mar 2006, 8:17 a.m.,*
in response to message #1 by Jeff

I guess it is what "made in china" is all about

Re: 12C Platinum Dust Problem

*Message #3 Posted by **e.young** on 3 Mar 2006, 8:53 a.m.,*
in response to message #2 by j.brabers@chello.nl

I don't think the fact that something is made in China means that it is inherently inferior. If HP wanted calculators with its name on them to equal the quality of the golden years, they would design accordingly and require their Chinese manufacturers to have better quality control.

I think the culprit is ultimately HP. They are ultimately responsible for the quality of the products that bears their name, even if they are not the ones manufacturing it. If issues like dust in the display were unacceptable to HP, they would then require the manufacturer to have better quality control, or they would have to review their design to see if there was a design problem resulting in dust getting in the display.

[OT] Chinese quality

*Message #4 Posted by **Thomas Okken** on 3 Mar 2006, 9:13 a.m.,*
in response to message #3 by e.young

My Apple iPod was made in China and it is a truly fine piece of equipment.

(But even so, it also says "Designed by Apple in California" on the back. Is it just me, or does that sound like Apple is apologizing for something?)

Re: [OT] Chinese quality

*Message #5 Posted by **Ron** on 3 Mar 2006, 9:19 a.m.,*
in response to message #4 by Thomas Okken

That's hilarious!! Yes, it sounds like an apology.

Re: 12C Platinum Dust Problem

*Message #6 Posted by **Dave Shaffer** on 3 Mar 2006, 12:51 p.m.,*
in response to message #1 by Jeff

You say they "develop" dust. Does this mean they come clean from the store, but get dusty later (as you use it)?

This has been an HP problem for a long time! My '41CX slowly accumulates dust in the display as time goes by. Others have commented on this as well. The display is just not hermetically sealed. Some (clean!) compressed air may help - although it can also just blow the dust farther into the unit.

Re: 12C Platinum Dust Problem

*Message #7 Posted by **Jeff** on 3 Mar 2006, 3:48 p.m.,*
in response to message #6 by Dave Shaffer

Thanks. No, the dust accumulates over time. Very annoying!

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help with an HP 48s

*Message #1 Posted by **e.young** on 2 Mar 2006, 12:26 p.m.*

Greetings to all.

I recently aquired an extremely used HP48s in a non-working condidition. Even though it doesn't work, I picked it up in hopes that I might be able to fix it.

This thing had the batteries leak, so there is corrosion in the battery compartment. That I think I can deal with, but the entire unit is filthy, to the point that I don't like to touch it. I wonder if maybe it came out of a wet lab.

Does anyone have any advise on how this might be cleaned? The amount of dirt is way more than just a cosmetic problem-this thing is nasty. Based on other threads that I have read, I am considering soaking it in distilled water for a while. Any comments or sugestions will be greatly appreciated. Thanks.

Re: help with an HP 48s

*Message #2 Posted by **Jan** on 2 Mar 2006, 2:08 p.m.,*
in response to message #1 by e.young

Hi,

I would not soak it in destilled water either. The point is, since there was battery-leakage, some (salty) remains of this are probably still present in the battery compartment and the rest of the unit. When these salts dissolve in destilled water, the water can no longer be considered as of "distilled" quality and becomes conductive. Moisture is very difficult to get out from a closed compartment (such as a calc). So unless you open it soon after you treated it with water and dry it very thoroughly there is a serious risk of short circuiting parts of the units electronics, with unknown consequences. Furthermore, salt water enhances corrosion. Concluding I would say: don't touch it with lots of water but try a gentle cleaning procedure with a (slightly) wet cloth. Wash your hand after it as well, you don't know what the thing has been in contact with.

regards Jan

Re: help with an HP 48s

*Message #3 Posted by **bill platt** on 2 Mar 2006, 3:51 p.m.,*
in response to message #2 by Jan

If the batteries are out, and you run distilled water through it in copious amounts, I see more good than harm. The distilled water will have a thermodynamic interest in taking on all that battery detritus into solution, and by running fresh distilled water trough it, you will get it all out.

After doing an initial 5 rinses in a short time period, I'd let it soak for 24 hours, and rinse it again.

Re: help with an HP 48s

*Message #4 Posted by **Randy** on 2 Mar 2006, 5:01 p.m.,*

in response to message #3 by bill platt

Cleaning will not help...

I don't like to be a wet blanket here but my recommendation would be "don't bother" - it's not repairable. 99.9% of the 48's I've seen with a battery leak that no longer turn on cannot be repaired due to keyboard damage. The two battery contact areas are open into the calculator, the negative terminal is open into in the case right above the ON button traces. The electrolyte gets into the keyboard circuit and opens the ON trace. End of calculator. Sorry.

PS: Many times it kills the entire bottom row: ON 0 SPC +

Some other points about other topic above:

1) It's safe to immerse/wash HP's so long as the batteries are out of them and you do not reinsert batteries for at least two days after a wet event. You can shake all the excess water out a 48 and dry in a warm place with no problems what so ever. It takes about 24 hours. Most all electronics that are soldered together get washed somewhere along the manufacturing process. No big deal.

2) Never soak an HP for an extended period of time, especially a Pioneer or 48. The keyboard conductors are printed carbon and they can be damaged and even dissolved given the right conditions. The darker plastics used on cases also have a nasty habit of developing splotchy white areas when left in contact with liquids too long.

Edited: 2 Mar 2006, 5:14 p.m.

Re: help with an HP 48s

*Message #5 Posted by **bill platt** on 3 Mar 2006, 8:22 a.m.,*
in response to message #4 by Randy

> Quote:
>
> Never soak an HP for an extended period of time, especially a Pioneer or 48. The keyboard conductors are printed carbon and they can be damaged and even dissolved given the right conditions.

Good to know. Thanks!

Re: help with an HP 48s

*Message #6 Posted by **Han** on 2 Mar 2006, 6:52 p.m.,*
in response to message #1 by e.young

I would first test whether or not the caclulator does not turn on due to the battery corrosion. If you clean the contacts, and a fresh set of batteries do not turn the calculator on, there may be a few other reasons.

In two used HP48Gs of mine (bought from eBay), the blue inductor (I think that's what it is; it's just above the postive battery terminal) broke at the point where its legs were bent; only one of the leg was broken. By broken, I mean it was rusted (? not sure, but it looked like rust) to the point of breaking!

In the HP48S/SX calculators, the contact point of the keyboard circuitry with the PCB oftentimes would not make proper contact. So keypresses do not get registered (e.g. the ON key).

Re: help with an HP 48s

*Message #7 Posted by **e.young** on 3 Mar 2006, 8:36 a.m.,*
in response to message #1 by e.young

Thanks all for your replies. I bought it for very little money, so if things don't work out I haven't lost much. I'll let you know how it goes.

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why should I want a 48 series? (having already bought a 49g)

*Message #1 Posted by **Chris** on 2 Mar 2006, 11:54 a.m.*

I recently won a brand new 49g on Ebay. I know it's not as old school as the 48 series, but I like the thing alot, don't know all that much about it currently. I've been offered a 48G for $50. Any thought on why I'd want to own one? I do have a question about my 49G too. I plugged in the batteries that came with it, and used it for several months (here and there). Well, the original Energizers went dead, and all I had on hand were these cheap Panasonics (the kind you get at the dollar store, 4/$1). When I turn it on, it seems to take it's time, whereas before, it would "snap" on, and often display some garbage for a fraction of a second. Are/were either of my batteries doing the unit harm? These were sitting around for a while, so possibly they're not at full capacity (I could try a fresh dollar store batch I guess lol). Should I use a particlar type of battery? Does anyone bother with rechargeables in their calc?

Re: why should I want a 48 series? (having already bought a 49g)

*Message #2 Posted by **Ron Ross** on 2 Mar 2006, 12:36 p.m.,*
in response to message #1 by Chris

The 48G has a lot less memory and No real CAS in comparision. But it has real Hp quality buttons and is actually just as fast (or even somewhat faster, I am talking about the 48G w/32K RAM only). It also has a built in equation Library, which I have on several occasions made good use of.

If I had to choose between a 49G and a 48G for a calculator to use for general use, I would, without hesitation, grab the Hp48G.

Which do I have in a desk drawer at work? Well, I have a 49G, because I have quite a few special programs and these programs would overfill/overload the RAM on a 48G. And I have another Hp to actually crunch numbers on. The Rubber keyboard on the Hp49G just doesn't compare to a real Hp keyboard.

Now if you really meant that you have the NEW Hp49G+, you probably would not appreciate an Hp48G nearly as much (unless you have a 49G+ that has a bad keyboard/ older ROM). The Hp48G is Slooooow in comparision, and Hp has re-included the eq library in the 49G+.

My quick comments:

48G well built, nice layout, somewhat slow 49G Still well built but offered with Rubber??? keyboard, still slow 49G+ Not so well built, FAST!, returned to plastic keyboard, but went cheap on the keyboard construction (the heart and soul of every calculator). But it is also less than one half the cost of the original Hp48 series, so you get what you pay for.

I'd say snag the 48G if you want a quality calculator. $50 at Walmart will buy you a new Hp33s. Which is the better buy?

Of course if you are an engineering student, you should buy an Hp33s to use for a future EIT or PE exam.

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why should I want a 48 series? (having already bought a 49g)

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Long live Sharp ! :-)

*Message #1 Posted by **Vincent Weber** on 2 Mar 2006, 11:31 a.m.*

Hi all,

Just to say that Valentin is not the only one to support Sharp's past glory - I now got converted ! :-)

I purchased from Ebay various Sharp Basic machines. I especially fell in love for the PC-1262. Why? It is not a super-powerful machine, but it has the best ratio power/volume (or weight) that I have ever seen, and is soooo cute. Its characteristics are quite amazing:

-Beautiful, shiny metal, horizontal design, with very small yet useable keys (full qwerty keyboard). They don't do things like this anymore! Nothing to envy to the design of the HP-15C, and ever more compact. To me this makes this device the most relevant today: we tend to prefer a laptop to a bulky pocket device, but a *truly* pocket device is still most valuable.

-Full I/O with a comprehensive docking station, a printer and inexpensive tape to load/save programs. Out of the tens of pocket machines HP released, very few had full I/O, i.e. the ability to enter programs in another way than your fingers: namely, the 65, the 67, the 41 series, the 71B, the 48 and 49 series and the 95/100/200LX palmtops. That's all folks! And none of these machine even comes close to the PC-1262 in terms of pocketability. The 15C and 42S would come closer, but do not have this I/O functionality.

-10Kb of memory, with an efficient way of tokenizing keywords. That is to say, more than *any* pre-RPL HP calc... Enough to store faily large programs, all the more that you got I/O for 'mass' storage.

-2-line display of 24 characters. Enough to review programs comfortably.

-A nice equation feature, with long variable names. Regretably not integrated with a solver feature a la 27S, which would be really great, but still quite useful.

-Comprehensive help menus.

-program labelling (18 choices, with overlay), a bit similar to the 41 series 'user mode', with the ability to assign any character string to a key. This is somehow more elegant that the Casio way of doing things (10 independant program spaces, with no naming), even though it can be cumbersome to have a global numbering space for BASIC lines. Best would be to have the ability to define new functions into the system. The HP-71B does this well, but with single-letter names only, and is bulky with a ridiculously small screen. The best machines to do that, if you want BASIC, are actually... The TI-89 and the TI Voyage 200 ! Maybe I will do another 'long live TI' topic :))

-Fast and powerful BASIC otherwise, and entry recall convenience.

In short, a wonderful little machine.

I also purchased a PC-1360, with a nice 4-line graphical display. I thought that Casio invented the graphic calculator in 1985, but I was wrong. The very first machine with graphical capabilities was indeed the PC-1350 (my 1360's little brother) as early as 1984!

HP still has a major strength, though. If you look at the Sharp PC-1475 with matrix capabilities, you will see that this functionality is only available in interactive mode, not as a 'toolkit' to use in your own programs; how unlike the HP-41 with Advantage Pac, the HP-15C, the HP-42S, the HP-71B with Math rom, and the 48 & 49 series, which all feature seamless integration of matrices in the programming system, with the ability to define new functions...

But overall, Sharp produced wonderful machines, especially the PC-1262 which can fit in the smallest programmable casio (fx-400Op) case, and yet deliver such power.

Sharp is dead today, as far as nice machines are concerned - but let's honor its past glory...

Cheers,

Vincent

Re: Long live Sharp ! :-)

*Message #2 Posted by **Marcus von Cube, Germany** on 2 Mar 2006, 12:28 p.m.,*
in response to message #1 by Vincent Weber

I bought the predecessor of the PC-1262, the PC-1260 with less RAM (4KB), when it was still in the shops. The main reasons were the luxury display and the small size.

But there is a drawback to pocketability: You need tiny fingers for the alpha keys which measure just 3.5mm x 3.5mm with 4.5mm spacing between them. You really do not want to edit large programs on the machine.

Performance is in the same league as the Casio pocket computers of the same era, but less then the home computers existing at the time.

With some recent developments you can even interface a PC to these little cuties, just connect the cassette interface to the sound card and use software from The Pocket Computer Museum. I've recently made some additions to wav2bin to make it read data files, too (not yet on the museum pages but you can ask me directly.) What's still missing is a BASIC tokenizer to create wave files from ASCII program text.

Marcus

Re: Long live Sharp ! :-)

*Message #3 Posted by **Massimo Gnerucci (Italy)** on 2 Mar 2006, 1:27 p.m.,*
in response to message #1 by Vincent Weber

Hello Vincent,
just to say that we must have similar taste... :-)

I, too, recently bought a couple of 1262 and, some months back, a 1360. These machines are amazing: well built, quite fast and really pocketable (at least the 1262).
As Marcus wrote the 1360 is a better choice when typing and reviewing programs.
I'm glad you posted your impressions.
Greetings,
Massimo

Re: Long live Sharp ! :-)

*Message #4 Posted by **Nelson M. Sicuro (Brazil)** on 2 Mar 2006, 6:17 p.m.,*
in response to message #1 by Vincent Weber

I love my PC-1260 too, and I "upgraded" it from it's 4KB SRAM to 10KB (actually 16KB) SRAM (a 32K chip, what a waste...). If I can find my hand written annotations of how I did the modification I could post... I used the same original CMOS glue-logic chip, besides the new 32K chip, added some tiny wiring and some tracks cut... Now I can program it in assembler on the "extra" 6KB! A very nice machine, indeed!

Best regards,

Nelson

P.S. My PC-1260 (with cassete/printer CE125) came from Germany, Berlin - what a long trip to Brazil, about 3 months!!

Edited: 2 Mar 2006, 6:19 p.m.

Re: Long live Sharp ! :-)

*Message #5 Posted by **Bill (Smithville, NJ)** on 3 Mar 2006, 6:00 a.m.,*
in response to message #1 by Vincent Weber

Hi Vincent,

I totally agree with you. The Sharp Pocket computers are really amazing for their size, power and capabilities. My second PC was a Sharp 1500 with the 4-pen color plotter/printer (My first PC was the TRS-80 Model I). It's quite a bit bigger than the small Sharps that you have, but had a lot of power.

I have just started collecting a few of the 1500A this year, mainly because several came up on e-bay that had HVAC Loads/sales/economics modules. I am now the proud owner of the Lennox Logic Residential Savings and Loads modules plus a module by Rheem. I just this last weekend obtained some working pens and had the great joy to see and hear the little plotter in action. Love that clickty-clack sound.

Does anybody know how to revive dried-out plotter pens?

Also, does anybody know how to do a dump of the modules? They seem to be protected so I can't list them out. When I hit the break key, I get the standard message Break in Line XXXX, so I'm assuming that the modules are programed in Basic - so they sould be listable.

Thanks,

Bill

Re: Long live Sharp ! :-)

*Message #6 Posted by **Klaus** on 3 Mar 2006, 7:44 a.m.,*
in response to message #5 by Bill (Smithville, NJ)

Hi Bill,

to refill the pens, I drill a small hole in the back (0.8 mm or smaller) and use an injection+needle to fill it with standard ink. Close the hole with some adhesive. Dried pens are harder to revive, but it's not imposible. I also have a PC-1500A with a 20k? memory module (total amount: 28K). I am looking forware to aquire a working PC-1600 with plotter in the future, mostly because of the analog input and the big plotter.

BTW. refill the pens over the kitchen sink. It can make a lot of mess. I also made some gears for the plotter, because mine did not transport the paper (broken gear).

Have fun! Klaus

Re: Long live Sharp ! :-)

*Message #7 Posted by **Bill (Smithville, NJ)** on 3 Mar 2006, 10:43 p.m.,*
in response to message #6 by Klaus

Hi Klaus,

I would've never thought of trying to refill them. I'll have tro give it a try. I guess a standard inkjet cartridge refill kit could be used. I think some of them are syringe/needle style.

I don't think I'll use the sink. Don't think the wife would appreciate the mess. But an old bucket would do fine.

I'm thinking of trying a ink removable soution to see if the dried out pens can be revived.

Marcus - thanks for the contact on the Pens. I've enterend in my book for future reference. I just received a package today - another PC-1500A from e-bay that came with three sets of color pens and two sets of black pens - all still sealed in original packaging. Tested one set out and they work great. So I'm stocked up on pens at the present. Unit also came with a very interesting 16K CE-161 memory module. It's battery backed up (battery is dead) but has a switch so that it can become read only once it's programmed. In it's standard configuration, adds 16K to the base memory of the unit.

Bill

Re: Long live Sharp ! :-)

*Message #8 Posted by **Marcus von Cube, Germany** on 3 Mar 2006, 9:35 a.m.,*
in response to message #5 by Bill (Smithville, NJ)

Bill,

> Quote:
>
> Does anybody know how to revive dried-out plotter pens?

You can even buy new pens in Germany. A small company, dealing with medical equipment, has replacement pens. These plotters seem to be used in some expensive devices, so it does pay off.

Here is the contact:

Name: Peter Laß Email: christiane.lass@t-online.de

Marcus

Re: Long live Sharp ! :-)

*Message #9 Posted by **Tom Lake** on 5 Mar 2006, 2:29 a.m.,*
in response to message #8 by Marcus von Cube, Germany

There's a guy in Italy who sells replacement pens for Sharp. He advertises on eBay all the time. Search for his ads for color pens. They're $13.00 USD but if you're ordering from Europe, he can probably give you a better deal.

Re: Long live Sharp ! :-)

*Message #10 Posted by **Bill (Smithville, NJ)** on 8 Mar 2006, 7:05 a.m.,*
in response to message #9 by Tom Lake

Hi Tom,

I just received yesterday two sets of pens from the gentleman in Italy. While not in the original Sharp Packaging, they are in the standard plastic tube and work fine. They were sent by regular certified Italian Mail and took three weeks to get.

I had already ordered the two sets from him before I was successful on obtaining several sets off e-bay. So I am now well stocked up on both color and black pens.

Bill

Re: Long live Sharp ! :-)

*Message #11 Posted by **Valentin Albillo** on 3 Mar 2006, 9:13 a.m.,*
in response to message #1 by Vincent Weber

Hi, Vincent:

Vincent posted:

" Just to say that Valentin is not the only one to support Sharp's past glory - I now got converted ! :-)"

> Congratulations for your recent acquisitions and thanks for posting your first impressions. I have a hunch that many people who love classical, vintage HP calcs do also love vintage SHARP handhelds, and even more, many more HP-calc lovers would also love SHARPs if only they would get to know them.
>
> Why do I say this ? First of all, most times I've posted something mentioning SHARP models, a number of people stated that they also had and loved them or would like to get them.
>
> Secondly, whenever I've shown some of my SHARPs to HP-lover and -collector friends and friends of friends, they've been impressed with their quality to the point of starting their own collections in many cases.

"I especially fell in love for the PC-1262 [...]Its characteristics are quite amazing: [...] In short, a wonderful little machine."

> Indeed, the SHARP PC-1262 is one of the very best small handhelds existing, very powerful and nice to use, a real collectable and a hacker's dream too, what with machine language accessible (PEEK, POKE, CALL) and full I/O !

"HP still has a major strength, though. If you look at the Sharp PC-1475 with matrix capabilities, you will see that this functionality is only available in interactive mode, not as a 'toolkit' to use in your own programs;"

> It's far simpler for most users. Not everyone is a 'power user' which feels comfortable writing programs for its machine, and the full-fledged, stand-alone program or operation is much easier to use than the toolkit, keyword approach, which mostly requires you to write some program using the provided keywords to get the work done.
>
> Even myself, at times, find it less tiring to simply use the convenient and comfortable prompting applications provided than to, say, having to manually specify the option base (OPTION BASE 1),

dimension the matrices (DIM A(10,10),B(10,10),C(10,10), input the data (MAT INPUT A,B), and then solve the systems (MAT C=SYS(A,B)) and output the results (ENG 5 @ DELAY 1,1 @ MAT DISP C). Not to mention you must remember proper syntax and try and interpret any error messages you might get ! :-)

Also, the SHARP PC-1475 matrix capabilities are *fully machine-language programs*, not BASIC code in ROM. This means they work extremely fast and reliably, using internal extended precision. The corresponding applications in, say, the original HP-41C Math ROM were user-code, RPN programs, not machine language. The Advantage ROM provided both user-code RPN programs for normal users, as well as 'toolkit' machine language keywords to be used by power users in their own user-code RPN programs.

Thanks (and congratulations) again and

Best regards from V.

Re: Long live Sharp ! :-)

*Message #12 Posted by **Nelson M. Sicuro (Brazil)** on 3 Mar 2006, 1:03 p.m.,*
in response to message #11 by Valentin Albillo

Speaking of Sharp calculators (computers?) and assembly language, has anyone tried to program an RPN "operating system" on them? My PC-1260 has a "spare" 6KB (6800h~7FFFh) after I made the modifications on its memory module, and I need some help on doing that. Volunteers?

Best regards to all,

Nelson

Re: Long live Sharp ! :-)

*Message #13 Posted by **HrastProgrammer** on 4 Mar 2006, 1:44 a.m.,*
in response to message #12 by Nelson M. Sicuro (Brazil)

I have done this on PC-1251 (very simple version) and PC-1403 (advanced version with ALPHA, comparable to HP-41C).

These are (names are based on the year I developed them):

HP-87C for PC-1251
HP-88C for PC-1403 (like HP-87C but for PC-1403)
HP-91C for PC-1403

HP-91C has ALPHA mode, multiple programs ability, ASN keyboard assignments, 126 flags, 208 bytes free for programs/data (with SIZE), 27 separate ALPHA-addressed registers (A..Z) and many advanced instructions like FOR, TO, STEP, NEXT, START, LOOP, SKIP, READ, DATA, RETRY, PULL (?!?), CLR, INC, DEC, DSTO, DRCL, DEXC, ... Its size is about 6.5K and it uses almost all PC-1403 memory leaving just 100-200 bytes free for a simple BASIC program. It was developed and entered using POKE.

HP-87C/88C source code exists only on paper but I think I have the HP-91C source code somewhere in my archive ...

I also manually disassembled the whole PC-1251 24K ROM (8K internal CPU ROM + 16K external ROM): a little BASIC program displays the 8 successive bytes and I disassembled them by hand (two

weeks of work if I remember correctly). I had all SC-61860A instruction codes in my head these days (I even remember a few of them today) ...

Edited: 4 Mar 2006, 7:46 a.m.

Re: Sharp RPN (was: Long live Sharp ! :-)

*Message #14 Posted by **Nelson M. Sicuro (Brazil)** on 4 Mar 2006, 11:47 a.m.,*
in response to message #13 by HrastProgrammer

Hi!

Good to hear that, it appears to be very interesting. I have a spare 6KB to play with! I know the 61860 asm a little and I have some descriptions of the opcodes and Sharp internals. Can you share this programs? This is really a very good add-on to these little marvel machines... Did you made any keyboard overlay?

Best regards,

Nelson

Re: Sharp RPN (was: Long live Sharp ! :-)

*Message #15 Posted by **HrastProgrammer** on 5 Mar 2006, 1:55 a.m.,*
in response to message #14 by Nelson M. Sicuro (Brazil)

Hi Nelson,

Yes, I can send a source and hex dump of the program to you but there are a few problems:

(*) I don't have any other docs about HP-91C program in electronic form - I documented it on paper only. I haven't had a computer these days so everything had to be done on paper, in head and directly on the calculator using PEEK/POKE/CALL. I have a lot of info about these calcs in paper form but I really don't have time to retype it.

(*) The source code is not commented. It is disassembled using standard SC mnemonics of these days with the inclusion of a few instructions which I discovered by myself (CASE, TABLE, ELSE, ...). A few years ago I found these instructions documented on some Web page (with different names, of course) but they didn't exist in the SC docs I had in the end of '80s.

(*) I am not sure if this source is 100% correct. It was disassembled after I got my first 286 PC and wrote a SC disassembler for it. As I didn't own an interface I had to retype the hex dump from the calculator into PC and there is a chance for errors. That was in '91 and then I called it HP-91C although it was developed in 1989.

(*) If you want to use it on PC-126x then you will have a lot of problems because I used PC-1403 ROM calls very much in order to save space. And giving the fact that PC-1403 has bank-switched external (outside CPU) ROMs (4x 16K banks) it makes it even more complicated.

So, if this is OK then send me a mail and I will send a source to you. BTW, I haven't made any overlays because I got used to it and I knew the keyboard layout in my head. This is the case with all my emulators, as well :-)

Best regards.

Edited: 5 Mar 2006, 12:29 p.m.

Re: Long live Sharp ! :-)

*Message #16 Posted by **Chris Roccati** on 5 Mar 2006, 7:28 a.m.,*
in response to message #12 by Nelson M. Sicuro (Brazil)

> Quote:
>
> My PC-1260 has a "spare" 6KB (6800h~7FFFh) after I made the modifications on its memory module

Is there any kind of documentation regarding this modification?

I'm sure I read about that and about a similar modification involving a 32Kbytes chip covering all the available memory space including the "hole" inside the video ram (2080h~27ff)...

Re: Long live Sharp ! :-)

*Message #17 Posted by **Nelson M. Sicuro (Brazil)** on 6 Mar 2006, 1:08 p.m.,*
in response to message #16 by Chris Roccati

I have some hand written boolean equations I have used to convert the addressing of the original SRAM chips to the 32KB chip (using only 16KB) - and they can't use the "hole" in the display RAM, it requires an internal modification - I only modified the SRAM/ROM card of the PC-126x.

I'll search my documentation and I'll post for shure when I find it, but it is "buried" on my paper piles... this can take a while...

The original PC-126x internal memory card addresses SRAM from $4000 to $67FF, a "hole" from $6800 to $7FFF, and ROM from $8000 to $FFFF. My adaptation enabled the SRAM from $4000 to $7FFF, but the BASIC only "see" up to $6800, using only 10KB. I have scanned pictures of this modification. The last 6KB can be used in assembler programs.

Best regards,

Nelson

Re: Long live Sharp ! :-)

*Message #18 Posted by **Nenad (Croatia)** on 3 Mar 2006, 3:51 p.m.,*
in response to message #1 by Vincent Weber

Fully agree, Vincent!

Just to add a little bit of information about SHARP PC-1262, with respect to its PC connection. A year ago I obtained Transfile PC Plus (DOS application) with an interface cable to connect a SHARP to the parallel port on the PC. It came just as an addition to my SHARP 1403H (that I always wanted to have).

Now, in addition to connecting a SHARP to PC by a CE-124 interface via PC sound card, Transfile performs data transfer in ASCII form without any conversion to WAV format. You just select your SHARP computer type and select upload/download. It works perfectly for 1401, 1403H and for 1262! I have not tried it yet for a SHARP PC-E500, though it might work (at least it can be connected)!

Next issue: the manual in English. I have never found one in a downloadable form, but the one for PC-1251 can be used without a problem. As I understand, the basic (maybe the only) practical difference between the

1251 and 1262 (neglecting the amount of RAM) is a single vs. two-line dsplay.

Yes, the form factor of 1262 is very convenient. I would have never noticed this, unless Valentin (big thanks) have pointed this out, before I grabbed one on German eBay. They are still rather inexpensive there.

The issue that I do not like wrt 1262 is that you have to type: eg. <S><I><N><4><5> instead of <SIN><4><5> on a 1401/1403H. In addition to this it does not separate thousands eg. 1234556.27 instead of 1.234.556,27 - but who cares.

All in all it is a very nice machine. I find it very useful. When my son chalenged me how to print out a series of Fibonacci numbers, before he shows off with his program in C++ (he is sixteen), I grabbed 1262 and did it in exactly three simple lines of code. Yes, yes, Fibonaccy numbers are not a big issue at all, but my 1262 is in my shirt pocket and his C++ works on his 3,5 kg notebook PC-this is the difference.

Sorry Dave, to write this much about Sharps, but they are just beautiful

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Proposal: Registration Must be Mandatory

*Message #1 Posted by **Valentin Albillo** on 2 Mar 2006, 9:19 a.m.*

Hi, all:

I've been frequenting this forum for several years now, and I'm frankly absolutely disgusted and upset with the increasing rate of 'unpolite people' (for lack of a stronger term) which hide behind anonymity to post all kinds of attacks, disrespectful remarks, and such.

Besides, there's the fact that a number of otherwise intelligent contributors cannot resist the bait, and usually do reply to that kind of posts, to the utter delight of the moronic trolls, whose only purpose is to waste precious bandwith and time, as well as filling the forum (and eventually the archives themselves) with any number of threads, most of them repeating *ad nauseam* the usually insulting "Subject:" of the original poster.

I think this is **unacceptable**, and further, I am even against hiding one's identity from the rest of the contributors, even if not insulting anyone. It's unpolite, it's unrespectful, and I for once wouldn't accept any opinion from anyone at all if talking to me or trying to argue with me without properly introducing themselves.

That being so, I'm not for suffering that improper behaviour here as well, so I firmly make a proposal and two statements.

- The proposal: that to be able to post to this Forum, registration with a valid e-mail address and other data shall be **absolutely mandatory**.
- The first statement: Personally, I won't reply, nor read, nor communicate in any way with anyone who hides themselves under any kind of obvious alias, fake name, or whatever that I might detect, and strongly suggest that the rest of you do likewise. If noone will read nor reply to the obviously anonymous posters, no matter the content of their messages, perhaps they will learn and use a proper identity. Else they will be absolutely ostracised and will probably leave. Good riddance !
- The second statement: Mr. David Hicks is perfectly entitled to do whatever he wishes with his forum, and to stablish or enforce any policies he wants to. But I'm equally free to stop visiting and contributing to this forum if I don't like them, and if nothing is done to stop dead on its tracks this constant posting by anonymous non-persons, I for once might consider leaving as well if I feel I can't stand it anymore.

Your opinions welcome and thanks for them.

Best regards from V.

You got my vote!

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 2 Mar 2006, 9:44 a.m.,*
in response to message #1 by Valentin Albillo

Enough is enough.

Massimo

Re: You got my vote!

*Message #3 Posted by **Xavier LaRue** on 2 Mar 2006, 10:20 a.m.,*
in response to message #2 by Massimo Gnerucci (Italy)

You also have my vote, even if I'm here since not a long time...

Re: You got my vote!

*Message #4 Posted by **Wayne Brown** on 2 Mar 2006, 10:20 a.m.,*
in response to message #2 by Massimo Gnerucci (Italy)

I agree. If someone has a legitimate need or desire to use an alias or nickname, I don't see a problem, as long as it is used *consistently* and Dave knows who it really is. Requiring registration would make that possible. But being able to use a different alias for every message and not having a record that points to an actual person makes it too easy for the sort of cowardly sniping we've seen here lately.

It's a shame it's come to this, as the majority of the people here are mature enough to behave properly without needing a babysitter. But as in many other situations, it only takes one person who feels "above the rules" to make things unpleasant for everyone.

I differ

*Message #5 Posted by **Klaus** on 2 Mar 2006, 10:28 a.m.,*
in response to message #1 by Valentin Albillo

I do not think you can stop by a mandatory registration the trolling. There are many "sign up for free" eMail accounts, and it is impossible to have a list of all and exclude them. On the other hand, you cannot make a list of "valid" eMail providers to allow only these. So any troll can register, and continue trolling.

I don not think trolls come here for fun, it seems to be kind of revenge for harsh comments. With regards to OpenRPN: I too wanted to support the project at the beginning but soon became frustrated , mostly by the organization of the project. I know of others having experienced the same, and maybe this lead to comments about OpenRPN. Some newbies show up on this forum and often cause controverse discussions, which also create frustration on both sides and may cause the trolling.

We all visit this place for fun, so let's treat each other positively and let's control ourselves.

Just my opinion!

Cheers, Klaus

How about a "Registered Users filter"?

*Message #6 Posted by **Paul Brogger** on 2 Mar 2006, 10:49 a.m.,*
in response to message #1 by Valentin Albillo

How about a new Forum feature whereby the chosen view (Daily, Full, Archive, and Search) could be optionally filtered to include only messages posted by registered participants? (I'd be surprised if this proposal is at all novel -- no doubt it has been mentioned before.) Technical difficulties aside, it might offer the best of both worlds.

Filtering, etc: Four Plausible Options

*Message #7 Posted by **Valentin Albillo** on 3 Mar 2006, 8:15 a.m.,*
in response to message #6 by Paul Brogger

Hi, Paul:

Paul posted:

"How about a new Forum feature whereby the chosen view (Daily, Full, Archive, and Search) could be optionally filtered to include only messages posted by registered participants?"

Yes, it's certainly one of the best options. It seems to me that **there are 5 main options** to deal with this alleged problem, in order:

1. **Registration with valid data is mandatory for posting**, so that only registered users can post to the Forum, though anyone at all can *read* messages in the forum without registration being required.

   This is the usual accepted practice in most if not all professional forums dealing with software, hardware, and most other serious disciplines. Professionals do not have the slightest desire to deal with spammers, trolls, and other unpolite species, nor can they afford to lose any time dealing with them. While I understand this is not a 'professionals' forum, I don't quite see why we have to resign ourselves to lower standards.

2. **No registering, all messages by unregistered users aren't posted immediately but they're sent for moderation instead**. They'll only get published if they pass the moderating process.

   However, this will mean more work for Mr. Hicks and/or other appointed moderators, and can bring issues about uneven moderation policies, etc.

3. **No registering or moderation, but visitors can either see all messages or filter out the ones submitted by unregistered users.**

   This would mean little, one-time work for Mr. Hicks, and it's quite similar to the Adds/Adds Without Auctions already in use.

4. **No registering or moderation, but each visitor can filter out messages from any users they don't want to see** (PLONK!), so that messages from the users included in that list will not appear.

   This means keeping a filter list per user, but this is not too much work and the list can be stored as cookies with the rest of the Preferences in each user's own PC. This makes the filtering process absolutely individual, but messages from new spammers/trolls/morons won't get filtered out the first time, so we all will still get to see them and this doesn't actually solve the problem.

5. **Doing nothing about it**.

   This is an option, but I don't honestly think it's the best one, specially in the long run. Spammers/Trolls/Morons will only increase in time, and sooner or later something will have to be done about it. That being the case, 'Sooner' would be more sensible.

Personally, **I would vote for option 3 above**, but whatever is done (or not done) I'll firmly stick to my two statements, the first one in particular: *I won't communicate at all with anyone whose identity I don't know, whatever they might have to say or ask.*

I've been long enough in professional circles to suffer unprofessional behaviour and I'm certainly not used

to anyone talking to me in person or calling me by phone to say something to me or ask something from me, without previously introducing themselves properly. I'd be surprised if you are.

Best regards from V.

Re: Filtering, etc: Four Plausible Options

*Message #8 Posted by **bill platt** on 3 Mar 2006, 9:47 a.m.,*
in response to message #7 by Valentin Albillo

> Quote:
>
> Spammers/Trolls/Morons will only increase in time

I do not think this is a proven fact.

I differ too.

*Message #9 Posted by **Etienne Victoria** on 2 Mar 2006, 10:56 a.m.,*
in response to message #1 by Valentin Albillo

Hello Valentin, all.

I also differ for the same reasons as Klaus' even if I'm also fed up with the moronic posts.

As I remember an anonymous contributor who posted VERY interesting contributions a few years ago, I wouldn't like him to be censored/excluded just because he wanted to stay anonymous.

Valentin, maybe you remember his pseudo : "Ex-PPC Member"

Best regards from France.

Etienne

Re: I differ too.

*Message #10 Posted by **GE** on 3 Mar 2006, 4:54 a.m.,*
in response to message #9 by Etienne Victoria

Hello,
Mandatory registration will not solve the problem, but will block welcome newcomers.
Being able to post somewhat freely is a great thing in these times of more and more limited citizen rights.
You know what I mean, not only in remote countries but in the US too (from what I hear from my place).
Freedom doesn't come for free, it must be fought for every day like the founding fathers said (from what I know). Fear gives power on your life to others.
The general tone of the posts here just make it hard to behave badly.
Of course, I can stand this position because I'm not the one who does the clean up - so it is all in Dave's hands.

Regarding the possibility to edit a post, I don't care as I re-read anything to be posted here at least once.
Mistakes are part of life, who would criticize you for an error made in good faith ?

Re: Proposal: Registration Must be Mandatory

*Message #11 Posted by **Dave Hicks** on 2 Mar 2006, 12:54 p.m.,*

in response to message #1 by Valentin Albillo

I've been resisting this for a long time because most of the abusive posts over the last years have been by a single person. However, it's becoming clear that he needs a little more help than just the occasional deletion of his worst efforts.

The new forum software that I rolled out last year has a number of features to at least slow down abusive posts. So far, they've been turned off, but I'm probably going to turn one or more of them on for a while. I can set it up so people must register, but I can also set it up so unregistered posts must be approved before they appear. I'll probably try the latter first. I'm going to continue to go slow because I don't want to make it too hard for newbies to ask a question due to one person.

I would also like to remind registered users about the "Report Post" link on each message. Sometimes I get busy and abusive posts slip under my radar. The "Dave Hicks doesn't like free speech" post has already been reported this way but I'm leaving it for now. I'd rather have him attacking me on my forum than his usual targets. In 2006, the "report post" feature has only been used 4 times - and the first time was just a few days ago. (And all reports were about the same person.) I want to encourage people to report early and often. There's no need to wait until you're boiling mad. I may not take action on every report but I won't penalize anyone who reports a post either.

Re: Proposal: Registration Must be Mandatory

*Message #12 Posted by **Massimo Gnerucci (Italy)** on 2 Mar 2006, 1:12 p.m.,*
in response to message #11 by Dave Hicks

Thanks Dave,
I think that your approach could be the right one, at least for now.

That said I don't see why anonimity should be a must and registration felt like an imposition: you don't want to appear under your real name? Fine: choose an alias and stick with it. It's the ever changing impersonation of different *characters* that makes me mad.

I, for one, like to build my *e-vision* of the friends I knew here. Not knowing who is writing what simply destroys these *e-images*.

Greetings,
Massimo

Re: Proposal: Registration Must be Mandatory

*Message #13 Posted by **bill platt** on 2 Mar 2006, 1:28 p.m.,*
in response to message #11 by Dave Hicks

On the topic of newbies: I have seen plenty of newbie questions. Of course the most common one is the 12c comma-decimal format one. Luiz and I and others all "compete" in a friendly way to help those posts.

I don't have statistics, but I think you might find that there are a good number of newbies showing up from time to time. Not all of them become regulars. But I think they pretty much all go away smiling.

I know I was smiling when I first discovered this site :-)

Re: Proposal: Registration Must be Mandatory

*Message #14 Posted by **Vieira, L. C. (Brazil)** on 2 Mar 2006, 1:40 p.m.,*
in response to message #13 by bill platt

Hi Bill, guys;

Just to thank you, Bill, for mentioning my name this very considerable way. I appreciate.

This is one of the main reasons I read the subjects everyday: guys like Bill that are here to tell us we make a difference.

And that politeness is aways welcome d8^D

Cheers.

Luiz (Brazil)

Thank you, Dave, but I have one minor request..

*Message #15 Posted by **Karl Schneider** on 2 Mar 2006, 11:38 p.m.,*
in response to message #11 by Dave Hicks

... could you please restore the ability to edit posts after a reply is posted? The restriction was imposed after minimal "voting", in response to the, um, "DW" stuff a few months ago.

Most of us want the ability to correct things after-the-fact, and would not embarrass anyone by changing the meaning of a post after a response.

And, once again, I offer a sincere thanks for the service you continue to provide us.

Best regards,

Karl Schnneider

Re: Proposal: Registration Must be Mandatory

*Message #16 Posted by **Thomas Radtke** on 3 Mar 2006, 2:01 a.m.,*
in response to message #11 by Dave Hicks

> Quote:
>
> I'm going to continue to go slow because I don't want to make it too hard for newbies to ask a question due to one person.

OTOH, a question not worth going through the registration process for it is likely a question not worth being answered.

Thomas

I'd vote for massime disregarding the unwanted visitors

*Message #17 Posted by **Vieira, L. C. (Brazil)** on 2 Mar 2006, 1:12 p.m.,*
in response to message #1 by Valentin Albillo

Hi Valentin, all;

thank you for inviting us all to post our opinion about your suggestion.

I know it is actually unpleasant to 'see' such a place being invaded by unpolite people. But I'd not interfere in

Dave Hicks´ main interests, which are based on a place free for users with the same interest.

I for one read and contribute only with the subjects that are of common interest, but this selection is based on my onw judgment and I may fail, too. Some (not all) of the issues that I do not see as for common interest are:

1 - e-bay policy;
2 - auctions and related 'actors' in general;
3 - other-brand equipment than Hewlett-Packard´s.

By no means reading about these subjects is annoying for me, and I'd never complain. I just mention here that they do not seem to completely fit in a Hewlett-Packard dedicated site, but this is just my opinion. Also, some (not all) issues that are not related to the main subject of this e-museum but I like to read and contribute with (when I'm not the one calling them myself):

1 - Hewlett-Packard technology in general;
2 - Scientific, Math and cultural related issues and subjects.

I confess I have added a few comments, mainly funny stuff, without using my personal ID when the subject (or the poster himself) was not serious, like some Coburlin related posts. I also did not like the last policy that does not allow us to edit posts after at least one answer is added, because if I have to change or correct something I wrote, that would be because whatever I wrote is my responsibility, so I should have the right to step back and retreat. And the guy that started the discussion that ended up in this particular policy was a new visitor/contributor at the time, and it seems to me he is no longer posting. If he is reading, I cannot say.

But I think these decisions are up to our host, Dave Hicks. He 'owns' the place, I am a guest. I for one do not participate in any other e-forum but the MoHPC Forum because of so many reasons that I may not even remember them all (I read some posts in a few of them and I did not identify myself with them). And although this particular, above mentioned last policy looks to me as not exactly MoHPC Forum related because of the main profile of the regular visitors, I'm still posting and will be posting for as long as I make a difference.

If Dave Hicks agrees with these suggestions and they do take place, I'll accept them and will do whatever needed to fit in. It´s worth doing, for the sake of keeping the good relations and spirit.

If we all are conscious about our actions, none of these would be needed; neither would we be talking about this. I confess I feel uncomfortable when I'm told to do what I am already doing, and that what I have never done and will never do is forbidden, and that it is mandatory and that I'll be watched to make sure I'll keep this way.

But these are my opinions.

Cheers.

Luiz (Brazil)

Edited: 2 Mar 2006, 1:28 p.m.

Re: I'd vote for massime disregarding the unwanted visitors

*Message #18 Posted by **bill platt** on 2 Mar 2006, 1:33 p.m.,*
in response to message #17 by Vieira, L. C. (Brazil)

I agree with Luiz on pretty much all of this, including the edit feature. (Please bring it back?)

On the subject of alternative or cloaked identities for humorous purposes, I miss Captain Zener!

As for this being Dave's place: yes, it is, and he made it what it is in form and structure, and it is unique

and great and whatever he says works!

:-D

Cannot edit anymore: please, read 'massively' instead of 'massime'

*Message #19 Posted by **Vieira, Luiz C. (Brazil)** on 2 Mar 2006, 2:23 p.m.,*
in response to message #17 by Vieira, L. C. (Brazil)

If editing was allowed, I'd not need to add a new post to this thread...

Re: Proposal: Registration Must be Mandatory

*Message #20 Posted by **Bob** on 2 Mar 2006, 3:11 p.m.,*
in response to message #1 by Valentin Albillo

I try to make it my personal policy to not register for any board, chat group, or message system if at all possible. So, if this board goes that way, I will likely just drop off from posting. I don't usually make inflammatory posts, I just don't feel it is necessary.

This is for fun, and it should stay that way.

One way that Dave might handle it is to empower a certain number of "Moderators" who frequent this board in such a way as to cover the times when he is busy in other activities. I have seen this work in other areas.

...certainly the choice of moderators would have to be made carefully to ensure a consistent standard of adherence to the board "rules of conduct".

Edited: 2 Mar 2006, 3:12 p.m.

Re: Proposal: Registration Must be Mandatory

*Message #21 Posted by **Garth Wilson** on 2 Mar 2006, 3:51 p.m.,*
in response to message #1 by Valentin Albillo

I'm on a microprocessor list serve on Yahoo that people have to register on in order to post, but the requirements apparently are too easy and the forum was mostly destroyed by spammers a couple of years ago. It's still there, but there's no activity because the spammers left such a bad taste in everyone's mouth.

I'm on another related forum that's on a website using phpBB. People sometimes sign up just so they can post spam; but since it's not a list serve, the spam gets deleted before most members get around to checking for new posts every day. Spammers are shown the door when their spam is deleted. There's nothing to keep them from signing up again, but it would be too time-consuming to keep doing it over and over for their advertisements that almost no one will see.

A microprocessor design list serve I'm on required quite a stringent sign-up procedure. I felt like I had to apply, present a resumÃ©, and write an essay on the subject to prove I wasn't there to post spam. I didn't really mind, but as you can imagine, there's hardly anyone on that forum and it goes for long periods of time with no activity at all. That's definitely not the way to do it on the other ones if you want to encourage new enthusiasts to ask their questions and get some help.

None of these forums require actual names, but it doesn't really matter since posters' "handles" are shown automatically with every post. Most people give their names anyway, even if their chosen handle is their amateur radio licence call letters or whatever else. I don't remember any insulting or outright hostile posts on any of these, although one of the most knowledgeable and helpful people on one of the forums does have an

abrasive way about him sometimes. He knows it and he's improving though. Seeing others always respond graciously and being given credit when appropriate has an effect on one.

I hope this is found to be relevant and helpful.

Re: Proposal: Registration Must be Mandatory

*Message #22 Posted by **ananymous :^)** on 2 Mar 2006, 4:12 p.m.,*
in response to message #1 by Valentin Albillo

> Quote:
>
> ...I'm frankly absolutely disgusted and upset with the increasing rate of 'unpolite people' (for lack of a stronger term) which hide behind anonymity to post all kinds of attacks, disrespectful remarks, and such. . . . Your opinions welcome and thanks for them.

And no whining should be allowed! :^)

Re: Proposal: Registration Must be Mandatory

*Message #23 Posted by **Mr. E** on 2 Mar 2006, 6:40 p.m.,*
in response to message #1 by Valentin Albillo

Hear Hear! 2nd that motion!

Re: Proposal: Registration Must be Mandatory

*Message #24 Posted by **Bill (Smithville, NJ)** on 2 Mar 2006, 7:13 p.m.,*
in response to message #1 by Valentin Albillo

I guess I might be included as one of those "anonymous" posters, although I always include the (Smithville, NJ) in my Name and have included my e-mail address at various times in my messages. So, hopefully most of you know who I am.

I have mixed feeling on requiring a Registration in order to post. I would probally register, if it was absoultely required, but at the same time would probally resent it. At present, I have over 50 different accounts at various web sites. Some are forums such as here, others are web sites required for my work. It gets over wheming to try to remember my login's, passwords, etc. I have actively taken the approach to NOT register unless I absoutely have to. The Web site has to provide some direct benefit to me in order to get my registration. Obviously, the HP Museum site would qualify.

As to the posts that we all feel are inappropriate due to either content, those trolling for an argument, those posting just to get a rise out of us, etc....

Well, if we each just exercised a little restraint by NOT responding to them or rising to the obvious bait, then most would just go away. I have seen several instances where the original poster was "looking for an argument" and what do we do - we rise to the bate by responding. There's nothing like no respose to cool most inapproprate posts.

Of course, this is just my opinion.

If Dave wishes to impose a manditory registeration, I will register. Otherwise, I'd perfer to continue as I do now.

Bill

Smithville, NJ

bjunk **** at **** vpres **** dot **** com

Re: Proposal: Registration Must be Mandatory

*Message #25 Posted by **Thomas Okken** on 2 Mar 2006, 7:27 p.m.,*
in response to message #24 by Bill (Smithville, NJ)

> Quote:
>
> It gets overwheming to try to remember my logins, passwords, etc.

I feel your pain, but that's just the way it is these days. It's something I had to learn to cope with while working for a certain major U.S. telecommunications company, where at one point I had about a dozen different logins within the company alone... Add things like Amazon.com, my bank, several airlines, etc., to the picture, and there's just *way* too much to remember.

I solved the problem by buying some software that lets me store passwords, encrypted!, on my PDA. That way, the only password I have to remember is the one that lets me into that software.

Don't get me wrong, I'm not trying to push anyone into buying a PDA and software just to cope with trolls. But, the days when the Internet was a civilized place are pretty much over... It's just like a formerly pleasant neighborhood gradually going bad. If you can afford to move to a nicer neighborhood, by all means do, but otherwise, invest in some good locks.

- Thomas

Re: Proposal: Registration Must be Mandatory

*Message #26 Posted by **e.young** on 3 Mar 2006, 8:59 a.m.,*
in response to message #1 by Valentin Albillo

what about just ingoring the unacceptable posts? When we reply to these people, we encourage them. If no one responds, they probably will not keep posting but seek somewhere else to go to indulge themselves. Having said that, I have on occaision taken the bait and responded, but I have learned from my mistake, and will never do it again.

Re: Proposal: Registration Must be Mandatory

*Message #27 Posted by **Bruce Horrocks** on 3 Mar 2006, 9:00 a.m.,*
in response to message #1 by Valentin Albillo

The one thing that experience of Usenet groups and web sites like this has taught me is that the strength of the community is what prevents the problem of trolls and spammers getting out of hand, just as in the real world, the strength of a community is key in dealing with other forms of anti-social behaviour. This community is strong and will easily overcome its occasional problems.

I'm always cautious about the use of technological solutions (registration and/or moderation) to address what are actually social problems.

Re: Proposal: Registration Must be Mandatory

*Message #28 Posted by **Stephen Easterling** on 3 Mar 2006, 9:09 a.m.,*

in response to message #1 by Valentin Albillo

Not only do I agree, but I also believe that each user should be required to register in the "Biography" section.

Re: The necessary condition for registration...

*Message #29 Posted by **Nenad (Croatia)** on 3 Mar 2006, 4:17 p.m.,*
in response to message #28 by Stephen Easterling

...is to be a formal proof that you have collected at least two thousand HP calculators by the time you register and that you recharge them on a regular basis. You shall deposit a list with their serial numbers in moHP, somewhere in a form that cannot be publicly seen.

Additionally, you should prove your ability to develop an emulator of, say HP97 on a, say, fax machine or a toaster.

This will keep the moHP community clear!

...I just couldn't resist...

Now seriously, I completely share Valentin's and Dave's opinion about registration, though it would prevent me using a young-girl's-newbie-nick-name when I need an extremely fast response to my extremely stupid question.

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Dave Hicks Doesn't Like Free Speech

*Message #1 Posted by **Joe Blfstk** on 2 Mar 2006, 6:47 a.m.*

Dave Hicks Doesn't Like Free Speech

Re: Dave Hicks Doesn't Like Free Speech

*Message #2 Posted by **Geir Isene** on 2 Mar 2006, 7:41 a.m.,*
in response to message #1 by Joe Blfstk

Now what?

Re: Dave Hicks Doesn't Like Free Speech

*Message #3 Posted by **Thomas Okken** on 2 Mar 2006, 7:53 a.m.,*
in response to message #2 by Geir Isene

Let's have a huge flame war where we all outdo each other in telling the troll in the sternest possible terms how much we disapprove.
That'll teach him. ;-)

Re: Dave Hicks Doesn't Like Free Speech

*Message #4 Posted by **Thomas Radtke** on 2 Mar 2006, 7:55 a.m.,*
in response to message #2 by Geir Isene

> Quote:
>
> Now what?

Now the troll has found a victim. Two, actually ;P

OTOH, this incident is a good opportunity to ask for obligating 'contributors' to the registration process. I know it's not really my business but I can't impossibly be the only one getting annoyed by trolls and anonymous poster.

Thomas

Re: Dave Hicks Doesn't Like Free Speech

*Message #5 Posted by **Geir Isene** on 2 Mar 2006, 8:43 a.m.,*
in response to message #4 by Thomas Radtke

Right. I wasn't so much going for the troll here. I'm concerned about the phenomenae as such. The last couple of weeks has seen cowardice bloom.

Re: Dave Hicks Doesn't Like Free Speech

*Message #6 Posted by **Vassilis Prevelakis** on 2 Mar 2006, 10:48 a.m.,*
in response to message #1 by Joe Blfstk

don't like it, don't use it

(i.e. go away and create you own computer museum site where you can have your own policies)

**vp

Re: Dave Hicks Doesn't Like Free Speech

*Message #7 Posted by **Donald Leonard** on 2 Mar 2006, 3:14 p.m.,*
in response to message #6 by Vassilis Prevelakis

Again folks, if you can't say something nice, don't say anything. This works especially well here because reaction is obviously what is being sought. The dead silence will speak volumes. Yet, there always seem to be people who can't resist jumping into agitators traps. This reaction also leaves the impression of eliteism and rudeness when used with visiting newbs asking what are perceived as "dumb" or unsearched questions. Lets just be nice. Either provide friendly help or silence.

Donald

Re: Dave Hicks Doesn't Like Free Speech

*Message #8 Posted by **Marcus von Cube, Germany** on 2 Mar 2006, 6:09 p.m.,*
in response to message #7 by Donald Leonard

Instead of total silence, Dave has proposed that we use the "report post" feature more often. It helps him to filter isulting messages before too many of us get too upset.

Marcus

Re: Dave Hicks Doesn't Like Free Speech

*Message #9 Posted by **Vassilis Prevelakis** on 2 Mar 2006, 10:54 p.m.,*
in response to message #7 by Donald Leonard

```
Donald Leonard wrote:
> Again folks, if you can't say something nice, don't say anything.
```

hey, my posting was nice :-)

**vp

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HP Forum Archive 15

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is the HP27S a rare model?

*Message #1 Posted by **Gonzalo Fernandez (Spain)** on 1 Mar 2006, 4:59 p.m.*

I have seen in Ebay an HP27S that reached over $390. Is the HP27S a rare model like the HP42S?

Re: is the HP27S a rare model?

*Message #2 Posted by **bill platt** on 1 Mar 2006, 5:04 p.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

No. Some people get ahead of themselves.

Most of the time, you can nab one for around $60 to $80.

Re: is the HP27S a rare model?

*Message #3 Posted by **David Smith** on 1 Mar 2006, 5:42 p.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

The 42S is a very common calculator... it's just that those that have them seldom part with them.

Re: is the HP27S a rare model?

*Message #4 Posted by **Stephen Easterling** on 1 Mar 2006, 9:15 p.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

Do a querry on Ebay of "Completed Items" and take the average selling prices of units in good condition and make an inference based on the number you see being sold. Many here that got their 27S calcs got them cheap long ago. I got mine late last year and had to pay as much as my mint 41CX,... and a 27S was harder to find at the time, esp compared to a 41 series or Pioneer. Other high priced models for me included a mint 97, new 48GX, and a mint 42S, but the 27S was the most expensive for me.

Re: is the HP27S a rare model?

*Message #5 Posted by **Karl Schneider** on 2 Mar 2006, 12:22 a.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

Gonzalo --

Here is a recently-archived post of mine to a similar thread:

HP-27S prices

The HP-27S was an updated version of the LED-based HP-27 of the 1970's. Both were "intermediate" scientific calculators with the financial Time Value of Money (TVM) equation built in. The intended buyer was the Engineering Manager.

The original HP-27 (which is much more rare) was RPN-based; the HP-27S is algebraic.

-- KS

Re: is the HP27S a rare model?

*Message #6 Posted by **Eric Smith** on 2 Mar 2006, 2:16 a.m.,*
in response to message #5 by Karl Schneider

I wouldn't say that that the 27S was an "updated version of the 27" The only similarity is that both models combine scientific and financial functions in a single calculator. Other than that, they're completely different.

Saying that the 27S is an updated version of the 27 is like saying that a 33S is an updated version of the 25.

Re: is the HP27S a rare model?

*Message #7 Posted by **Thomas Radtke** on 2 Mar 2006, 3:28 a.m.,*
in response to message #6 by Eric Smith

> Quote:
>
> I wouldn't say that that the 27S was an "updated version of the 27" The only similarity is that both models combine scientific and financial functions in a single calculator.

Isn't this kind of similarity enough to make such a statement as the one you're referring to? I mean, combining a financial and a scientific calculator is more than remarkably.

> Quote:
>
> Saying that the 27S is an updated version of the 27 is like saying that a 33S is an updated version of the 25.

The 29C would probably be a better choice to compare since the 33S, being the only RPN calculator left, is the top model in this series. I can see a clear line between the 29C, 34C, 32S(II), and 33S.

Thomas

Re: is the HP27S a rare model?

*Message #8 Posted by **Karl Schneider** on 2 Mar 2006, 11:09 p.m.,*
in response to message #6 by Eric Smith

Eric --

Well, yes, my hasty description "updated version" was imprecise. I did describe the the HP-27 as "LED-based", so it's obvious that the two models were quite different in execution, if identical in concept. Examples of real "updates" include the 41CX, 17BII, and 32SII from their original baseline models.

How about "modern re-incarnation"?

-- KS

Edited: 2 Mar 2006, 11:16 p.m.

Re: is the HP27S a rare model?

*Message #9 Posted by **Jan (CH)** on 2 Mar 2006, 2:28 a.m.,*
in response to message #5 by Karl Schneider

Yes, indeed. 27 S is quite rare and not as popular, maybe because of the lack of UPN. However, its implementation of the solver is excellent; the simplicity of the keyboard with one shift key only (blue) is perfect. When I bought it early nineties, I was very disappointed to figure out, that it had no RPN. After some time I got accustomed to it and started to like its very good algebraic system with better parenthesis implementation than other calcs.

My 27S had been stolen. It took about me almost a year to find a decent replacement and it was quite expensive. However following an advice from this forum, I bought a 19BII and found it a very adequate substitution. The designation "business consultant" is somewhat missleading. It is a general and versatile calc. The solver implemetation has some manor drawbacks, but setting enough parenthesis it does the job very well. And it has some goodies not available on 27S, such as conversions, financial and of course RPN. There are plenty of them around. And even 17BII is adequate and excellent, if you do not need sin/cos/tan functions

Jan

Switzerland

Re: is the HP27S a rare model?

*Message #10 Posted by **bill platt** on 2 Mar 2006, 9:22 a.m.,*
in response to message #9 by Jan (CH)

I have both:

I keep the 27s at the office, where it does duty for any equation that I might need to solve a number of times, during a design problem.

I keep the 17bii at home, where it also handles equation solving, as well as tax, investment etc problems. If I'm home and need to solve trig, I pull out my 15c :-) (or my 32s, or my 45, or my.....:-)

The only thing missing on the 27s is a swap key!

Re: is the HP27S a rare model?

*Message #11 Posted by **Gonzalo Fernandez (Spain)** on 2 Mar 2006, 1:14 p.m.,*
in response to message #10 by bill platt

awesome responses! This is a really good forum :-) I have all the answers

Re: is the HP27S a rare model?

*Message #12 Posted by **Ron Ross** on 2 Mar 2006, 2:13 p.m.,*
in response to message #10 by bill platt

I firmly believe the Hp27s is Hp's 2nd best calculator ever made. It has built in features that outstrip all other scientifics of the pioneer line. It has a built in clock and date features. And it has the best solver of all the scientifics except for the 48/49G line. And it has a nice TVM program.

It was well made and its only shortcomings (This IS an Hp forum after all!) was its lack of an RPN mode. I would have liked to see matrix support and units conversions tossed in, but it was never meant to really be a design tool that the 42s was.

Many could argue that the Hp41c series was Hp's finest calculator and I cannot argue their points as well as it had superior I/O to the Hp42s or Hp27s family.

I really do not consider graphics calculators, calculators, as they are more like portable math packages and not pocket calcuators.

But these are my opinions only, YMMV.

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HP 17BII malfunction: cannot select RPN mode

*Message #1 Posted by **Rafael del Río** on 1 Mar 2006, 3:07 p.m.*

My HP17BII has a malfunction when trying to select RPN mode. When selecting "Modes" it hangs and show a strange display.

During My life I‘ve had an HP 25 for the High school, a 67 for my Chemistry University studies, a 41C used during my military service, a borrowed 38 for studying an MBA, and finally the 17BII.

I bought the 17BII on 1991 BECAUSE it had the RPN mode. some years ago, a friend gave me his HP12C because he did not used it. I left the 17BII at home and used it in few occasions.

Unfortunately I lost the 12C at the airport some time ago

I took the 17BII and the batteries were off. I replaced the batteries and when trying to select the RPN by pushing <Shift>, <MODES> it locked.

I remember that the 41C, could be set in "synthetic programming" mode. What my 17B shows in the display looks very similar.

After reading everything related to 17BII in the forum I learnt very much. I knew that my calc was an “international” model, with 2 ROMs and an extended <MODES> menu

I also learnt how to perform the self test. The result was the following: ROM, DRAM, URAM and KBD were OK. Final message was:

_____

| OK-17B II – I |, (so version I for the main ROM) _____

Then, after pushing a key:

_____

| MACHINE RESET | _____

The forum also show me how to get the version of the ROMs, <CLR>& <4th Menu Key>, then <BACKSPACE>, giving the following display

_____

| 021E8:71FC70E81FC73055 | _____

So there is information there about the 2nd ROM

After that, I tried to select RPN, but no result: same hang-up when pushing <Shift>, <MODES> · Also no result when forcing the machine reset via <CLR> & <3rd Menu Key> · Also no result when forcing a “MEMORY

LOST" via <CLR> & <1st Menu Key> & <6th Menu Key> · Also no result when short-circuit the batteries (without and with batteries, on ON and on OFF)

Now I think that the 2nd ROM – the "international" has some problem, despite the test doesn't show any

I just want to have my old friend RPN mode

Any idea to restore it?

Thank you all

Re: HP 17BII malfunction: cannot select RPN mode

*Message #2 Posted by **Gene** on 1 Mar 2006, 3:11 p.m.,*
in response to message #1 by Rafael del Río

Sorry to say, but no idea at all.

Sometimes these old friends just die. Could be a stray gamma ray from far far away.

These pioneers generally are not repairable. Your best bet to find an original pioneer HP17bII is probably ebay. There are almost always a couple for sale at any given time.

Sorry it died on you like that!

Maybe...(was: HP 17BII malfunction: cannot select RPN mode)

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 1 Mar 2006, 5:16 p.m.,*
in response to message #1 by Rafael del Río

Hi Rafael, Gene, guys;

chances are that you may have a bad contact (broken solder) in one of the many soldering points in the calculator. It would not be that hard to open it and resolder all of the IC's terminals IF you are an experienced electronics tech.

About the ROM's: most (if not all) of the necessary software of the USA-only 17BII is already built in the main processor chip, as it happens withthe HP42S, that shares the same structure and LCD. What we have outside, in the mainboard, are the placeholders for two IC's: the RAM and the 2nd. ROM (only for the intl. version).

What I am not completely sure is if the MODES menu might have some particular connection with the 2nd. ROM OTHER THAN the language selection. The RPN/ALG selection should not depend on whether the calculator has a 2nd. ROM or if it is USA-addressed.

I'd think of checking for cold soldering... And this leads to open the calculator, though.

Not so much of a help, indeed. I wish you success. And please, keep us informed.

Luiz (Brazil)

Re: Maybe...(was: HP 17BII malfunction: cannot select RPN mode)

*Message #4 Posted by **Rafael del Rio** on 13 Mar 2006, 2:27 a.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Luiz, Paul, you gave me the key!. I thought that if IT WAS a cold soldering, I just needed the contact for a while. Just to re-establish my dear RPN mode.

I put the calc on my knee. I forced a slight bending wth my hands and tryed the sequence: <shift> + <modes> and IT WAS THERE! the menu was showing [...RPN...]. I selected it... The sensation cannot be described properly without getting Dave Hicks censoring it.

Thanks to all, Gene, Luiz Paul

Re: HP 17BII malfunction: cannot select RPN mode

*Message #5 Posted by **Paul Brogger** on 3 Mar 2006, 2:42 p.m.,*
in response to message #1 by Rafael del Río

If it comes time to open the thing up, you may want to take a look at the Forum Articles # 5 and # 199. Each has some information about how one might take the thing apart safely.

But, if the keyboard checks out during the self-test, the only hope I see is to look for broken traces and solder joints, or perhaps a stray piece of conductive material shorting something out.

I believe Randy Sloyer is still available at www.fixthatcalc.com -- he may be able to help.

Good Luck!

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How to read newly compiled lex file from windows into Emu71

*Message #1 Posted by **Alain** on 28 Feb 2006, 9:00 p.m.*

Hello all,

just for the fun of it, I compiled various lex files from sources with Areuh. Everything works fine and I load them to my real HP-71B by making a copy to a floppy from my windows box then read into a ramdisk with my HP-100 then finally move the lex file to my HP-71B.

If I want to make small changes to a lex, I don't want to crash my real HP-71B. So I'd like to use Emu71 instead. Because I still want to compile with Areuh (more confortable with Linux), I'd like to move newly compiled lex files directly to Emu71.

I first looked at LifUtils to update a Lif image assigned to Emu71, but LifPut is not yet available (comment from Tony Duell). DOSLINK doesn't seem to be an option (am I wrong ?).

So, what would be the best solution ? Any idea ?

Thanks !

Alain

Re: How to read newly compiled lex file from windows into Emu71

*Message #2 Posted by **J-F Garnier** on 1 Mar 2006, 6:29 a.m.,*
in response to message #1 by Alain

If I remember well, there was an utility in the Areuh suite that adds the right LIF header to the LEX file, in order to transfer it to the HP71 with COPY (by RS232 link for instance).

To load your LEX into Emu71, you just have to add this header, copy the file to 'emu_in.dat', then do in Emu71:
COPY :DOSLINK

It should work.

J-F

Edited: 1 Mar 2006, 6:31 a.m.

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HP320LX Infrared Connection [OT]

*Message #1 Posted by **Tizedes Csaba [Hungary]** on 28 Feb 2006, 7:07 a.m.*

Can anybody help me about, how can I connect my Nokia mobile phone (N3650) to my HP320LX WinCE1.0 Palmtop via IR? I want to try the Palmtop's web browser via modem.

Where can I found a WinCE upgrade to 2.x?

Any suggestion, link, good word acceptable!

Thank you!

Csaba

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HP 32SII repairing

*Message #1 Posted by **Antonio Maschio** on 28 Feb 2006, 4:22 a.m.*

Hi everybody. Two facts:

1) I live in Italy, and you may know what it means, from a HP user point of view;

2) I have a HP 32SII which all of a sudden freezed with a "buzz" sound. Now, every now and then, it still works correctly, but it shows the pressed keys (e.g., if you press 2 3 + <Enter> sometimes it shows the writing "Enter" for an instant when you press Enter, or if you digit 23 5.5 ÷ it shows the character ÷ when you press that key), and you are not sure when it will freeze again (it means the display goes blank and no keys work and no reset can be done). Notice that it has never fallen on the ground and it has never got hit.

The point is I've been told by the local HP center (which deals with HP calculators no more sold by HP) that such calculator is not repairable, because it's a whole body machine, and there's no use in repairing it even if, say, the broken microcomponent could be found and replaced.

I'd want to know if such a problem ever arised to you, and if you could manage it and get your calculator repaired. THe last thing I want for my calculator is considering it gone.

Thanks in advance

-- Antonio Maschio

Re: HP 32SII repairing

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 28 Feb 2006, 6:38 a.m.,*
in response to message #1 by Antonio Maschio

> Quote:
>
> 1) I live in Italy, and you may know what it means, from a HP user point of view;

Not really. What do you mean with this? ;-)

Ciao,
Massimo

Re: HP 32SII repairing

*Message #3 Posted by **Antonio Maschio** on 1 Mar 2006, 4:06 a.m.,*
in response to message #2 by Massimo Gnerucci (Italy)

Per Massimo:

Significa che non sempre e non tutto è facilmente reperibile. Sembra che HP Italia non sia "Potente" come

la sua madre azienda.

Comunque, anche in Italia si trova il "nuovo". Il difficile è trovare l'usato.

Non volevo mancare di rispetto all'Italia, comunque.

Ciao.

Re: HP 32SII repairing

*Message #4 Posted by **Bram** on 28 Feb 2006, 7:52 a.m.,*
in response to message #1 by Antonio Maschio

> Quote:
>
> , it still works correctly, but it shows the pressed keys (e.g., if you press 2 3 + <Enter> sometimes it shows the writing "Enter" for an instant when you press Enter, or if you digit 23 5.5 ÷ it shows the character ÷ when you press that key),

That's not a bug, that is a feature. If you press and hold a key for a while it shows the name of it and not until you release the key you'll get the result of the keypress. If you hit the key very shortly (half a second or less) your 32SII acts as a normal calculator.

The freezing part makes me think of run out batteries, but that would perhaps be too trivial.

Re: HP 32SII repairing

*Message #5 Posted by **Antonio Maschio** on 1 Mar 2006, 4:08 a.m.,*
in response to message #4 by Bram

I never realized this was a built-in side effect. In any way, I'll put my calculator under heavy testing, using even other advices to this thread, and see what happens.

Thanks

-- Antonio

Re: HP 32SII repairing

*Message #6 Posted by **Thomas Radtke** on 1 Mar 2006, 4:49 a.m.,*
in response to message #5 by Antonio Maschio

> Quote:
>
> I'll put my calculator under heavy testing, using even other advices to this thread, and see what happens.

If it makes this buzzin' noise, you should not operate it any further IMHO. I would open it and see if there is an obvious problem.

Something to read (search for 'pioneer'):

Articles Forum

Thomas

Re: HP 32SII repairing

*Message #7 Posted by **jb** on 28 Feb 2006, 12:11 p.m.,*
in response to message #1 by Antonio Maschio

Antonio,

There is a connection inside that is held together by the two halves of the calculator, sometimes this connection comes loose, to test it you can lightly squeeze the front and back together near the middle of the calculator between the screen and top row of keys.

I've been able to 'fix' a few by stuffing some filler material inside the case and closing it back up. not sure what the 'real' fix for this is.

your milage may vary, best of luck,

jb

123

Re: HP 32SII repairing

*Message #8 Posted by **Antonio Maschio** on 1 Mar 2006, 4:11 a.m.,*
in response to message #7 by jb

Thanks, but.. what kind of filler material? And is it safe opening a 32SII?

Last: do you really think it is sufficient pulling the two halves together? Does the loosing come after usage or is it a natural ending for such a calculator?

Thanks again

-- Antonio

Re: HP 32SII repairing

*Message #9 Posted by **jb** on 1 Mar 2006, 9:33 p.m.,*
in response to message #8 by Antonio Maschio

Did the display start to work after pressing the two halves together?

I've used a thick piece of paper like a business card and folded it a few times and stuffed inside. I had to experiment a few time and don't recall what thickness worked without expanding the case, it will vary.

To open the case I found some instructions on this site about how to open the pioneer case. I used a small drill (by hand) to cut away part of the heat steaks under the battery cover, then carefully pulled the halves apart just enough to slide the filler in. So far I've been lucky to have the heat stakes hold them together well enough after the 'fix'.

not sure of the reason, the ones i've had have been used hard and not always taken care of.

jb

Re: HP 32SII repairing

*Message #10 Posted by **Antonio Maschio** on 3 Mar 2006, 5:48 a.m.,*
in response to message #9 by jb

Yes.

My calculator has been working for three days, with no errors no freezing. I just pulled together the two halves (a bit of unpleasent liquid on the LCD, but not harming) between the display and the last line of keys. I heard no clicks, but the fact is that it works.

Do you think I should expect a stop or was it just this, the problem?

Thanks for your interest

-- Antonio

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HP 49G+ Retrofit

*Message #1 Posted by **Hugh Evans** on 27 Feb 2006, 11:11 p.m.*

This news item should be of interest to many of you. Chad and I at OpenRPN have received a donated set of 49G+ internals. We are already in the process of designing a piggyback PCB which will modify the keyboard layout and provide a double width ENTER key in its' traditional location.

From there the electronics will be mounted in an OpenRPN enclosure fabricated from ABS and neoprene. In addition it will be given a new set of tactile domes, double shot key labels, and voyager style keys.

Updates will be posted regularly (openrpn.org is down for maintenance at the moment), and will include plenty of pictures, CAD renderings, and prototypes.

Questions and comments are welcome.

Best Regards, Hugh

Re: HP 49G+ Retrofit

*Message #2 Posted by **Don Shepherd** on 27 Feb 2006, 11:47 p.m.,*
in response to message #1 by Hugh Evans

Hi Hugh. I have been following the recent discussions regarding openRPN, and I would just like to say more power to you guys. I find it very ironic that the same people who constantly complain and bemoan the fact that the quality of HP calculators has gone down since the 1980's are so quick to criticize you for actually trying to do something about it. Hey, to heck with them! If their glass is half empty, that is their problem. I'm sure many of us are lurking out here, just wanting you guys to succeed. Keep up the good work!

Don Shepherd

Re: HP 49G+ Retrofit

*Message #3 Posted by **Wayne Brown** on 1 Mar 2006, 12:03 p.m.,*
in response to message #2 by Don Shepherd

> Quote:
>
> I find it very ironic that the same people who constantly complain and bemoan the fact that the quality of HP calculators has gone down since the 1980's are so quick to criticize you for actually trying to do something about it.

Don't tar us all with the same brush. I think HP's quality has turned into pure crap and I have no expectation there ever will be any significant improvement; but I also applaud Hugh and the other OpenRPN folks, and wish them the best of luck in their noble efforts.

Re: HP 49G+ Retrofit

*Message #4 Posted by **Antonio Maschio** on 28 Feb 2006, 2:34 a.m.,*
in response to message #1 by Hugh Evans

I only want to say that you guys at OpenRPN are doing a great work, and I long for the moment I'll have all three models in my hand.

Greetings from Italy

-- Antonio

Edited: 28 Feb 2006, 2:35 a.m.

Re: HP 49G+ Retrofit

*Message #5 Posted by **e.young** on 28 Feb 2006, 7:48 a.m.,*
in response to message #1 by Hugh Evans

Do you have an estimate for when this machine will be available?

Re: HP 49G+ Retrofit

*Message #6 Posted by **Hugh Evans** on 1 Mar 2006, 12:11 a.m.,*
in response to message #5 by e.young

If everything goes according to plan, it should be ready in a few months. I'm already designing a piggyback PCB and will then move on to the enclosure. I'll be posting updates on a regular basis both at openrpn and here.

-Hugh

Re: HP 49G+ Retrofit

*Message #7 Posted by **Tell Us When It's Ready** on 2 Mar 2006, 6:52 a.m.,*
in response to message #6 by Hugh Evans

Skip the updates, just do it and tell the world when it's ready. Otherwise, it's just more OpenRPN vaporware,VaporWare,VAPORWARE...

Re: HP 49G+ Retrofit

*Message #8 Posted by **.** on 2 Mar 2006, 6:59 a.m.,*
in response to message #7 by Tell Us When It's Ready

No, please don't skip the updates. I really like the idea of making milestones - as long as the goals are concrete (eg, step 4 is "PCB artwork has been created and sent to be fabbed"). If there is evidence that the project is progressing I think it will shut up the critics.

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HP-48SX ROM version

*Message #1 Posted by **George Rose** on 27 Feb 2006, 8:16 p.m.*

I have looked through the Museum but I can't seem to locate what I'm looking for. Can someone tell me how to check which ROM version my 48sx has? Thanks in advance.

Re: HP-48SX ROM version

*Message #2 Posted by **Guest** on 27 Feb 2006, 8:57 p.m.,*
in response to message #1 by George Rose

I'm not sure about the SX, but on the GX and later, typing in VERSION will get you the rom version and the copyright on the stack. On the 49 series, VER will display the CAS version.

Re: HP-48SX ROM version

*Message #3 Posted by **James M. Prange (Michigan)** on 27 Feb 2006, 10:07 p.m.,*
in response to message #1 by George Rose

The 48SX/S doesn't have a VERSION command, but one way to find the version is to press and hold ON, press and release D, and release ON to get to the interactive test screen, then press the backspace key, then press EVAL. This briefly shows you the version. EVAL can be pressed again to see the version again. When you're satisfied, invoke a warmstart by holding down ON, pressing and releasing C, and releasing ON.

Another method is to invoke the SysRPL command VERSTRING. This can be done by executing #30794h SYSEVAL. This will return "HPHP48-x", where "x" represents the version letter. The usual dire warning to check that the binary integer (including the trail h for hex base) are correct apply.

Yet another methocd is to transfer any object, in binary transfer mode, to your PC, and look at the resulting file with a text editor. The first eight characters of the file will be "HPHP48-x", where "x" represents the version letter.

Regards,
James

Re: HP-48SX ROM version

*Message #4 Posted by **George Rose** on 28 Feb 2006, 6:57 p.m.,*
in response to message #3 by James M. Prange (Michigan)

I have ROM versions E and J. Thanks for your assistance!

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HP85B & HP87 emulator

*Message #1 Posted by **Olivier De Smet** on 27 Feb 2006, 3:11 p.m.*

Hi,

Finally I managed to emulate enough of an HP85B to make a new release of my emulator. On the following website, you'll find a binary archive for windows and an archive with the sources also for windows.

Link to Website

You are free to play with the source, just try to send back major changes.

Olivier

Re: HP85B & HP87 emulator

*Message #2 Posted by **J-F Garnier** on 1 Mar 2006, 7:45 a.m.,*
in response to message #1 by Olivier De Smet

Bonjour Olivier,

Nice to see that the HP85B is supported now!

But I can't download it, transfer fails...

What about a HP-75D version?

J-F

Re: HP85B & HP87 emulator

*Message #3 Posted by **Olivier De Smet** on 1 Mar 2006, 7:56 a.m.,*
in response to message #2 by J-F Garnier

Bonjour Jean-François,

Strange, I just try to transfert the archives and it works ...

For the 75D or C I have some roms but the I/O of the 75 is very different from the I/O of the 80 series...

So without some documentations, it will take some times (trial and errors ...)

As I add some comments, I give now the sources

Olivier

Re: HP85B & HP87 emulator

*Message #4 Posted by **Vassilis Prevelakis** on 1 Mar 2006, 3:14 p.m.,*
in response to message #2 by J-F Garnier

strange, I managed to download it just fine.

**vp

BTW good work

BTW2: I am not sure whether its my set up, but the HP-85B emulation will not start unless a disk drive is mounted. If not it does not respond to input till you actually mount a volume.

Re: HP85B & HP87 emulator

*Message #5 Posted by **Olivier De Smet** on 2 Mar 2006, 2:06 a.m.,*
in response to message #4 by Vassilis Prevelakis

I don't managed to reproduce this behaviour.

Did you try to press 'reset' ?

Olivier

Re: HP85B & HP87 emulator

*Message #6 Posted by **Vassilis Prevelakis** on 2 Mar 2006, 4:09 a.m.,*
in response to message #5 by Olivier De Smet

yes I tried pressing reset

the OS is Windows-2000 basic configuration. It is my standard windows test environment as it does not have any other application installed (except updates to IE etc).

It runs under VMWARE with the host tools installed. It has a non-persistent disk which means that you can install software, test it and when you shut the virtual machine down, it will ofrget everything and revert to the original state. So you cannot damage your starting configuration.

**vp

Re: HP85B & HP87 emulator

*Message #7 Posted by **Namir** on 1 Mar 2006, 10:29 p.m.,*
in response to message #1 by Olivier De Smet

Is there a link to insstructions that show how to load HP-85/8 binary or BASIC files into the emulator?

Thanks,

Namir

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Free42 Decimal released

*Message #1 Posted by **Thomas Okken** on 27 Feb 2006, 3:10 p.m.*

Hi all,

For all of you who think it matters that 1 - 0.2 - 0.2 - 0.2 - 0.2 - 0.2 equals 0, Free42 now comes in a Decimal version.
For those who care more about speed, the Binary version is also still available. :-)
Get the goods at the Free42 home page.

Many thanks to Hugh Steers for providing the BCD code!

Enjoy,

- Thomas

P.S. In view of the recent discussion about guard digits, perhaps I should mention that Free42 Decimal has 13 of them. That's right, thirteen. TI-59 eat your heart out. ;-)

Edited: 27 Feb 2006, 3:25 p.m.

Re: Free42 Decimal released

*Message #2 Posted by **Jonathan Purvis (New Zealand)** on 27 Feb 2006, 4:54 p.m.,*
in response to message #1 by Thomas Okken

How does the speed of the decimal version compare to the binary version on PalmOS, considering that it doesn't have an FPU? Are you using the 68k's BCD instructions?

Re: Free42 Decimal released

*Message #3 Posted by **Thomas Okken** on 27 Feb 2006, 5:31 p.m.,*
in response to message #2 by Jonathan Purvis (New Zealand)

I haven't done any benchmarks yet, so I'm afraid I can't give you any numbers yet.

Free42 Decimal for PalmOS does not use the 68k's BCD instructions; it uses a set of C++ classes that implement base-10000 floating point using binary integer math. There is still some performance optimization left to do -- replacing 32-bit operations by their 16-bit equivalents wherever possible -- and that should help speed things up.

Theoretically, the impact of using Decimal vs. Binary should be less on the Palm than it is on the PC, since even the Binary version has to do all its floating point in software on the Palm (using MathLib). In practice, the Decimal version is still going to be significantly slower than the Binary. Whether or not it is fast enough is something everyone should try for themselves... As I said, I haven't done benchmarks yet, but I expect performance comparable to a real HP-42S on recent Palm models. I'll run some tests and post the results here in a few days.

UPDATE: I ran a couple of quick-and-dirty tests on my Palm Zire 21, and SIN runs at about the same speed as on my real HP-42S; INVRT is about 4 times faster than on the 42S.
SOLVE performs poorly, though -- about 10 to 15 times slower than on the real 42S. I guess I could blame Free42's higher precision for part of that (assuming linear convergence, Free42 will take twice as many iterations to converge than the 42S, because its mantissa has twice the digits) but it probably has to do with the fact that the transcendental functions in Free42 Decimal are only accurate to about 20 digits, which means they behave erratically in the final stages of convergence -- and that can force the solver to do dozens of additional iterations.
I have to look into the SOLVE issue a bit more. The solution may be to make it stop iterating once the 20th digit has settled down (instead of going all the way) -- or to change the transcendentals to be more accurate. Stay tuned!

UPDATE 2: I repeated my SOLVE benchmark (which makes heavy use of trig functions), this time after adding FIX 11 RND at the end of the function. With that modification, Free42's performance was on par with my real 42S (again, running Free42 Decimal on my Palm Zire 21, which has a 126 MHz ARM).
Changing Free42 Decimal's trig functions to be accurate to the full width of the internal representation will probably slow them down by only 20-25% or so, so that looks like the best way to fix this.
Meanwhile, if you find SOLVE to be too slow, I'd recommend adding FIX 11 RND (or SCI 11 RND) at the end of the function to be solved: the RND function rounds a number to the precision at which it is displayed, so FIX 02 RND rounds a number to the nearest one-hundredth, while SCI 02 RND rounds a number to 3 significant digits.

On a 16 MHz 68k Palm (like the m100, for example), performance will probably be about 5 times slower than on the Zire 21 -- at least, that's been the typical slowdown in my previous tests. This means that you're looking at HP-41 performance... Hopefully I can get even those old Palms to perform at 42S performance levels with some performance optimization in the BCD code.

- Thomas

Edited: 27 Feb 2006, 7:53 p.m.

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Installing HP-41CX Memory

*Message #1 Posted by **SteveH** on 27 Feb 2006, 2:07 p.m.*

I've picked up a memory module (HP-82106A) for my HP-41CX and have been unable to find any clear instructions on how to install it. My manual from the HP Museum is not searchable and seems to only provide instructions on removing modules. Is it simply the case that new module can be added (in the correct sequence)?

Any other references worth a look?

Thanks for any help.

Steve

Re: Installing HP-41CX Memory

*Message #2 Posted by **Etienne Victoria** on 27 Feb 2006, 2:12 p.m.,*
in response to message #1 by SteveH

Hello Steve,

Your Hp-41Cx already has built-in the maximum possible memory (ie 319 registers).

Therefore, you cannot and must not fit in any complementary 82106 or 82170 modules.

They simply won't work in anything else than a bare old simple 41C.

Best regards from France!

Etienne

Edited: 27 Feb 2006, 2:13 p.m.

Re: Installing HP-41CX Memory

*Message #3 Posted by **Diego Diaz** on 27 Feb 2006, 2:15 p.m.,*
in response to message #1 by SteveH

Hi Steve,

This is a good news, bad news tale...

The bad news are that satndard memory modules (82106A) are only for use in the HP-41C (not CV or CX)

The good news is that your CX is equipped with as much standard memory as it can hold, namely 320 registers.

You may want to increase the Extended memory instead using 82181A Extended Memory modules, you can install up to two of them.

Hope this helps.

Diego.

Re: Installing HP-41CX Memory

*Message #4 Posted by **SteveH** on 27 Feb 2006, 3:42 p.m.,*
in response to message #3 by Diego Diaz

Thanks for the advice. I guess I will probably just put the thing up for sale as it was an impulse buy.

Cheers,

Steve

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ANN: New and improved hp49g+ AUR

*Message #1 Posted by **Bruce Horrocks** on 27 Feb 2006, 1:58 p.m.*

I've produced a version of the hp49g+ Advanced User Reference manual that includes a table of contents and cross-reference links around keywords and index entries so that, for example, you can click on a page number in the index and be taken to the relevant page.

You can download it from here until it appears on hpcalc.org

Re: ANN: New and improved hp49g+ AUR

*Message #2 Posted by **tony(nz)** on 28 Feb 2006, 5:22 a.m.,*
in response to message #1 by Bruce Horrocks

Thanks Bruce. It's so easy to navigate now!

Re: ANN: New and improved hp49g+ AUR

*Message #3 Posted by **Namir** on 1 Mar 2006, 10:59 a.m.,*
in response to message #1 by Bruce Horrocks

What's the URL to you AUR version? I can seem to find it on hpcalc.org.

Namir

Re: ANN: New and improved hp49g+ AUR

*Message #4 Posted by **Bruce Horrocks** on 1 Mar 2006, 4:15 p.m.,*
in response to message #3 by Namir

Click on the word "here" in the last line of my original post.

Re: ANN: New and improved hp49g+ AUR

*Message #5 Posted by **Namir** on 1 Mar 2006, 5:01 p.m.,*
in response to message #4 by Bruce Horrocks

Thank you Bruce. I guess I need to advance the checkup appointment with my retina specialist!

:-)

Namir

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HP-Basic on HP-85

*Message #1 Posted by **Sydney** on 27 Feb 2006, 8:05 a.m.*

I'm working on an old fiber tester from the beginning of the 80's. This has HPIB interface, and I just bought a GPIB-USB interface. Having some problems translating the HP-Basic code to modern GPIB commands. Do someone know how to send equalent commands with the NI-488.2 software?

RESET 7 OUTPUT 708 USING "#,B"; 72,75 ENTER 708; X,Y,Z

Re: HP-Basic on HP-85

*Message #2 Posted by **Etienne Victoria** on 27 Feb 2006, 12:35 p.m.,*
in response to message #1 by Sydney

Did you run the NI-488 Troubleshooting wizard and did it successfully detect the instrument on HP-IB address 8?

Then you have the choice of:

- either use the Interactive Control Utility to send commands/receive data - or program directly your application.

Then, the correspondence between the NI-488 keywords & Hp-Basic should be:

RESET = ibclr

OUTPUT = ibwrt

ENTER = ibrd

Sorry but as I don't remember the precise syntax, please check the NI-488.2 guide

Or maybe somebody else will help you further.

Etienne

Edited: 27 Feb 2006, 12:59 p.m.

Re: HP-Basic on HP-85

*Message #3 Posted by **Sidney** on 28 Feb 2006, 4:27 a.m.,*
in response to message #2 by Etienne Victoria

Thanks! I'll try that.

Re: HP-Basic on HP-85

*Message #4 Posted by **Etienne Victoria** on 28 Feb 2006, 5:13 a.m.,*

in response to message #3 by Sidney

By the way and if I remember well, there is no equivalent to the "USING" 85' Basic statement in NI 488.2 language.

Therefore, I think you have to make sure your data is correctly formatted before submitting the ibwrt statement.

Good luck.

Etienne

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HP41CY - Replacing the internal +3v lithium cell

*Message #1 Posted by **Christoph Klug** on 27 Feb 2006, 4:12 a.m.*

Dear HP41CY enthusiasts,

have a look to the HP-Museum article folder about replacing the internal +3V lithium cell of the HP41CY....

Regards - Christoph Klug

Re: HP41CY - Replacing the internal +3v lithium cell

*Message #2 Posted by **Juergen Keller** on 27 Feb 2006, 2:24 p.m.,*
in response to message #1 by Christoph Klug

Christoph,

thank you much for this great article! Unfortunately, it seems that the OS of my RAMBOX is already damaged; not totally lost, but not working properly anymore. In your article, you say, that reloading the OS is a complex procedure. Can you give us an outline of this process? Which tools are needed?

Thank you, Juergen

Re: HP41CY - Replacing the internal +3v lithium cell

*Message #3 Posted by **Matthias** on 27 Feb 2006, 2:35 p.m.,*
in response to message #2 by Juergen Keller

Maybe the simlest way is to have the RamBox OS in a Clonix module. I think it should be possible to copy it from there to the Rambox without problems (or is the copy protection still working in the Clonix)? I will try this with my next CY with dead OS.

Matthias

Re: HP41CY - Replacing the internal +3v lithium cell

*Message #4 Posted by **Juergen Keller** on 28 Feb 2006, 2:43 a.m.,*
in response to message #3 by Matthias

Hi Matthias,

I will try this as soon as I have my CLONIX programming adaptor. I have a 32K RAMBOX, and your module list shows two different versions. Does anyone know the difference between the 1B and 3M versions? Which one should I use in the case I cannot determine the version of my RAMBOX?

Matthias, can you provide me the ROM images of both 32K RAMBOX versions?

Thank you, Juergen

Re: HP41CY - Replacing the internal +3v lithium cell

*Message #5 Posted by **Christoph Klug** on 28 Feb 2006, 3:31 a.m.,*
in response to message #4 by Juergen Keller

Dear HP41 RAM-Box enthusiasts,

it seems to be easy to reload the operating system of non bankswitched RAM-box systems = 32KByte RAM-Box systems. I done this several times : In this case you are able to install an ERAMCO os to an W&W RAM-Box or a W&W os to an ERAMCO RAM-Box, depending which os you prefer or which os size you like to store inside your RAM-box (4KByte or 8KByte). In any case this solution will work.

First you have to clear the RAM pages of the RAM-box, for example by using the ZENROM. When the HP41 is able to switch on correctly including the RAM-Box, the clear process is finished. For reloading you only need the CCD-D from Raymond, stored inside an ZEPROM or Clonix. Use the commands SAVERAM and GETRAM and store the needed os to IL-CASS-Drive. Than switch the internal protect switch of the RAM-Box to the write position, and save the os to the RAM-Box page. Now place the switch back to the protect position. For W&W RAM-Box solutions place the os to page 8, for ERAMCO RAM-Box solutions place the os to page E + F = 14 + 15.

Much more complex is the os reload process of bankswitched RAM-Box systems which includes 64KByte = two banks (W&W and ERAMCO) or 128KByte = four banks (ERAMCO). For this systems we are looking for a working solution....

Best regards - Christoph Klug

Re: HP41CY - Replacing the internal +3v lithium cell

*Message #6 Posted by **Meindert Kuipers** on 28 Feb 2006, 4:07 a.m.,*
in response to message #5 by Christoph Klug

Has anyone tried to run the RAMBOX funtionality on the MLDL2000? It does support bankswitching, and loading images is not too difficult.

Just curious,

Meindert

Re: HP41CY - Replacing the internal +3v lithium cell

*Message #7 Posted by **Christoph Klug** on 28 Feb 2006, 10:10 a.m.,*
in response to message #6 by Meindert Kuipers

Dear Meindert,

does your MLDL2000 really include the bankswitching mode needed for RAM-Box applications ? A RAM-Box switches between full 32KByte pages (not 4KByte pages).

As I know the bank switching from W&W is different to the bank switching of ERAMCO. Jean-Francois Garnier have knowledge about this, because he implement both RAM-Box solutions to his great EMU41 emulator software...

Regards - Christoph Klug

Re: HP41CY - Replacing the internal +3v lithium cell

*Message #8 Posted by **Meindert Kuipers** on 28 Feb 2006, 3:19 p.m.,*
in response to message #7 by Christoph Klug

This would be interesting. Right now only traditional bankswitching is supported, meaning that a BS instruction switches an 8K page (both upper and lower pages of a module port). If our friend Jean Francois is following this thread, could he explain the RAMBOX switching in some detail?

Thanks,

Meindert

Re: HP41CY - Replacing the internal +3v lithium cell

*Message #9 Posted by **Christoph Klug** on 1 Mar 2006, 3:15 a.m.,*
in response to message #8 by Meindert Kuipers

Dear Meindert,

I think it would be a great extension for your MLDL2000 system to include the bank switching solution needed for RAM-Box applications.

From W&W exist the 64KByte RAM-Box version - that means two 32Kbyte pages are bank switched. From ERAMCO exist 64KByte and 128KByte RSU (RAM Storage Unit) versions - that means two or four 32KByte pages available. Furthermore I heard rumors about a 256KByte RSU version from ERTAMCO (but I never hold this in my hands) - that means eight 32KByte pages are available.

I will close the contact to Jean-Francois Garnier, for transfering some bank switching knowledge from EMU41 to MLDL2000 :-)

Best wishes - Christoph Klug

Re: HP41CY - RAMBOX BS

*Message #10 Posted by **J-F Garnier** on 1 Mar 2006, 6:52 a.m.,*
in response to message #8 by Meindert Kuipers

Hello Meindert,

Just to refresh your memory, you can have a look here :-)

At the request of Christoph, I also implemented the 4x32kb=128kb ERAMCO Rambox (to be available soon in next Emu41 release). The bank switching is even weird, using no ENBANK opcodes at all...

Kind regards.

J-F

Re: HP41CY - Replacing the internal +3v lithium cell

*Message #11 Posted by **PeterP** on 2 Mar 2006, 11:22 p.m.,*
in response to message #6 by Meindert Kuipers

Hi, I actually stored the rambox os from my CY away onto the PC via the MLDL2000 and then was able to load it back onto the calc on another page (so that I had two there, just for checking). I have not tried to use the os on the MLDL on a normal cx without a rambox, but I'm not sure what use it would be, other than looking at modules plugged and the like. Not sure if that was the question, but I tried anyway...

Cheers

Peter

Re: HP41CY - Replacing the internal +3v lithium cell

*Message #12 Posted by **Juergen Keller** on 28 Feb 2006, 5:51 a.m.,*
in response to message #5 by Christoph Klug

Christoph,

thank you much for clarifying the procedure! Having a 32K RAM-Box only seems to have at least one advantage ;-)

I'm still wondering what the difference is between the 1B and the 3M version of the 32K RAM-Box (see Matthias' module list). Is 3M just an update to 1B? Any idea?

Best regards,
Juergen Keller

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Comparing the HP41 and HP48 (RPN/RPL subject)

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 26 Feb 2006, 9:15 p.m.*

Hi;

I decided to check the PDF file I let available related to the HP41 and HP48 comparison, and I saw that the file was created with the Acrobat Creator V3.0, and I forgot to set the `Save TTF character definitions` option when it was generated. So, some characters do not look as they should. I created it again, but now I used Acrobat Creator 7. Unfortunately, the final version is 650MBytes long... It could be smaller if I redraw all graphics, and I intend doing it later.

Well, here it is, the newer file.

Cheers.

Luiz (Brazil)

Re: Comparing the HP41 and HP48 (RPN/RPL subject)

*Message #2 Posted by **Han** on 27 Feb 2006, 1:03 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

650 megabytes!? Guess I'll have to burn it to a CD before I re-read it =)

By the way, the expression 2^3 appears like 23 to me (very first example). I might be the only one, though...

Edited: 27 Feb 2006, 1:04 a.m.

Oops! Wrong file size...

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 27 Feb 2006, 2:48 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Hi Han, all;

after reading Han's post I realized I keyed in a "M" instead of a "K" (they are closed to each other in the keyboard, but it is not an excuse... My fault). Please, correct it: it is actually 650KBytes. Sorry!

And Han, thanks for your feeedback. I'll correct the file. Maybe there are other typos because I mainly used an OCR and correct it later, with the unvaluable help of a spell checker. Some mistakes might not be detected, though.

Cheers.

Luiz (Brazil)

Re: Comparing the HP41 and HP48 (RPN/RPL subject)

*Message #4 Posted by **Karl Schneider** on 27 Feb 2006, 4:14 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Luiz --

Thanks for the file scan! I'll admit that I was discouraged from even attempting to download a 650-MB file...

Regards,

-- KS

Edited: 27 Feb 2006, 4:15 p.m.

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eBay question

*Message #1 Posted by **Vassilis Prevelakis** on 26 Feb 2006, 12:21 p.m.*

look at the following bidding:

http://offer.ebay.com/ws/eBayISAPI.dll?ViewBids&item=8767123326

On Feb-22-06 18:03:27 PST tzeng0831us bids $333.00

a little bit *later*

Feb-22-06 18:03:42 PST mcnuggets4540 makes a bid which brings the winning amount to $333.33

How can that be? Once tzeng0831us placed the bid, mcnuggets4540 should have been forced to bid higher than the bid increment (I guess $5 at that level).

**vp

Re: eBay question

*Message #2 Posted by **Etienne Victoria** on 26 Feb 2006, 1:11 p.m.,*
in response to message #1 by Vassilis Prevelakis

Yassou Vassilis,

Not quite, at the end of an auction, I think the final highest bid takes it all regardless of the bid increment.

Look at this other auction I just won:

Hp Auction

The last bids are separated only by 0.22 which is less than the auction increment.

FYI, my bid was 22.22

Best regards

Etienne

Edited: 26 Feb 2006, 1:11 p.m.

Re: eBay question

*Message #3 Posted by **Howard Owen** on 26 Feb 2006, 2:08 p.m.,*
in response to message #1 by Vassilis Prevelakis

That's right. mcnuggets4540 top bid was $333.33, which was *barely* enough to win.

From http://pages.ebay.com/help/buy/bid-increments.html:

> Quote:
>
> Note: A bidder may be outbid by less than a full increment. This would happen if the winning bidder's maximum bid beats the second highest maximum by an amount less than the full increment.

Regards,
Howard

Re: eBay question

*Message #4 Posted by **Vassilis Prevelakis** on 27 Feb 2006, 2:07 a.m.,*
in response to message #3 by Howard Owen

ho ho I get it. My question was how did he get to place a bid that was less than the current bid plus the increment. But the *current* bid was not $333, it was around $192.

Thanks guys

**vp

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keybaord graphics fading?

*Message #1 Posted by **Hal** on 26 Feb 2006, 12:44 a.m.*

I display my very modest collection of HP's in a glass front cabinet above my computer monitor. Should I be worried about the keyboard markings fading over time. Direct sunlight never hits them, but sunlight does filter into the room. Does anybody have any experience with this?
Thanks and best regards, Hal

Re: keybaord graphics fading?

*Message #2 Posted by **Eddie Shore** on 26 Feb 2006, 11:19 a.m.,*
in response to message #1 by Hal

Could be a possibility. I find some of my calculators have the paint on the keys faint (not my HPs, of course). But I find it due to the calcualtor being in the pocket or being rubbed against the backpack.

Re: keybaord graphics fading?

*Message #3 Posted by **Dave Shaffer** on 26 Feb 2006, 5:17 p.m.,*
in response to message #1 by Hal

I just dragged out my 30+ year old HP35, and the keyboard looks just fine to me. During its youth, this calculator was left on my desktop all the time, exposed to whatever light was around. It has spent most of the last 15 years or so in a desk drawer, however. My HP11C and HP41CV which I have owned since they were new (and early in the life cycle of these products) also look pretty good to me, and they've not been babied with respect to light exposure.

The usual culprit for fading is ultraviolet light (UV), the photons of which have the highest energy and are most likely to interact with the pigments. Even a simple pane of glass absorbs most UV radiation. I suspect your keyboards behind glass are OK.

Re: keybaord graphics fading?

*Message #4 Posted by **Walter B** on 26 Feb 2006, 6:39 p.m.,*
in response to message #1 by Hal

In my active times as a student (>25 years ago) calculators were sitting everywhere. Also in direct sunlight behind big windows on our desks in the summertime, if we forgot to pull down the shade while we were working in another room. I do not remember any effect on the keys nor do I see any in the calcs I collected (and I have a 97 on my desk at home in direct sunlight since 2000).

As you will never get a tan behind a window, your calcs will not suffer there. Enjoy!

Remark: The white *housings* of Woodstocks and Topcats may turn yellowish - that's the only change I observed. No idea whether that's caused by light or oxidation.

Re: keybaord graphics fading?

*Message #5 Posted by **Mike T.** on 1 Mar 2006, 11:45 a.m.,*
in response to message #1 by Hal

Best place for your HP calculator is on your desk...

Mike T.

Re: keybaord graphics fading?

*Message #6 Posted by **Frank Boehm** on 3 Mar 2006, 10:47 a.m.,*
in response to message #1 by Hal

the keyboard won't fade - at least I have never seen a yellowed or bleached out one; there do exist some models with overprinted keys (limited only to the 10C?), which might wear... the cases of the 21-27 and 97 will certainly yellow over time and should not be placed in direct sunlight; usual office light shouldn't be a huge problem though

Re: Keyboard graphics fading?

*Message #7 Posted by **Karl Schneider** on 4 Mar 2006, 4:04 p.m.,*
in response to message #1 by Hal

I've noticed on a few of my calc's that the yellow legends above the keys has faded to a kind of tan color, whereas on several other calc's, they remain a bright yellow. Exposure to certain knds of light might be a factor.

-- KS

Edited: 4 Mar 2006, 4:04 p.m.

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HP-41 CX dead overnight

*Message #1 Posted by **Geir Isene** on 25 Feb 2006, 6:26 p.m.*

HP-41CX worked perfectly yesterday. Won't turn on today.

Tried:

1. Repeatedly trying to turn it on
2. Tried master clear
3. Took out all modules
4. Tried master clear
5. Left batteries out for a few hours
6. Still won't turn on
7. Tried to reverse battery polarity
8. Still no go

What now?

Re: HP-41 CX dead overnight

*Message #2 Posted by **Raymond Del Tondo** on 25 Feb 2006, 6:52 p.m.,*
in response to message #1 by Geir Isene

Hi,

the usual indicators for causes of a malfunction are

- corroded battery contacts
- corroded battery springs
- bad contact between case halves

Does any of these indicators apply?

Actually the 'case halves indicator'
just indicates that the unit has fallen
off from somewhere, and possibly one or more of
the screw posts that hold the cases together has broken.
The actual malfunction cause is a bad contact between the pcbs
inside if the case halves aren't held together tightly.

BTW: I'd never reverse batt polarity.
Ok, the HP-41 isn't the HP-48, where this
would likely damage the zener diode,
but I don't recall to have ever heard
that an HP-41 could be revived by
reversing batt polarity;-)

Regards

Raymond

Re: HP-41 CX dead overnight

*Message #3 Posted by **Geir Isene** on 25 Feb 2006, 7:11 p.m.,*
in response to message #2 by Raymond Del Tondo

No corrosion. Clean as a whistle. No faulty contacts. Two halves firm and tight together.

I've revived a 41 with reversing the polarity once before after getting that tip from someone.

Re: HP-41 CX dead overnight

*Message #4 Posted by **Howard Owen** on 25 Feb 2006, 8:05 p.m.,*
in response to message #3 by Geir Isene

> Quote:
>
> I've revived a 41 with reversing the polarity once before after getting that tip from someone.

I've used that trick too with success. The 41C hardware experts will undoubtedly be able to tell us why it works in more detail, but I believe the basic explanation is that there are capacitances in the 41C that can maintain voltages in the CMOS circuitry. Reversing polarity allows these to discharge.

Another bit of 41C lore is that it is sometimes neccessary to leave the batteries out for an extended period - like 24 hours - to revive an unresponsive unit. Have you tried leaving the batteries out for that long?

Regards
Howard

Re: HP-41 CX dead overnight

*Message #5 Posted by **PeterP** on 25 Feb 2006, 9:08 p.m.,*
in response to message #4 by Howard Owen

Please do not shoot me for this stupid suggestion, it's just that I have overlooked it once myself (why is this darn remot not working suddenly?!) - did you try new batteries?

Cheers

Peter

HP-41: Quick check for battery connections

*Message #6 Posted by **Vassilis Prevelakis** on 26 Feb 2006, 1:55 a.m.,*
in response to message #2 by Raymond Del Tondo

I find that on full-nut models a quick way of making sure that the battery assembly is making good contact with the backplane is to use the two contacts on the side of calculator next to the hole for the batery pack (the ones that were supposed to be used with the A/C adaptor).

If you have a really old 41 (the one with the gold balls) you can simply measure the voltage across the two contacts. If not, you have to use thin wires to reach all the way to the backplane.

The whole point is to do this with the battery pack in place so that you can tell whether there is any problem with the battery pack itself, but most importatnly with the battery/module assembly and its connection to the backplane.

I do not believe that this method works with half-nut models.

**vp

Re: HP-41: Quick check for battery connections

*Message #7 Posted by **Geir Isene** on 26 Feb 2006, 4:24 a.m.,*
in response to message #6 by Vassilis Prevelakis

I get the same voltage from measuring the outer battery contacts as I do reaching down all the way to the backplane.

Re: HP-41: Quick check for battery connections

*Message #8 Posted by **Vassilis Prevelakis** on 26 Feb 2006, 9:25 a.m.,*
in response to message #7 by Geir Isene

OK, now the last check to verify end-to-end operation.

Check inside a module port to see if you get Vcc. (The I/O ports are one way of getting at the Vcc line without opening the 41)

These are the module contact assignments (View into I/O Port):

http://www.series80.org/Misc/HP41-Module.gif

(you may want to check Vbat as well, but it should be OK).

If Vcc exists, then its not a supply problem because it means that power from the batteries cross the backplane, enter the CPU-daughterboard, go through the power supply and exit back into the backplane and then into the I/O port sub-assembly.

If Vcc is missing , then you should looking at a bad connection or a bad PSU.

Assuming there is voltage present at Vcc, the value should tell you whether the CPU is running. Normally Vcc should be 6V (CPU running). If the CPU is sleeping or standby, Vcc should be Vbat-1V and it is not regulated.

While monitoring Vcc, press the ON key to see if anything is happening.

**vp

Edited: 26 Feb 2006, 9:36 a.m.

Re: HP-41: Quick check for battery connections

*Message #9 Posted by **Geir Isene** on 26 Feb 2006, 10:00 a.m.,*
in response to message #8 by Vassilis Prevelakis

oh-kay: Now here is a challenge; I have a multimeter in my hands. It and I are not very well aquainted. We do get along well, it's just that we have little experience being partners in matters like these.

So, Vcc? What is that? And how exectly do I measure the voltage there? I take the one thingy from the multimeter and insert it into the I/O port and the other one I put... where?

Excuse my ignorance in this area. I am a programmer of these beauties and are eager to learn more about the hardware.

Re: HP-41: Quick check for battery connections

*Message #10 Posted by **Vassilis Prevelakis** on 26 Feb 2006, 12:15 p.m.,*
in response to message #9 by Geir Isene

```
Geir Isene wrote:

> So, Vcc? What is that? And how exectly do I measure the voltage there? I
```

Look at the drawing. On the top row, Vcc is the second connector from the left.

You meassure it against ground which can be the battery (-) or the GND signal to the right of Vcc. They are the same.

```
> I take the one thingy from the multimeter ...
```

Hmmm! Given the above, are you sure you want to do this? Maybe you do not want to learn electronic equipment troubleshooting on your HP-41.

**vp

Re: HP-41: Quick check for battery connections

*Message #11 Posted by **Geir Isene** on 26 Feb 2006, 1:06 p.m.,*
in response to message #10 by Vassilis Prevelakis

Well, I am ready and willing to try a few non-dangerous recepies here before I send it to a competent doctor for revival.

Re: HP-41: Quick check for battery connections

*Message #12 Posted by **Vassilis Prevelakis** on 27 Feb 2006, 2:23 a.m.,*
in response to message #11 by Geir Isene

OK then.

The problem is that the contacts are *very* difficult to get at because the leading edge of the module interface is insulated. So your voltmeter probes would need to make contact with the exposed surface further back inside the port cavity.

The way I'd do it is to use an old module (e.g. an 82106A) take out the PCB inside (or at least make sure the module contacts are isolated from any ICs on the PCB) and connect Vcc, Vbat and GND contacts to short wires coming out through the back of the module. Then you can plug your "troubleshooting" module in and be able to take measurements.

If you have more advanced instrumentation (e.g. scope or logic analyser) you can do the same thing with the clock signals and see whether there is activity apart from power.

**vp

for a discussion on how to take apart a module see
http://www.tla.org/hp41/module.html

Re: HP-41 CX dead overnight

*Message #13 Posted by **Randy** on 25 Feb 2006, 9:19 p.m.,*
in response to message #1 by Geir Isene

In general, putting batteries in backwards or shorting the terminals in a 41 doesn't clear memory. Of course your mileage may vary.

It depends entirely upon the leakage current of the reverse polarity protection diode(s). HP used some good diodes there and as a result these methods usually meet with little or no success.

If you want to do a little experiment, remove the battery and measure the voltage present on the outer calculator terminals, the two center points are only a jumper. Leftmost is (-), right is (+) with the display at top. If the voltage is 4 to 6 volts, that's good because it means the unit is holding voltage as it should and holding memory . If it is zero-ish volts, that's bad and will require further diagnostics to find out is wrong.

For the purposes of the thread, the game is now to get that 4 to 6 volt memory maintaining level to zero to accomplish a master reset.

Short the terminals for a few seconds, now measure the voltage and see that it doesn't change.

Reverse the batteries, insert for a few seconds, remove and check. See that the level may have dropped a few hundred millivolts. Then watch it rise back up all on it's own. I'll leave it to reader to figure out why that is...

Reinsert the reversed batteries and leave it for awhile. Remove and measure. You'll find the level never goes below about 0.6 volts. Never (*see disclaimer below). It can't because you're dropping the voltage across a silicon diode, the very diode that prevents reverse current flow and the resultant damage. Because of that diode, chances are slim to none that you'll ever clear memory.

* Never disclaimer: Chances are the one unit you test will have a leaky diode and reset just fine when shorted :) Consider yourself unlucky and go buy a lottery ticket since no doubt your luck will change for the better.

** Never Never disclaimer. If that diode is leaky, reversing the polarity of the batteries MIGHT do some damage. Consider yourself sufficiently warned.

Now, back to the chase: Is the unit in question a Fullnut or Halfnut? BIG difference internally...

Re: HP-41 CX dead overnight

*Message #14 Posted by **Geir Isene** on 26 Feb 2006, 4:20 a.m.,*
in response to message #13 by Randy

First of all let me thank you guys for jumping to my (still potential) rescue. This is the HP Forum on its finest.

1. It's one of my fullnuts
2. I have tried new batteries

3. Left it without batteries overnight
4. Still not working.

Now to Randy's path:

> Quote:
>
> If the voltage is 4 to 6 volts, that's good because it means the unit is holding voltage as it should and holding memory . If it is zero-ish volts, that's bad and will require further diagnostics to find out is wrong.

It's 6.1 volts

> Quote:
>
> Short the terminals for a few seconds, now measure the voltage and see that it doesn't change.

It changed to 5.5 volts

> Quote:
>
> Reverse the batteries, insert for a few seconds, remove and check. See that the level may have dropped a few hundred millivolts.

Down to 0.01 volts(!)

> Quote:
>
> Then watch it rise back up all on it's own.

After around 5 minutes, it has climbed to 0.02 volts. After a few hours, its up to 0.12 volts.

Should I then reinsert the reversed batteries for awhile (considering the last two answers here)?

Edited: 26 Feb 2006, 6:38 a.m.

Re: HP-41 CX dead overnight

*Message #15 Posted by **Diego Diaz** on 27 Feb 2006, 6:51 a.m.,*
in response to message #14 by Geir Isene

Hi Geir, all,

I've been reading the whole thread, and so far the advices you've got are of a consistent troubleshooting practice.

Furthermore, the results you've encountered/measured are almost definitive to discard any Battery->I/O-Block->Backplane misconnection.

With this scenario there are still two different points where your 41 can suffer its illness:

- Backplane->Mainboard zebra strip (the more likely)

- Mainboard IC damage (the worst case, quite unprobable but not impossible)

You can still try to place your 41 onto a flat surface and push (hard) both halves together in the frame of the 1 2 3 row. Make sure you do not press any key while pushing!... then try ON again while holding the pressure...

Squeezing a bit (just a bit!!) before you try the above procedure won't hurt either...

If if turns on, then the failure is definitely in the above mentioned zebra strip. If it doesn't come up to life, this does not mean that your Mainboard is gone (not yet at least...) but you'll need to take it apart for further testing/repair... indeed you already need to take it apart whatever the case, but you can get a good feedback of what you'll find after doing this.

If you decided to face the task by yourself and need/want futher advice, do not hesitate in asking fot it... You're in the right place ;-))

Best regards.

Diego

Re: HP-41 CX dead overnight

*Message #16 Posted by **David Smith** on 27 Feb 2006, 12:10 p.m.,*
in response to message #1 by Geir Isene

You should open up the machine (four screws under the rubber feet), take out the CPU card, clean all the contacts and pads in the machine and the back of the keyboard with 91%+ isopropyl alcohol. Keep the alcohol off the display window. It will leave a white stain. While the machine is apart, short across the large electrolytic capacitors. Reassemble. Cross fingers. Flame on.

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Need gear for HP-97

*Message #1 Posted by **Mike Mander** on 25 Feb 2006, 3:55 p.m.*

Hello,

Does anyone have any idea where I might be able to buy a new nylon gear for the printer mechanism in an HP-97? A photo...

http://mikemander.servehttp.com:8008/hp/gear.jpg

I need the yellow/orange nylon gear - as you can see, it is missing some teeth. I had just bought a new battery pack and an owner's manual off eBay and was planning on opening it to repair the card reader when the printer stopped working too. Stripped gear - bummer...

Does anyone have a junk HP-97 for sale that might still have an intact gear?

Thanks for the help...

Regards, Mike Mander

Re: Need gear for HP-97

*Message #2 Posted by **Randy** on 25 Feb 2006, 4:24 p.m.,*
in response to message #1 by Mike Mander

You've gotta make your own. MoHPC article how-to

IMO, there is no such thing as a junk 97, they're all worth something. Most units have the same gear and they're just as prone to fail as the one you have. A few had a black nylon part that didn't shear so easily but those are a needle in a haystack. Make the aluminum replacement and be done with it.

Re: Need gear for HP-97

*Message #3 Posted by **Mike Mander** on 25 Feb 2006, 5:14 p.m.,*
in response to message #2 by Randy

Thanks for the link! You do have a point about the 97... unless one was thoroughly destroyed, it would always still be worth something for parts!

Should have known there would already be some useful info on this website. Sorry for not searching beforehand. My, as they say, bad. Hopefully the companies mentioned still have these parts and ship to Canada. Will try to contact them next week.

If nothing else, the article gives me the gear's specifications and I can hunt around locally for something similar.

Cheers! Mike Mander

Re: Need gear for HP-97

*Message #4 Posted by **Vassilis Prevelakis** on 25 Feb 2006, 6:47 p.m.,*
in response to message #1 by Mike Mander

I wonder whether the HP-41 printers (HP-82143A or HP-82162A) use the same gear. If so, they are both newer and easy to find on eBay.

Has anybody checked this?

**vp

Re: Need gear for HP-97

*Message #5 Posted by **Doug Wilder** on 25 Feb 2006, 7:51 p.m.,*
in response to message #4 by Vassilis Prevelakis

Just looked at a 43A, they are completely different using an o-ring drive belt instead of a gear.

Re: Need gear for HP-97

*Message #6 Posted by **Vassilis Prevelakis** on 26 Feb 2006, 9:04 a.m.,*
in response to message #5 by Doug Wilder

```
Doug Wilder wrote:
> Just looked at a 43A, they are completely different using an
> o-ring drive belt instead of a gear.
```

I was afraid of that, thanks for checking.

**vp

Re: Need gear for HP-97

*Message #7 Posted by **Ronald** on 26 Feb 2006, 5:04 p.m.,*
in response to message #6 by Vassilis Prevelakis

Hi,

I think I have a gear like that somewhere in my parts box. I will look tomorrow, let you know, If it is there I will send it to you.

Ronald

Re: Need gear for HP-97

*Message #8 Posted by **Mike Mander** on 26 Feb 2006, 5:30 p.m.,*
in response to message #7 by Ronald

Hi Ronald,

Who are you offering to send the gear to? ;-) It was I (Mike Mander) who made the original inquiry at the top of this thread...

However, I certainly would not expect a valuable part like this for nothing of course. If you do find it in your parts bin, and are offering it to me (not sure if you were since your message wasn't in direct reply to my original inquiry) then let me know how much...

Regards, Mike Mander

Re: Need gear for HP-97

*Message #9 Posted by **Ronald** on 27 Feb 2006, 4:00 p.m.,*
in response to message #8 by Mike Mander

Hello Mike,

Yes I was responding to you. I have such a part in my old parts box, it is black plastic only, but is 100%.

Please mail me at my private adress prins_spawn[at]planet.nl

Replace [at] with @.

Kind regards,

Ronald

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HP41CV battery contact flex-cable

*Message #1 Posted by **Pio** on 25 Feb 2006, 11:58 a.m.*

Hi all

Looking for Diego Diaz's email for order 2 battery contact flex-cable for my 41

Does anyone tried it? Is is okay?

Thanks in advance

Re: HP41CV battery contact flex-cable

*Message #2 Posted by **Diego Diaz** on 27 Feb 2006, 6:54 a.m.,*
in response to message #1 by Pio

Hi,

You've got mail, sorry for the unwanted delay.

Best regards.

Diego.

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41Notes - Correction !!!

*Message #1 Posted by **gileno** on 25 Feb 2006, 8:57 a.m.*

41Notes (HP-41CX or HP-41C/CV with X-Function)

My small contribution to store small notes

```
01 LBL '41NOTES
02 SF 25
03 "NOTES"
04 RCLPTA
05 FC?C 25
06 XEQ 24
07 FIX 0
08 CF 29
09 LBL 52
10 CF 21
11 'A:E:I:P:V?   " '3 spaces
12 ASROOM
13 ARCL X
14 AVIEW
15 GETKEY
16 X=0?
17 GTO 15
18 CLD
19 XEQ IND X
20 GTO 52
21 LBL 11
22 CLA
23 AON
24 PROMPT
25 AOFF
26 APPREC
27 RTN
28 LBL 24
29 SF 25
30 'NOTES
31 20 ' Modify for large number of notes
32 PURFL
33 CRFLAS
34 RTN
35 LBL 15
36 CLD
37 FIX 2
38 STOP
39 LBL 62
40 CLX
41 SEEKPT
42 SF 25
43 LBL 61
44 GETREC
45 AVIEW
46 PSE
47 '-:+:D:R:S?
48 FC? 25
49 GTO 52
50 AVIEW
51 GETKEY
52 X=0?
53 GTO 52
54 XEQ IND X
55 GTO 61
56 LBL 51
57 CLX
58 SEEKPT
```

```
59 RCLPT
60 INT
61 1
62 -
63 SEEKPT
64 RTN
65 LBL 14
66 DELREC
67 RTN
68 LBL 43
69 SF 21
70 CLX
71 SEEKPT
72 SF 25
73 LBL 00
74 GETREC
75 FC? 25
76 RTN
77 AVIEW
78 GTO 00
79 LBL 53
80 'SRC?
81 AON
82 PROMPT
83 AOFF
84 CLX
85 SEEKPT
86 POSFL
87 INT
88 SEEKPT
89 END


Instructions


XEQ "41NOTES"


First time: press I 'Initialize "NOTES" file in X-Memory


Option


A ' Add Notes (Max 24 bytes) R/S
E ' End
I ' Initialize (First time or Clear all Notes !!!)
P ' Print or View Records
V ' View ------ + ' Next Record
                - ' Previous Record
                D ' Delete Present Record
                R ' Return
S ' Search a string


* In the main menu if there is not any key pressed in 10 seconds the program concludes.
* In the visualization way if there is not any key pressed in 10 seconds returns for the main
menu


hp41cx@gmail.com - Gileno
```

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HP 65/67 battery cover wanted.

*Message #1 Posted by **Ignazio Cara** on 25 Feb 2006, 5:54 a.m.*

I have purchased an old HP65, almost in good status, but without the battery cover (same as the HP67). Anybody have one for sale? Thanks and best regards.

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49G+ Emulator

*Message #1 Posted by **Chan Tran** on 24 Feb 2006, 9:16 p.m.*

I tried to get the rom for emu48 to emulate the 49G+ but I am having problem. I had problem compiling the file using Cygwin. Anyone has the rom already compiled?

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Dear OpenRPN

*Message #1 Posted by **A HopeFull Customer** on 24 Feb 2006, 2:01 p.m.*

Dear OpenRPN:

You obviously have good intentions. But the road to hell is paved with good intentions as the devil is in the details. We know, we're engineers ourselves. The difference between you and us is that we don't announce things until we have produced something. Just produce something, anything. Then you can trumpet to the high heavens. We sincerely wish you the best of luck with your dreams.

Re: Dear OpenRPN

*Message #2 Posted by **bill platt** on 24 Feb 2006, 2:20 p.m.,*
in response to message #1 by A HopeFull Customer

"Produce something."

Hmmm, there is a website with all sorts of specifications, discussions etc.

While that may not be "in your hands" kind of product, it is more of a product than 99% of all the financiers out there produce--and OpenRPN is a volunteer project no less!

Re: Dear OpenRPN

*Message #3 Posted by **Geir Isene** on 24 Feb 2006, 3:54 p.m.,*
in response to message #1 by A HopeFull Customer

An open discussion leading to a good product may create a higher quality product in the long run. Witness free software.

Re: Dear OpenRPN

*Message #4 Posted by **gene** on 24 Feb 2006, 4:36 p.m.,*
in response to message #3 by Geir Isene

While not supporting the anonymous comments made here, I too don't really believe OpenRPN will ever lead to an actual product.

It just takes too much organizing by us bean-counters, etc. to ever create a real product.

Witness the apparent collapse of the Qonos, which won't ever see the light of day. When people first heard about it, excitement ruled the day! Finally, a real calculator for the rest of us, designed by someone who understands what we want! Feature descriptions were created, talked about, etc., but it isn't going to happen.

Why?

Good plan, prototypes, but appears to have needed too much $$ to get off the ground.

OpenRPN is a diversion and while fun, will not lead to a working product at anything resembling a reasonable price, IMO.

And, I know that's my opinion and is worth perhaps less than the next poster's opinion :-), but I just don't see it happening.

How long has OpenRPN been going on now? >2 years?

How much time needs to go by with nothing but fancy drawings and spec sheets before we collectively realize that this is not going to happen.

Gene

P.S. Willing to eat whatever crow is needed should they bring something off (which I will not be upset about!), but not expecting to ever taste it. :-)

Re: Dear OpenRPN

*Message #5 Posted by **All OpenRPN needs** on 24 Feb 2006, 9:16 p.m.,*
in response to message #1 by A HopeFull Customer

All OpenRPN needs to to create a simple project plan, filled with milestones. Then by gradually ticking off these milestones outsiders will see that the project is progressing. Maybe OpenRPN is flying along, but from my point of view it looks like endless talking and changing of specifications.

Here is part of the last 'project update'

"The hardware platform will be developed and produced first to aid in software development, as well as allowing a few reviewers to preview the build quality.

OpenRPN hasn't been attracting much attention lately... Most people won't believe it until they see it, so we're going to deliver the goods.

Within the next few days I will start a thread to gather any final opinions on construction methods and feature sets. The designs will be locked in and set for final development and production."

This was last september. What designs were locked in? None. No hardware has been built. The whole focus of the project has changed too many times to even begin to start.

Re: Dear OpenRPN

*Message #6 Posted by **Geir Isene** on 25 Feb 2006, 5:06 a.m.,*
in response to message #5 by All OpenRPN needs

> Quote:
>
> OpenRPN is flying along, but from my point of view...

Who are you?
What is this thing about not revealing ones name in the postings?
Afraid of what?

Re: Dear OpenRPN

*Message #7 Posted by **Mr X** on 25 Feb 2006, 8:24 a.m.,*
in response to message #6 by Geir Isene

Does it really matter what my name is? You have my word I wasn't the person who was abusive. That was someone else.

Re: Dear OpenRPN

*Message #8 Posted by **Jim L** on 25 Feb 2006, 1:07 p.m.,*
in response to message #7 by Mr X

> Quote:
>
> You have my word

Why would the word of an "X" mean anything? And no one named "Mr. X" has posted recently so which post are we supposed to believe is not like the others?

As far as I can see there's one guy using a different name each time to pick on OpenRPN. If you want to be distinguished from the "other guy" then maybe you should follow the rules of this forum:

> Quote:
>
> You agree to use a consistent identity on the forums. MoHPC reserves the right to reveal the use of multiple identities when it feels this is necessary. You are not required to use your real name but you should stick with one label.

That way at least we'll be able to tell you from the "other guy".

Re: Dear OpenRPN

*Message #9 Posted by **Frank Boehm** on 25 Feb 2006, 1:42 a.m.,*
in response to message #1 by A HopeFull Customer

Though I'm not sure, if we will ever see a commercial product, there still is good news:

http://www.openrpn.org/index.php?name=PNphpBB2&file=viewtopic&t=154

Don't feed the trolls

*Message #10 Posted by **Howard Owen** on 25 Feb 2006, 2:38 a.m.,*
in response to message #1 by A HopeFull Customer

They *never* get enough, and it gives them indigestion. A troll with indigestion is unpleasant to be around, and not just because it gets grumpy ..

Regards,
Howard

Edited: 25 Feb 2006, 2:39 a.m.

Re: Don't feed the trolls

*Message #11 Posted by **Les Bell** on 25 Feb 2006, 5:39 a.m.,*
in response to message #10 by Howard Owen

So true.

OpenRPN *might* come to something; then again, it might not. But I, for one, won't bitch and moan, since I don't see anyone else stepping up to the plate.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Dear OpenRPN

*Message #12 Posted by **Hugh Evans** on 26 Feb 2006, 6:39 a.m.,*
in response to message #1 by A HopeFull Customer

If you've been reading these forums recently you should already be aware of our current plans. Right now a generously donated 49g+ is on its' way. The OpenRPN modifications should finally convince the community that this feasible. To give you some idea of how easy it can be, the first prototypes will be made from sheet ABS with a router. It will represent what the 49g *should* have been.

Insult me and my project all you want. I'm going to keep at it indefinitely.

-Hugh

Re: Dear OpenRPN

*Message #13 Posted by **e.young** on 26 Feb 2006, 12:43 p.m.,*
in response to message #12 by Hugh Evans

I'm glad that your are continuing with Open RPN despite the doubts and insults. It's the easiest thing to take someone elses designs or plans and find reasons why they won't work. Good luck, I hope that you are successful.

Re: Dear OpenRPN

*Message #14 Posted by **Gene** on 26 Feb 2006, 3:06 p.m.,*
in response to message #13 by e.young

Actually, it's easiest to discuss nothing BUT plans.

If they actually come out with this 49g+ retrofit thing, that will be a good first step.

But that's a long way from ever coming up with a real, working calculator.

And I'm not holdling my breath. :-)

Re: Dear OpenRPN

*Message #15 Posted by **Geir Isene** on 26 Feb 2006, 3:54 p.m.,*
in response to message #14 by Gene

I'd say this discussion about OpenRPN is about as easy as it can ever get - much easier than even

putting up a simple project website.

I suggest the critics come with constructive ideas, concrete plans, how to acquire resources or money, hell even pitch in some hours work themselves.

Tearing down a building is a fair bit easier than bulding one.

Re: Dear OpenRPN

*Message #16 Posted by **Gene** on 26 Feb 2006, 4:03 p.m.,*
in response to message #15 by Geir Isene

Hello Geir!

Oh, I hope they succeed. But I've seen many times where a group or someone comes up with great plans and all that happens is talk, talk, talk.

Jean-Yves' Qonos was to be the ultimate graphical calculator. It would kill the HP49g+ AND the TI-89.

Lots of people talked and talked about it.

Then, it appears to have died.

I make no pretense about any abilities to make/manufacture a new calculator. But I do have experience with how business works and how they at times do not work.

Hence my pessimism.

Personally, the comments a few posts above would do wonders to dismiss the pessimism.

"All OpenRPN needs to to create a simple project plan, filled with milestones. Then by gradually ticking off these milestones outsiders will see that the project is progressing. Maybe OpenRPN is flying along, but from my point of view it looks like endless talking and changing of specifications"

Give us some milestones and then meet some of them.

How long have we gone so far? 2 years? And we have nice drawings. That's not the stuff of which success is usually made.

My 1 cent, Gene

Re: Dear OpenRPN

*Message #17 Posted by **GE** on 27 Feb 2006, 4:17 a.m.,*
in response to message #16 by Gene

Hello,
First of all all the best to Hugh as it is easy to criticize while it is hard to DO.

Then, ideas to go forward on this wonderful project : this thing is an assembly of hardware and software. The hardware poses many problems (and can be discussed ad nauseam...), so why bother ? It may be (**no experience here**) possible to use some existing hardware and run the existing software on it. Then you make incremental improvements. The original hardware could be a bare bones PCB in a shoe box with bulky switches as a keyboard, I

would still be interested. The software could be a more or less legal copy of the HP49+'s, I think this would not be an issue for a non-commercial, small-scale project (eevn less if the perpetrator owns an HP49+). This platform would allow the more gifted to recompile the software (a la Linux), with HPGCC the software base could be progressively converted to more portable C code, then modified.
Harware could stay based on an HP49G+, anyone could open her machine and do the soldering work.

If this is still too much, OpenRPN could stay on the software side as an open-source project based on the 49G+.
All this could make the project take off in small, incremental steps. Am I completely dreaming here ?

Re: Dear OpenRPN (as I see it)

*Message #18 Posted by **Ron Ross** on 27 Feb 2006, 10:32 a.m.,*
in response to message #16 by Gene

OpenRPN seems to have started about the time that Hp was being questioned about their continued support of the RPN pocket calculator.

That someone might be able to make a better calculator is not really the point. The real point is whether these new startups can compete and profit with the Hp offerings now made available. The early Hp49G+'s were CRAP! (whether this is a hardware or a software fault, the result was a poorly useable calculator).

Next the Hp33s was made available to the low end RPN crowd.

Whats left? Well, you could offer a super deluxe version ie What JYA wanted to market. But 99.9% of your high end Hp users are fine with a working Hp49G+ (and a new Hp49G+ now makes 98% of those people happy). And really the RPN graphics market is small as it is compared to the sales of Ti and Casio graphics.

So that leaves crumbs for the support of the OpenRPN project.

So Hp's re-emergence onto the RPN market has effectively hosed all other RPN calculator projects aside from some spardic support or the efforts of a few dedicated individuals who want to see something come of their previous work. This will be a long lonely road for these few.

I liked the idea of OpenRPN, but when it became apparent that they were trying to please to big and varied a market, I felt they were off track.

My own desires are for an Hp42s type calculator with RAM and I/O. Form factor is MOST important to me! It has to fit in a normal sized pocket for me to appreciate. I even prefer my Hp15c form factor over the Hp42s, but the extra functions of the 42s make me bear with it. However, if the 42s were even 0.2 cm taller or wider, I wouldn't carry it!

I actually use an Hp48/49G most often, but they stay on my desk. If I travel or work away from my desk, I now use an Hp33s (POS that it is!), but would prefer to use an Hp42s and have the security of the matrix functions if need should arise. Why the Hp48 series over the 42s on my desk you ask? The units conversions and its easier to use solver. The eq writer is sometimes useful also.

So when I hear about the size or diminsions that use more than a two line display or horse

shoeing something into a graphics calculator case, I feel the originator is losing sight of the brass ring as I can already buy an Hp49G+.

A graphics calculator is a cheap math package somewhat comparable to a low end math package you can buy for a PC. But a PC is far more versatile, just a lot less portable. But a graphics isn't pocket friendly either (true, it is far more portable than a PC). So that market isn't really that great either.

Admittedly, another meaningless rant by me!

Re: Dear OpenRPN (as I see it)

*Message #19 Posted by **Hugh Evans** on 27 Feb 2006, 12:40 p.m.,*
in response to message #18 by Ron Ross

I actually started OpenRPN because I saw an unfilled market niche. Voyager and Pioneer model calculators sell for hundreds of dollars on ebay and I doubt more than a few of those are going to collectors. It's easy enough to produce similar, yet updated, machines for about $100... Thus undercutting the ebay market and giving professionals a nice option for daily use.

Everyone here is welcome to speculate as much as they please. I need to get back to working with the guts of this 49g+ for a retrofit.

-Hugh

Re: Dear OpenRPN - in defense of....

*Message #20 Posted by **Jim Creybohm** on 28 Feb 2006, 1:22 p.m.,*
in response to message #19 by Hugh Evans

As hobbyists in this eclectic forum, I should think that we would be pleased that Open RPN is trying to produce a calculator. Yes, I have read and listened to the various arguments, and I have read the market studies.

What surprises me though, is that although we have addressed this from a left brain perspective, has anyone considered that maybe, just maybe they are doing this because they want to? Maybe they won't make any money. Maybe they won't produce a million units. Maybe they won't produce one. Who cares? Has anyone here other than the OpenRPN persons put money into the venture? If, after listening to all the sides, they still keep going then its obviously a labour of love.

I don't deny that there hasn't been roadblocks for them, and stumbles. I too, grow frustrated with waiting and hoping but I recognize that this road leads to cynicism. But, y'know, I gotta say - I'm surprised, and a little disappointed in the responses penned here. Here is where I would have thought some kindred spirits live.

Re: Dear OpenRPN - in defense of....

*Message #21 Posted by **bill platt** on 28 Feb 2006, 1:51 p.m.,*
in response to message #20 by Jim Creybohm

> Quote:
>
> maybe, just maybe they are doing this because they want to

That is the main point, I agree.

That is why I will not disparage the movement in the least. I suspect that is also why Hugh takes all of the criticism objectively and indeed has expressed appreciation for some of the more negative though yet thoughtful and insightful comments.

I enjoy the whole development as a wonderful fantasy that may just come true. No loss if it doesn't it is still a good fantasy. Now that is a wonderful thing! :-)

(If I knew something that could be helpful, I'd volunteer some).

Re: Dear OpenRPN - in defense of....

*Message #22 Posted by **Garth Wilson** on 28 Feb 2006, 3:00 p.m.,*
in response to message #20 by Jim Creybohm

> maybe, just maybe they are doing this because they want to

and *that's* why it is inappropriate to compare openRPN to business ventures that tried and failed. openRPN as I understand it has no responsibility to investors who would be in it for the money, and certainly no responsibility to critical potential customers who don't have *anything* invested in it. The people involved have day jobs to support themselves. This makes progress slow, but it means one of the biggest risks of failure is gone.

Re: Dear OpenRPN - in defense of....

*Message #23 Posted by **Geir Isene** on 28 Feb 2006, 3:09 p.m.,*
in response to message #22 by Garth Wilson

Interestingly, this thread has made more glass-is-half-full people show up than the critics.

Re: Dear OpenRPN - in defense of....

*Message #24 Posted by **Gene** on 28 Feb 2006, 3:18 p.m.,*
in response to message #22 by Garth Wilson

True, but it does compare very closely to the Qonos attempt.

I hope they pull something off...but people also need some realism sometimes.

That said...good luck, Hugh! I'll be glad to eat lots of crow! :-)

Re: Dear OpenRPN - in defense of....

*Message #25 Posted by **bill platt** on 28 Feb 2006, 3:47 p.m.,*
in response to message #24 by Gene

I don't agree with teh Qonos comparison.

I think a better comparison woould be an ambitious HAM radio project. Say, a moon-bounce station for 420 MHz. Or a 1.2 GHz fast-scan FMTV

network over a 200 mile radius, or a metropolitam linked quad-band repeater system with DTMF user-control of phone patch, HF remote, beam steering, cross-band link etc etc all with microwave relay from tower to tower, emergency back-up power etc. I've seen this sort of thing come together. It is pretty fantastic. A ham club with 500 members giving $35 a year, and their time, can erect 200 foot towers, and do al lthat other stuff.

In other words, a project, done on one's own time, with friends, with significant technical and financial commitments but doable with dedicated amateurs.

I don't see why this project cannot be done, in the same vein.

Right on, Ron! [OpenRPN]

*Message #26 Posted by **Karl Schneider** on 27 Feb 2006, 3:24 p.m.,*
in response to message #18 by Ron Ross

Hi, Ron --

> Quote:
>
> Admittedly, another meaningless rant by me!

Far from it. I think that yours is one of the most insightful short essays to date about this topic in the Forum.

As far as I'm concerned, there are two substantial unfilled niches for RPN-based scientific calculators:

What the HP-33S ought to have been

The HP-33S should have been a "synergistic melding" of the HP-32SII and the HP-15C, with a one-line, easy-to-read dot-matrix display. Other attributes would include increased computational speed, ample RAM, an improved equation editor, and solid integrated functionality for matrix and complex-number calculations.

I think that such a project would have genuine value, but it would not be easy. Much effort went into the development of source code for the HP-15C and HP-42S, and what is still available might no longer be applicable to today's hardware.

What the original HP-48S/SX ought to have been

The HP-48S/SX should have been a "Super 42S", with RPN instead of obfuscated RPL, limited but easy-to-use graphics, and HP-71B BASIC for advanced programming (if necessary).

Nowadays, I would question whether such an ambitious project would be warranted. Advanced programs could be entered via downloadable binaries or plug-in chips. Multi-color LCD's would aid graphics, but that begs the question of, "Why not just use a PDA platform, when they become suitable?".

> Quote:

> My own desires are for an Hp42s type calculator with RAM and I/O.

That is indeed the desire of many. I believe that bidirectional infrared and hardwire I/O should be present -- as it was on the 48S/SX -- before large RAM is supplied to the user. (It would be interesting to know what HP had in mind by making the 42S ROM capable of supporting 32 kB of RAM.) However, I also question whether adding full I/O to the compact Pioneer-series package would have been practical or feasible, given the limitations of space and battery capacity.

> Quote:
>
> I liked the idea of OpenRPN, but when it became apparent that they were trying to please too big and varied a market, I felt they were off track.

As far the OpenRPN effort, I must admit that I haven't visited the site recently. I believe that the most useful efforts would be directed to the development of a thorough functional specification for the model(s) they would like to have developed: That is, list and describe all the functions, and specify in sufficient detail how they are to perform.

The issues of internal hardware and package design are best left to real manufacturers with the resources to deal with them. A functional spec could provide a good road map to KinHPo that would allow them to escape their wilderness of misguided marketing-driven product design.

Any independent product-development effort utilizing KinHPo 49G+ firmware is a lost cause. The proprietary and over-complicated 49G+ is already available, and it's based on that dreadful "Leisure suit" RPL.

Regards,

-- KS

Edited: 27 Feb 2006, 7:54 p.m.

Re: Right on, Ron! [OpenRPN]

*Message #27 Posted by **Trent Moseley** on 27 Feb 2006, 9:14 p.m.,*
in response to message #26 by Karl Schneider

Karl,

I enjoyed reading "Leisure suit" RPL, as the Brits would say: "Here, here!

Trent from CA.

Re: Right on, Ron! [OpenRPN]

*Message #28 Posted by **Les Bell** on 28 Feb 2006, 4:57 p.m.,*
in response to message #27 by Trent Moseley

> Quote:
>
> as the Brits would say: "Here, here!

Trent from CA.

Actually, the Brits would say "Hear, hear!".

Best,

--- Les
[In language police mode]

Re: Right on, Ron! [OpenRPN]

*Message #29 Posted by **Walter B** on 28 Feb 2006, 5:45 p.m.,*
in response to message #28 by Les Bell

Oh dear, I really enjoy this discussion! Especially because Forum English is not my mother tongue :-))

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HP 15C Memory Allocation

*Message #1 Posted by **Bill Balme** on 24 Feb 2006, 7:53 a.m.*

I'm at my wit's end! Is my beloved 15C finally broken? Everything seems to work fine - but I seem to have lost all memory. I can only store numbers in Registers 0 and 1. I have no programming steps available. If I try 19 f[DIM][(i)] I get Error 10

All the diagnostics [ON]X, [ON]+ and [ON]divide work and show no issue. All the keystroke functions work fine.

I just can't do any programming.

Please email any thoughts/advise...

Thanks,

Bill

Re: HP 15C Memory Allocation

*Message #2 Posted by **Randy** on 24 Feb 2006, 8:22 a.m.,*
in response to message #1 by Bill Balme

You didn't say if you cleared memory: [ON] [-] like the other self tests. That should result in a "Pr Error" display.

That usually takes care of wierd Voyager behavior.

Re: HP 15C Memory Allocation

*Message #3 Posted by **Bill Balme** on 24 Feb 2006, 8:54 a.m.,*
in response to message #2 by Randy

Randy - you are my hero! Memory restored - all with a couple of button pushes. Many thanks.

Bill

Re: HP 15C Memory Allocation

*Message #4 Posted by **Vieira, L. C. (Brazil)** on 24 Feb 2006, 12:09 p.m.,*
in response to message #1 by Bill Balme

Hi Bill, all;

This sort of behavior only happens when

```
0 [f][DIM][(i)]
```

is performed. Registers Ro and R1 in the HP15C are permanent, can never be used with other purposes but

store numbers. In fact, they are used as index to access matrix elements.

Beacause

```
19 [f][DIM][(i)]
```

did not work, I'd suggest two keystroke sequences that might probably solved the problem. The first one would be

```
[f][MATRIX]0
```

that clears all matrix definitions (dimension 0,0) and data, restoring all registers dedicated to matrices to the 'uncommited register segment'. After that, any register that could be used by matrices would be free for use by programs, though. The other one would be considering the existence of programs and clearing program memory with

```
[f]CLEAR[PRGM] (while in program mode)
```

In both cases, Randy´s precise solution works perfectly fine because all memory is cleared and default status is set. I decided to add this brief because sometimes, even when the problem is solved, the cause may be yet obscure. As I am an Engineer, I am always trying to find the cause so it can be avoided in the future...

Cheers.

Luiz (Brazil)

Edited: 24 Feb 2006, 12:10 p.m.

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Testing an HP 48GX RAM Card - Question

*Message #1 Posted by **jbssm** on 24 Feb 2006, 5:18 a.m.*

Hello all,

I have this old RAM card for my HP 48GX, but I don't really know the size of it or if it's working really correctly.

Is there a simple test I can run in the 48GX to give me the size of the RAM card and to test it?

Best regards, jbssm

Re: Testing an HP 48GX RAM Card - Question

*Message #2 Posted by **Raymond Del Tondo** on 24 Feb 2006, 5:28 a.m.,*
in response to message #1 by jbssm

Hi,

first make sure the read/write protection switch is in the r/w position.
Then put it into port 1, eventually it'll give you an error,
like 'Invalid card data' or 'Battery P1 low'.
At this point just ignore these messages.

Then type 1 PINIT. After a while, when the the port init is over,
type 1 PVARS. This will return an empty list in level 2,
and the amount of free memory in level 1.

For more details, RTFM;-)

HTH

Raymond

Re: Testing an HP 48GX RAM Card - Question

*Message #3 Posted by **tomcee** on 24 Feb 2006, 11:30 a.m.,*
in response to message #2 by Raymond Del Tondo

This brings up a related issue; Is there any way to test any/all available ports of a HP48GX Ramcard as blocks of RAM, similar to conventional RAM testing, that is, write/read each HW location in the RAM block?

Tomcee

Re: Testing an HP 48GX RAM Card - Question

*Message #4 Posted by **Raymond Del Tondo** on 24 Feb 2006, 1:53 p.m.,*

in response to message #3 by tomcee

Hi,

this may also be a RTFM;-)

The HP-48 has some self-test capabilities,
amongst them some memory checks.

Of course you could write a small ML program
which reads/writes from/to each memory address,
but AFAIK the self-test does exactly that...

To enter the memory test, just press and hold the ON key,
press the forth menu key ('D'), then release both.
Three vertical lines will appear.

Now press the up-arrow key, and the main memory will be checked,
some pixel pattern will apear on the display.
After a while the display will show the starting address
and the size of the RAM.

To revert to normal operation, just press and hold ON,
then press the third menu key, then release both.

HTH

Raymond

Re: Testing an HP 48GX RAM Card - Question

*Message #5 Posted by **tomcee** on 24 Feb 2006, 3:24 p.m.,*
in response to message #4 by Raymond Del Tondo

Thanks for the reply.

What I am referring to is not exactly what is built into the machine or in the manual; what I have in mind is something like specifying a particular address or range of addresses:

{13:00000 13:0ffff 5A}

Where the (proposed) utility would write/read a specific bit pattern (eg: 5A)to that range of adresses (eg: port 13, addresses 00000 to 0fff) and verify.

I do understand that each port does not have exactly 128 available. BTW, what are the unavailable locations used for?

Thanks again, TomCee

Re: Testing an HP 48GX RAM Card - Question

*Message #6 Posted by **James M. Prange (Michigan)** on 24 Feb 2006, 7:29 p.m.,*
in response to message #5 by tomcee

Quote:

> I do understand that each port does not have exactly 128 available. BTW, what are the unavailable locations used for?

PVARS shows all of my cards as having 131072 bytes per (empty) port, which is exactly 128kB, (2^{17} bytes). (I don't have a 32kB card.)

That said, anything other than a library is stored in a port as a "backup object", which is somewhat larger than the object it contains. A "backup object" also contains its own name and a CRC value, for example.

For example, a real number stored as a global variable named 'A' takes 16 bytes of memory, but stored as a backup object named :1:A, it takes 23.5 bytes.

Regards,
James

Re: Testing an HP 48GX RAM Card - Question

*Message #7 Posted by **jbssm** on 25 Feb 2006, 5:11 p.m.,*
in response to message #2 by Raymond Del Tondo

It worked.

Thank you very much Raymond !

Re: Testing an HP 48GX RAM Card - Question

*Message #8 Posted by **James M. Prange (Michigan)** on 24 Feb 2006, 6:38 p.m.,*
in response to message #1 by jbssm

Does the card has any brand name or other markings on it? I haven't heard of a RAM card the doesn't have the size clearly marked, except for Oliver Klotz's cards.

As Raymond wrote, first set the switch to the r/w position. I suggest putting the card in the 48GX's slot 2 instead of slot 1, but indeed ignore any error message for now. Type in PINIT and press ENTER (PINIT doesn't take any arguments). After the "busy" annunciator turns off, press LeftShift LIBRARY (over the 2 key), then press the PORTS menu key. You'll always see the :0: menu label for port 0, and if a card is in slot 1, you'll also have a :1: for port 1. With the card in slot 2, you should see at least :2:. If you see more port labels, then each one is 128kB. If you see only :2: for the card, then execute 2 PVARS to see whether it's a 32kB card or a 128kB card.

32kB and 128kB cards can be used in either slot 1 or slot 2 of either the 48SX or 48GX, but larger cards should be used only in the 48GX's slot 2. Exceptions to this are some TDS brand multi-bank cards designed for the 48SX, and some of Oliver Klotz's multi-bank cards with the current bank selected by switches on the card, which work in either slot of either model.

Regards,
James

Edited: 25 Feb 2006, 5:36 p.m.

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HP48SX Repair

*Message #1 Posted by **Billy Everson** on 23 Feb 2006, 6:50 p.m.*

I have an HP48SX which does not come on. I hadn't used the machine for a couple of months, and so when it failed to start I replaced the batteries (no sign of corrosion). I went through the hold the switch and press the "+" key, hold the on switch and press the "C" key and finally pulled it's little foot off and reset it. No success anywhere. I'd really like to find a repair station, as I'm not ready to give up the machine. Any help or info will be greatly appreciated.

BillE

Re: HP48SX Repair

*Message #2 Posted by **Jeff O.** on 24 Feb 2006, 7:16 a.m.,*
in response to message #1 by Billy Everson

Possible repair station.

Re: HP48SX Repair

*Message #3 Posted by **Billy Everson** on 24 Feb 2006, 12:29 p.m.,*
in response to message #2 by Jeff O.

Thanks Jeff. That was what I was looking for!

BillE

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Chinese 12Cs better now?

*Message #1 Posted by **joe locket** on 23 Feb 2006, 4:42 p.m.*

Not meaning to open a can of worms, but I'm wondering if the Chinese-built 12Cs (which are routinely slammed on these boards) are actually improving? Could it be HP has listened to the criticisms and have improved the build quality?

I only say this because I recently bought a vintage 12C made in Brazil in 1990. According to the archives, these are supposed to be just as good as the USA-made calculators -- both of which are supposedly superior to the Chinese models.

Admitted I may have had unrealistic expectations, but I have to say I'm not blown away. Several of the Brazil model's keys are mashed down and the clicks are dull. Some may say that's because the unit is old. Maybe -- but isn't standing the test of time supposed to be the hallmark of the classic 12C? And the unit is no studier than my chinese 12C. Also, when I shake the Brazilian unit, there's some key rattling (a top gripe held against the Chinese model).

This isn't a criticism and I don't have any proof to back it up. I too have seen the early Chinese 12Cs. They were relatively flimsy and the buttons were weak. It might be interesting to compare quality based on serial numbers.

Is it possible the new 12Cs have returned closer to the "good old days" quality of H-P in the early 1980s?

Re: Chinese 12Cs better now?

*Message #2 Posted by **bill platt** on 23 Feb 2006, 4:46 p.m.,*
in response to message #1 by joe locket

16 years old, unknown history. What else can I say?

Re: Chinese 12Cs better now?

*Message #3 Posted by **Randy** on 23 Feb 2006, 8:11 p.m.,*
in response to message #1 by joe locket

Bravo, Bill. I second with:

> Quote:
>
> Could it be HP has listened to the criticisms and have improved the build quality?

Is this a trick question?

> Quote:
>
> I only say this because I recently bought a vintage 12C made in Brazil in 1990.

Vintage, yes, lightly used, no way.

> Quote:
>
> According to the archives, these are supposed to be just as good as the USA-made calculators -- both of which are supposedly superior to the Chinese models.

Yes, they are. Good man, you did your homework.

> Quote:
>
> Several of the Brazil model's keys are mashed down and the clicks are dull. Some may say that's because the unit is old.

Nah, just beaten on for 16 years. You'd be flat too with that treatment.

> Quote:
>
> This isn't a criticism and I don't have any proof to back it up. I too have seen the early Chinese 12Cs. They were relatively flimsy and the buttons were weak. It might be interesting to compare quality based on serial numbers.

There is nothing to compare. They aren't same quality, period.

> Quote:
>
> Is it possible the new 12Cs have returned closer to the "good old days" quality of H-P in the early 1980s?

Is this a trick question?

Sorry, I couldn't resist :)

Seriously, find yourself a neglected USA, Singapore or Brazilian unit and you will not be disappointed.

PS: What's the serial number of yours? I might be willing to do a swap if it has parts I can use.

Edited: 23 Feb 2006, 8:12 p.m.

Re: Chinese 12Cs better now?

*Message #4 Posted by **joe locket** on 24 Feb 2006, 10:59 a.m.,*
in response to message #3 by Randy

Randy,

Thanks for the play-by-play analysis. I'm willing to be convinced.

Also, it's very generous of you to offer a swap. What are you willing to swap for my Brazilian unit? I don't have the serial # on me, but will get it later. Thanks!

Re: Chinese 12Cs better now?

*Message #5 Posted by **Randy** on 25 Feb 2006, 7:46 a.m.,*
in response to message #4 by joe locket

> Quote:
>
> What are you willing to swap for my Brazilian unit?

A USA or Singapore without the keyboard issues. Cosmetics same or better.

Edited: 25 Feb 2006, 7:47 a.m.

Re: Chinese 12Cs better now?

*Message #6 Posted by **joe locket** on 25 Feb 2006, 1:27 p.m.,*
in response to message #5 by Randy

The serial is 3030Bxxxxx. I'd be very appeciative if you would swap for a USA unit. I'll try to find your e-mail address and e-mail you directly. Thanks!

Re: Chinese 12Cs better now?

*Message #7 Posted by **Stephen Easterling** on 24 Feb 2006, 1:06 p.m.,*
in response to message #3 by Randy

Hmmm! I have a Chinese 12C (SN CNG45207252) and it work flawlessly and feels as strong as a little brick (just like my USA 12C). Compared to the 12CP, my Chinese 12C is much better and I can't tell much difference between it and the USA model. Maybe quality control has improved over time.

Re: Chinese 12Cs better now?

*Message #8 Posted by **joe locket** on 24 Feb 2006, 1:51 p.m.,*
in response to message #7 by Stephen Easterling

Maybe we're on to something. My serial is very close to yours: CNG45009226

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48gx Statistics help please!

*Message #1 Posted by **Mario** on 23 Feb 2006, 3:31 p.m.*

Hi, I have a HP 48gx calc and I'm taking a stats class. I need to know how to calculate combinations. Such as, if you toss a coin 10 times, how many different ways can you get 4 heads out of the 10. Or something with the lotto, if there are 52 numbers to choose from, and you can choose 6, how many possible combinations are there. I'm kind of a beginner with this calc, so go easy, haha. Thanks for the help!

Re: 48gx Statistics help please!

*Message #2 Posted by **John Limpert** on 23 Feb 2006, 5:04 p.m.,*
in response to message #1 by Mario

Try MTH, NXT, PROB.

Re: 48gx Statistics help please!

*Message #3 Posted by **Mario** on 24 Feb 2006, 3:54 a.m.,*
in response to message #1 by Mario

I was told to put "COMB(10,4)" into the stack. Where can I find the COMB function? Thanks!

Re: 48gx Statistics help please!

*Message #4 Posted by **Arnaud Amiel** on 24 Feb 2006, 4:33 a.m.,*
in response to message #3 by Mario

On the hp48 you will have to do 10 ENTER 4 ENTER COMB

COMB can be found where indicated above or you can use the alpha key to enter [C][O][M][B]

Re: 48gx Statistics help please!

*Message #5 Posted by **James M. Prange (Michigan)** on 24 Feb 2006, 5:57 p.m.,*
in response to message #4 by Arnaud Amiel

Actually, on the 48 (and 49) series, COMB is a function, so 'COMB(10,4)' EVAL will indeed work, as long as the "fraction mark" is at the default of using the period. If the fraction mark is the comma, then use 'COMB(10.4)' EVAL instead. Either way, 'COMB(10;4)' EVAL works.

But Mario, note that the delimiters for an algebraic object are single-quotation marks, not double-quotation marks; "COMB(10,4)" is a character string. I suggest that you spend at least a little time reading the fine manual. Note that for the RPL models, you're likely to get a better response on the comp.sys.hp48 usenet group; see: http://groups.google.com/group/comp.sys.hp48?. Also see: http://www.hpcalc.org/

As an RPN sequence, 10 4 COMB also works.

On the 28S, COMB isn't a function, so the algebraic syntax won't work, and the 28C doesn't have a built-in COMB command.

Regards,
James

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Mashed down buttons on 12c

*Message #1 Posted by **joe locket** on 23 Feb 2006, 10:30 a.m.*

Hello. Wondering if this is normal. Based on the advice on this forun, I bought a used Brazil-made HP 12c (made in 1990) from ebay -- instead of buying a new 12c from the store.

I noticed, though, that several of the buttons (+, -, x, clx) are lower than the others -- almost like they were smashed down. They do work, however. Is that normal?

Re: Mashed down buttons on 12c

*Message #2 Posted by **bill platt** on 23 Feb 2006, 10:35 a.m.,*
in response to message #1 by joe locket

Old calculators can end up with all sorts of wear-related flaws. What you describe is just one of many. It is not "normal" or "typical" but it can and does happen.

Re: Mashed down buttons on 12c

*Message #3 Posted by **Karl Schneider** on 23 Feb 2006, 10:45 p.m.,*
in response to message #1 by joe locket

One of my collegues tends to type very "heavily" -- on a PC keyboard and on his workplace-issued 1987 HP-15C. The calc is beat, with frequently-used keys nearly flush with the faceplate. But it still works perfectly...

-- KS

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DDAYS & co. for HP 33s

*Message #1 Posted by **Gour** on 23 Feb 2006, 3:14 a.m.*

Hi!

I placed order for HP 33s and while waiting for it to arrive I'm looking for some programs I need for regular use, like date arithmetic - DDAYS, DATE+ etc.

Anyone knows for some date-arithmetic package for HP 33s?

Sincerely,
Gour

Re: DDAYS & co. for HP 33s

*Message #2 Posted by **Gerson W. Barbosa** on 23 Feb 2006, 7:19 a.m.,*
in response to message #1 by Gour

Hi Gour,

While you don't get anything better, you can try the program below, using the formulas in the TI 58/59 Master Library Manual.

Regards,

Gerson.

```
DATE & DAYS BETWEEN DATES PROGRAM (HP-33S VERSION)


G0001 LBL G
G0002 x<>y
G0003 STO A
G0004 x<>y
G0005 ENTER
G0006 IP
G0007 STO C
G0008 Rv
G0009 RLC C
G0010 -
G0011 100
G0012 *
G0013 ENTER
G0014 IP
G0015 STO B
G0016 Rv
G0017 FP
G0018 4
G0019 10^x
G0020 *
G0021 STO D
G0022 2
G0023 ENTER
G0024 RCL C
G0025 x>y?
G0026 GTO H
G0027 RCL D
```

```
G0028 1
G0029 -
G0030 100
G0031 /
G0032 1
G0033 +
G0034 IP
G0035 0.75
G0036 *
G0037 IP
G0038 +/-
G0039 RCL D
G0040 1
G0041 -
G0042 4
G0043 /
G0044 IP
G0045 +
G0046 RCL C
G0047 1
G0048 -
G0049 31
G0050 *
G0051 +
G0052 RCL B
G0053 +
G0054 RCL D
G0055 365
G0056 *
G0057 +
G0058 RTN


H0001 LBL H
H0002 RCL D
H0003 365
H0004 *
H0005 RCL B
H0006 +
H0007 RCL C
H0008 1
H0009 -
H0010 31
H0011 *
H0012 +
H0013 RCL C
H0014 0.4
H0015 *
H0016 2.3
H0017 +
H0018 IP
H0019 -
H0020 RCL D
H0021 4
H0022 /
H0023 IP
H0024 +
H0025 RCL D
H0026 100
H0027 /
H0028 1
H0029 +
H0030 0.75
H0031 *
H0032 IP
H0033 -
H0034 RTN


N0001 LBL N
N0002 XEQ G
N0003 RCL A
N0004 XEQ G
N0005 RCL A
N0006 -
N0007 +/-
N0008 RTN


W0001 LBL W
```

```
W0002 XEQ G
W0003 ENTER
W0004 +/-
W0005 7
W0006 /
W0007 IP
W0008 7
W0009 *
W0010 +
W0011 RTN


Length & Checksum Table:


LBL    CK   LN
 G    7A9E  318
 H    75E1  210
 N    E3B8   24
 W    3A2B   57


Usage:


date 1 (MM.DDYYYY)
ENTER
date 2 (MM.DDYYYY)
XEQ N  => number of days between dates


date   (MM.DDYYYY)
XEQ W  => weekday (0=Sat, 1=Sun, ... , 6=Fri)


1582 < YYYY < 10000
```

Edited: 23 Feb 2006, 7:29 a.m.

Re: DDAYS & co. for HP 33s

*Message #3 Posted by **Gour** on 24 Feb 2006, 3:52 a.m.,*
in response to message #2 by Gerson W. Barbosa

Hi Gerson!

> Quote:
>
> While you don't get anything better, you can try the program below, using the formulas in the TI 58/59 Master Library Manual.

Thank you very much.

Have you considered to submit those routines to MoHPC software library ?

Sincerely,
Gour

Re: DDAYS & co. for HP 33s

*Message #4 Posted by **Gerson W. Barbosa** on 24 Feb 2006, 1:40 p.m.,*
in response to message #3 by Gour

Hi Gour,

Thanks for the suggestion. I have already submitted a program for calculating Carnival and Easter

Sundays (for the 42S). Perhaps you should take a look at the calendar functions for the 67, it would not be difficult to convert them to the 33S:

http://www.hpmuseum.org/software/67pacs/67calend.htm

Or at Christoph Giesselink's Date Functions for the HP-42S at www.hp42s.com:

http://www.hp42s.com/programs/date/date.html

It should be easy to adapt them to the 33S.

Best regards,

Gerson.

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MakeLex for 71B

*Message #1 Posted by **Xavier LaRue** on 22 Feb 2006, 11:16 p.m.*

Hi there,

In the makelex program I found on the forum I get an error on the line 60 : it dont accept P$=RPT$("-",16)
http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv011.cgi?read=29865

Is that normal ? What is the problem.. thank in advence Xavier LaRue

Re: MakeLex for 71B

*Message #2 Posted by **Vassilis Prevelakis** on 22 Feb 2006, 11:51 p.m.,*
in response to message #1 by Xavier LaRue

```
Xavier LaRue wrote:

> P$=RPT$("-",16)
```

Try

P$="----------------"

instead

**vp

Re: MakeLex for 71B

*Message #3 Posted by **Valentin Albillo** on 23 Feb 2006, 4:45 a.m.,*
in response to message #1 by Xavier LaRue

Hi, Xavier:

Xavier posted:

"In the makelex program I found on the forum I get an error on the line 60 : it dont accept P$=RPT$("-",16)"

> The problem is that MAKELEX, a program to create LEX files from an ascii listing, does commit the *stupid* error of needing a LEX file itself as written, because it uses the RPT$ keyword which is only available in a number of LEX files, STRGNLEX for instance.
>
> This is utterly stupid because requiring some LEX file for a program which precisely intends to be a bootstrap to allow the user to enter LEX files in its HP-71B without having mass storage devices (disk, tape, card reader) is plain stupid, kinda chicken-egg situation.
>
> Besides, as pointed in another post, RPT$ isn't needed at all, because all it does in this case is to assign P$ sixteen repetitions of "-", so a simple P$="----------------" would work, faster, simpler, taking less

RAM (!), and not needing a LEX file at all.

Frankly, it's about the stupidest error, intentional or not, I've ever seen in an otherwise useful program.

Best regards from V.

Re: LEX dump

*Message #4 Posted by **Xavier LaRue** on 23 Feb 2006, 11:20 a.m.,*
in response to message #3 by Valentin Albillo

Hi, the next question is surly how to dump lexfile :)

Do this should works :

Using lif_utils

./lifget -f lexfl1.lif RPNLEX | hexdump

and typing it into the 71B ?

Another question, how do we remove a LEXfile ?

Thank for you help all, Xav

Edited: 23 Feb 2006, 11:47 a.m.

Re: LEX dump

*Message #5 Posted by **Vassilis Prevelakis** on 23 Feb 2006, 4:59 p.m.,*
in response to message #4 by Xavier LaRue

BTW one thing to remember when dealing with the 71B is that in many cases sizes and other quantities are in nibbles (4-bit units, fourtets? :-)

So that when you see 100 it may be 100 (base 10), 256 (base 10) or 128 (base10).

**vp

Re: LEX dump

*Message #6 Posted by **Howard Owen** on 24 Feb 2006, 7:12 a.m.,*
in response to message #5 by Vassilis Prevelakis

> Quote:
>
> BTW one thing to remember when dealing with the 71B is that in many cases sizes and other quantities are in nibbles (4-bit units, fourtets? :-)

Quartets. It's a great trivia question: "how is an antique four bit CPU like a chamber music ensemble?" 8)

Regards,
Howard

Re: LEX dump

*Message #7 Posted by **george** on 24 Feb 2006, 12:51 p.m.,*
in response to message #5 by Vassilis Prevelakis

A friend once suggested 4 bit groups should be known as "kibbles"

On half bytes, nibbles, kibbels, or whatever

*Message #8 Posted by **Marcus von Cube, Germany** on 25 Feb 2006, 4:12 a.m.,*
in response to message #7 by george

> Quote:
>
> A friend once suggested 4 bit groups should be known as "kibbles"

Why not "quibbles?"

Why didn't the Americans invent the 3.5 bit unit?

It's good enough for BCD, since $2^{3.5}$ ~= 11.3 which is more then 10.

And two of them are good enough for 7 bit ASCII. Are there any people which need more bits to write properly in their languages?

What could be a good name for such a unit of information? A "thrivel?"

Marcus

Re: LEX dump

*Message #9 Posted by **Valentin Albillo** on 24 Feb 2006, 4:43 a.m.,*
in response to message #4 by Xavier LaRue

Hi, Xavier:

Xavier posted:

"Hi, the next question is surly how to dump lexfile :) Do this should works : Using lif_utils ./lifget -f lexfl1.lif RPNLEX | hexdump and typing it into the 71B ?"

> Sorry but I'm not familiar with lif_utils so I can't say. Seems probable that it would work, except for the fact that the MAKELEX versions I've seen all of them require to input a checksum at the end of each line of hex digits, which they use to check for input errors. If the 'hexdump' you mention does also output that checksum and it happens to be computed the same way as MAKELEX expects it, then it will work, but I can't say for sure.
>
> The usual way of dumping LEX files in MAKELEX format was with the sister application DUMPLEX, also a BASIC program which would run in a barebones HP-71B, which would output the proper checksum digits as well. You can probably get it from the same source where you found MAKELEX, and it's certainly included in some CHHU issues.

"Another question, how do we remove a LEXfile ?"

> Simply PURGE the lex file (i.e.: PURGE RPNLEX). If the file is secured, you'll need to UNSECURE it first, which you can do if the file is in RAM, but not if it's in ROM. Once purged,

you'll lose all its keywords, polls, messages, etc, and if there are some programs in RAM which used them, they'll no longer work, the original lex function and statements being (temporarily) replaced by XWORD and XFN, respectively.

Best regards from V.

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12c, please help. when it's made?

*Message #1 Posted by **Link** on 22 Feb 2006, 8:45 p.m.*

I have a 12c which comes from brazil (sn 2901b15369). Does anyone know during which period these ones were in production? Do they value more than the ones made in china?

Cheers!

Re: 12c, please help. when it's made?

*Message #2 Posted by **Karl Schneider** on 22 Feb 2006, 10:38 p.m.,*
in response to message #1 by Link

> Quote:
>
> I have a 12c which comes from brazil (sn 2901b15369). Does anyone know during which period these ones were in production? Do they value more than the ones made in china?

The calc was made in 1989 (for these serial numbers, add the first two digits to 1960 to obtain the year of manufacture).

I can't tell you Brazil's period of production, but the ones made in the USA, Singapore, and Brazil are of better quality than the later-production calc's made in Malaysia, Indonesia, and China.

-- KS

Re: 12c, please help. when it's made?

*Message #3 Posted by **Link** on 23 Feb 2006, 8:02 a.m.,*
in response to message #2 by Karl Schneider

Thank you for the answer!

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HP 82163 video interface

*Message #1 Posted by **Bill Lafferty** on 22 Feb 2006, 6:27 p.m.*

I would like to connect my IL loop HP 82163 video interface to a spare office VGA monitor, but the monitor input is through a HD15 plug. I've done a fair bit of google searching, but can't seem to come up with a solution. Is it possible to make such a connection? .....Bill Lafferty in Cooma, Australia

Re: HP 82163 video interface

*Message #2 Posted by **Eric Smith** on 22 Feb 2006, 6:53 p.m.,*
in response to message #1 by Bill Lafferty

The 82163A produces NTSC-rate video (or maybe PAL-rate, if there was a PAL version). This means that it has about 15.75 KHz horizontal sync, while most VGA monitors can't sync to less than about 31 KHz. Some VGA monitors can be damaged by out-of-spec signals; others simply won't work properly.

If you're sure your VGA monitor can handle signals that slow, you may be able to wire an adapter. If the monitor can handle sync-on-green, you can just wire the composite output to the green input of the monitor, and you'll get green text. But if it doesn't do sync on green, then you'll need a sync separator circuit (e.g. LM1881 and a few passives, and a power supply).

Are you sure you can't just find an old video monitor (non-VGA)?

Re: HP 82163 video interface

*Message #3 Posted by **Tony Duell** on 23 Feb 2006, 6:37 a.m.,*
in response to message #2 by Eric Smith

There was a PAL version. From what I remember from the service manual, the changes were to move one link (to select a different division ratio in the ASIC), a different clock crystal, and different components in the RF modulator.

Oh, and you got an adapter from an RCA phono socket to a Belling-Lee coaxial plug (the common TV aerial connector in Europe).

Re: HP 82163 video interface

*Message #4 Posted by **Vassilis Prevelakis** on 22 Feb 2006, 10:03 p.m.,*
in response to message #1 by Bill Lafferty

Look around for a video card with a composite video-in connector (like the ATi All-In-One card). Then you can plug in your HP 82163 to the composite in connector on the All-in-One card and see the picture on your PC screen.

The advantage of such cards is that they can be configured to sync to both PAL and NTSC signals, so you do not need to worry about the type of HP 82163 you have.

Apart from that, if your monitor does not have a composite video input connector (my Dell LCD flatpanel has one), then you are out of luck.

**vp

Re: HP 82163 video interface

*Message #5 Posted by **Bill Lafferty** on 23 Feb 2006, 4:27 a.m.,*
in response to message #1 by Bill Lafferty

Thanks for the input, looks like I've got a problem. Is it any easier to connect to a modern TV? .....Bill Lafferty

Re: HP 82163 video interface

*Message #6 Posted by **Tony Duell** on 23 Feb 2006, 6:38 a.m.,*
in response to message #5 by Bill Lafferty

If your TV (or VCR) has a composite video input (often a yellow-coloured RCA phono socket), you should just link that to the monitor (not RF) socket on the 82163.

Re: HP 82163 video interface

*Message #7 Posted by **Christoph Klug** on 24 Feb 2006, 3:18 a.m.,*
in response to message #6 by Tony Duell

I use the IL-video interface in combination with a small modern 7 inch LCD monitor which includes a composite video input.

For switching between NTSC and PAL you have to change an internal resistance inside the IL-video interface (as Tony Duell describes). Than the LCD monitor lock correctly to the (wrong) frequency - therefore it is not needed to change the internal crystal oszillator of the IL-video interface....

Best regards - Christoph Klug

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Re: HP-29C: another faulty calculator through eBay...

*Message #1 Posted by **David Smith** on 22 Feb 2006, 9:59 a.m.*

Dancing and flashing digits is NOT a typical ACT symptom. I've seen many 29C's with this problem. Most likely cause is a bad filter capacitor in the DC-DC converter inside the calculator.

Re: HP-29C: another faulty calculator through eBay...

*Message #2 Posted by **Andreas Terzis** on 22 Feb 2006, 4:38 p.m.,*
in response to message #1 by David Smith

Does anyone have any info about what Bram said below (harming the calc when using regular AA batteries)?

Re: HP-29C: another faulty calculator through eBay...

*Message #3 Posted by **Bram** on 23 Feb 2006, 4:01 a.m.,*
in response to message #2 by Andreas Terzis

It may have been a message in this forum; I cannot remember quite right.
On the other hand, here someone shares my experience that it didn't harm. As long as I haven't read a proof that the voltage difference between NiCds and alkalines (0.6 V) can or cannot harm, I don't take the risk (anymore).
It looks like you shouldn't worry about having applied alkalines though.

Re: HP-29C: another faulty calculator through eBay...

*Message #4 Posted by **Andreas Terzis** on 23 Feb 2006, 4:51 a.m.,*
in response to message #3 by Bram

Bram, I didn't understand. Did the alkalines have to be connected on one end as well? I am not sure how that solution worked. Can you please clarify? Thanks, Andreas

Re: HP-29C: another faulty calculator through eBay...

*Message #5 Posted by **Vassilis Prevelakis** on 23 Feb 2006, 7:06 a.m.,*
in response to message #4 by Andreas Terzis

since we are talking about series 2x calculators, here is a picture of the battery pack of my HP-21:

http://www.series80.org/Misc/HP21-bat-lr.jpg

you can see the two alcaline batteries. They are linked on the rear by the existing springs in the HP-21 pack. I had to remove the plastic strip on the top of the pack to allow easy access to the batteries.

**vp

Re: HP-29C: another faulty calculator through eBay...

*Message #6 Posted by **Bram** on 23 Feb 2006, 10:49 a.m.,*
in response to message #5 by Vassilis Prevelakis

Thank you, Vassilis. Clear picture.
I did exactly the same thing: remove the middle bar, take out the NiCd cells (little force needed) and put 2 alkalines back in. If you use the calculator often and frequently replace the batteries it may be handy to write big pluses and minuses at all proper places in the compartment, and fix the spring with a little piece of tape with 2 sticky sides ('double fix' as it is called in NL).
I have the impression that alkalines are a bit longer and often have a smaller "head". This may cause more tension to the circuit board, so I always put the pack in the calc very carefully.
But, as said before, I hold on to the safe NiCds nowadays.

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New source for programs

*Message #1 Posted by **Artur - Brasil** on 22 Feb 2006, 7:10 a.m.*

Hi!

I would like to present all you the new feature of my small site www.elibertas.com.br : a program's database. It is mostly dedicated to portuguese readers, but I would be very happy to receive programs and comments from everyone.

For giving me the pleasure of your visit, just go to: eLibertas

and click on Programas.

Best regards, Artur

Re: New source for programs

*Message #2 Posted by **Valentin Albillo** on 22 Feb 2006, 7:24 a.m.,*
in response to message #1 by Artur - Brasil

Hi, Artur

Nice idea but if you really want to have a sizable number of visits and inputs to your programs database, you really need to create an English version of your site.

Being a Spanish native, I do understand the texts at your site but frankly doubt that the vast majority of potential contributors would manage or find it comfortable or useful enough.

So I know it's a lot of work but ... English texts, descriptions and instructions would be mandatory. My own, much humbler web site is totally in English, I didn't even consider or care to produce an Spanish version.

Best regards from V.

This is not a bad idea ...

*Message #3 Posted by **Artur - Brasil** on 22 Feb 2006, 9:11 a.m.,*
in response to message #2 by Valentin Albillo

Ok, Valentin,

I have been planning a new site, but as you said, it is a lot of work ...

Best regards! Artur

Re: This is not a bad idea ...

*Message #4 Posted by **Valentin Albillo** on 22 Feb 2006, 9:46 a.m.,*

in response to message #3 by Artur - Brasil

Also, I would suggest you use a more substantial "sample" program for each featured model.

Counting upwards is certainly easy, but perhaps excessively so, plain boring, and doesn't reveal the machine's programming style.

May I suggest something still easy and understandable but, as stated, more substantial, let's say a program to compute and output prime numbers, from 2 or 3 upwards ...

This is still outright easy and makes a far better example.

Best regards from V.

Sample programs

*Message #5 Posted by **Artur - Brasil** on 22 Feb 2006, 1:07 p.m.,*
in response to message #4 by Valentin Albillo

Hey, very good observation. I just have to justicy my so simple examples: I was (ans still doing) fixing the pages and incrementing its facilities, like scrowlling the numbers while editing lines and other small erros. I hope I can count with your programs listed there, when you have sometime!

Best regards and I appreciated very much your interest! Artr

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What's the difference? (RPN/RPL)

*Message #1 Posted by **Han** on 22 Feb 2006, 1:43 a.m.*

Hm.. I've only used the HP48(S/SX/G/GX/G+), so bear with me. But what exactly are the differenced between RPN and RPL?

Re: What's the difference? (RPN/RPL)

*Message #2 Posted by **Andreas Terzis** on 22 Feb 2006, 2:16 a.m.,*
in response to message #1 by Han

Han,

If you only have calculators of the HP-48 series then fairly you don't know the difference between RPN and RPL. RPN (Reverse Polish Notation) was used by earlier calculators up to the HP-18C or the HP-28C. RPL (Reverse Polish Lisp) is used in your calculator.

One of their main differences is that RPN uses a four-level stack with a fifth element being the LastX number used for intermediate calculations, when RPL uses a stack that has an depth that is dictated by memory only; in other words you can store multiple elements in the stack, limited only by the available memory, and use them for calculations.

Another difference is that RPN doesn't use a completely postfix notation - where you put the numbers in your stack first and then you perform the calculations (2 ENTER 5 +). In a lot of instances you use a prefix notation for functions, e.g. 7 STO 00, where you store the number 7 in register 00. In RPL you would store everything to the stack first and then perform operations on those objects, so the STO command would appear last. It is kind of a strict postfix notation language.

For more on this, you can check some excellent literature on the HP Museum like:

Link to RPN article, Link to RPL article.

I hope I summarized some of the differences correctly for you here. Andreas

Edited: 22 Feb 2006, 2:17 a.m.

Re: What's the difference? (RPN/RPL)

*Message #3 Posted by **Garth Wilson** on 22 Feb 2006, 3:10 a.m.,*
in response to message #2 by Andreas Terzis

As one who has never used or paid much attention to RPL myself, perhaps I can ask further, for the original poster. I understand RPL has strict program structures with no GOTO and, I assume, no labels either; and further, that an RPL program is compiled from text source code instead of being keyed directly in like you would do on an RPN programmable calc. I expect that variables can have names, and that you can probably make different kinds of variables, arrays, and data structures. Is this all correct? Does it compile "words" into a dictionary like Forth does? Perhaps these will bring to mind other things about it to

describe briefly as well.

Re: What's the difference? (RPN/RPL)

*Message #4 Posted by **Marcus von Cube, Germany** on 22 Feb 2006, 3:20 a.m.,*
in response to message #3 by Garth Wilson

> Quote:
>
> Does it compile "words" into a dictionary like Forth does?

An RPL program is an object that can reside on the stack or in a named variable. Once there, it can be 'evaluated'. Evaluating a variable is performed by just using its name. In that sense, an RPL program stored in a variable becomes part of the language.

I guess that's very similar to Forth.

Marcus

Re: What's the difference? (RPN/RPL)

*Message #5 Posted by **Geir Isene** on 22 Feb 2006, 6:31 a.m.,*
in response to message #4 by Marcus von Cube, Germany

> Quote:
>
> I guess that's very similar to Forth.

Except the interactivity of the Forth environment is lost (which IMHO is one of the beauties of Forth and is one of the reasons why RPL is indeed inferior to Forth.)

Re: What's the difference? (RPN/RPL)

*Message #6 Posted by **James M. Prange (Michigan)** on 22 Feb 2006, 11:34 p.m.,*
in response to message #3 by Garth Wilson

> Quote:
>
> As one who has never used or paid much attention to RPL myself, perhaps I can ask further, for the original poster. I understand RPL has strict program structures with no GOTO and, I assume, no labels either;

True, and no GOSUB either, thus indeed no use for labels.

But subprograms can be placed and manipulated on the stack and evaluated by the EVAL command, or stored as global variables and evaluated by name, or stored as local variables and evaluated by name followed by EVAL.

> Quote:
>
> and further, that an RPL program is compiled from text source code instead of being keyed directly in like you would do on an RPN programmable calc.

??? Well, ordinarily, I do key a program directly into the command line, within << and >> UserRPL program delimiters. Of course, you can always write a program (or most other object types) as source code in a text editor and transfer it to the calculator. If I happen to be at my PC, I'm more likely to use the larger screen and QWERTY keyboard to write all but the simplest programs. But for "real work", I'm not likely to be at my PC when I want to write an "ad hoc" program.

There are different ways to get the "words" into the command line editor; some can be placed there simply by pressing a primary or shifted key, most of the rest by pressing a menu key, and you can always just go into ALPHA mode and type out the command name. Personally, unless I know that I'm going to be using several commands from the same one or two menus, I normally just type out the command names instead of navigating through the menus.

In the 28 series, all of the commands are available through the CATALOG operation, and similarly, the 49 series has the CAT operation. These are perhaps best used if you don't remember the exact spelling of a command.

ENTER (or implicit ENTER) parses the command line, and assuming no syntax error, compiles it to a "secondary" (a SysRPL program) containing the object(s), and then executes it. In the case of a UserRPL program, we enclose the program within the << and >> delimiters, so "execution" simply places the UserRPL program on the stack, and it's decompiled for the stack display. To evaluate ("run") the program, you can use the EVAL command. Or with the program and a name on the stack, you can store them as a named global variable, in which case, executing the variable's name evaluates the program.

For that matter, you can write the object's source code, followed by the global name and the STO command, all in the command line, and then press ENTER to have them stored as a global variable without ever seeing them on the stack.

"Vectored ENTER" allows you to take additional actions before and/or after actually executing the command line.

Note that storing objects by name effectively extends the language for that particular calculator, and on all but the 28C, you can store quite a lot.

Note that RPL doesn't have "PROGRAM" and "RUN" modes. Perhaps the closest you can come to those is switching between "immediate", "PRG", "ALG", and "ALG PRG" entry modes, and "quoting" source code with delimiters for delayed execution.

You can write your source code within a character string, thus preserving all of your formatting and comments, and later "execute" the string with the STR\-> command, if you prefer.

> Quote:
>
> I expect that variables can have names,

Of course; an RPL "variable" amounts to a "named object". But there are some restrictions to names. For example, a global name can't duplicate a built-in "key word", or start with a numeric character, can't contain mathematical symbols, such as +, -, *, /, ^, <, and so on, can't contain any delimiter or separator character, and is limited to 127 characters. Note that in the 49 series, some of the restrictions are ignored by the Filer's "RENAME" operation and the S~N command in the "hacker's menu", but the "invalid" names can cause problems. Local names have fewer restrictions; for example, they can indeed duplicate built-in key words.

> Quote:

> and that you can probably make different kinds of variables,

Well, variables are either global or local, stored with a global or local name type object. A stored directory might be considered a sort of global variable, stored with a global name, that may contain other global variables. Global variables are stored until the user purges them. Local variables are stored in a local environment that exists only until the "defining procedure" (a program or algebraic object) is finished.

> Quote:
>
> arrays, and data structures.

There are various types of objects, depending on the model.

In the 28 series, the "user" object types are real number, complex number, character string, real array, complex array, list, global name, local name, program, algebraic object, and (user) binary integer. Of course the 28S can have directories, but you can't put a directory "on the stack" in that model.

The 48 series adds graphic object, tagged object, unit object, XLIB name, directory, library, backup object, built-in function, and built-in command to the "user" objects.

The 49 series adds user types (exact) integer, mini-font, symbolic array, and font.

There are also various "system" object types that the user wouldn't ordinarily see, such as system binary, extended real, extended complex, linked array, character object, code object, library data, and external objects.

Note that SysRPL uses different terminology for the object types.

> Quote:
>
> Is this all correct?

Well, I hope that I'm correcting any misconceptions.

> Quote:
>
> Does it compile "words" into a dictionary like Forth does? Perhaps these will bring to mind other things about it to describe briefly as well.

I'm not familiar with Forth.

RPL compiles "words" (source code) into "objects". Certain "built-in" objects are compiled simply as 5-nibble addresses, other than that, each object starts with a "prologue address" (usually referred to simply as the "prologue"), which is a 5-nibble pointer to the actual prologue, the code responsible for handling the particular type of object. Some object types contain information on the length of the object, or information that can be used to compute the length. Lists, programs, algebraic objects, unit objects, and symbolic matrices use the system object SEMI as a closing delimiter.

Note well that RPL never stores source code as such; the closest you can come to that is to force it to compile it as a character string object. For display, Kermit "ASCII" transfer, printing "via wire", and the \->STR command, objects are decompiled. But note that the object types library, backup object, mini-font, and font can't be decompiled by these methods.

Actually, having an object "on the stack" is a bit of indirection. The stack is really a stack of 5-nibble pointers to objects that exist elsewhere in memory, which are decompiled as needed for display. So the stack manipulation commands don't deal with objects per se, rather simply with 5-nibble pointers.

Note that an "algebraic object" could be regarded as a special kind of program. It's entered in algebraic syntax between single-quotation mark characters as the source code delimiters. It has its own prologue, but other than that it's compiled as an RPN sequence with SEMI as the closing object delimiter. For display and so on, it's decompiled to algebraic syntax. Of course, it can't use all of the "commands", only the "functions". That said, you can often write your own "user-defined functions", which can then be used within algebraic objects. All algebraic objects can be re-written as programs, but not all programs can be re-written as algebraic objects.

Regards,
James

Re: What's the difference? (RPN/RPL)

*Message #7 Posted by **Eddie Shore** on 26 Feb 2006, 11:23 a.m.,*
in response to message #6 by James M. Prange (Michigan)

It does take some getting use to without having LBL and GTO commands to work with. The << sub program >> 'TEMPVAR' STO then TEMPVAR EVAL works.

Re: What's the difference? (RPN/RPL)

*Message #8 Posted by **James M. Prange (Michigan)** on 27 Feb 2006, 5:10 p.m.,*
in response to message #7 by Eddie Shore

> Quote:
>
> It does take some getting use to without having LBL and GTO commands to work with.

Okay, I accept that for someone who's always had these available, learning to work without them may very well be difficult to get used to.

> Quote:
>
> The << sub program >> 'TEMPVAR' STO then TEMPVAR EVAL works.

Using subprograms in RPL is more like using GOSUBs in other languages, or in the case of named subprograms, rather like a CALL in some other languages. More likely substitutes for GOTOs would be conditional and looping program structures.

Unless a local variable named 'TEMPVAR' already exists,

```
<< sub program >> 'TEMPVAR' STO
```

makes a global variable. This makes sense if the intent is to make a utility program that will be called by various other programs, but isn't so good if the intent is to make a subprogram to be used more than once in a single program. For one thing, resolving a global name generally takes longer than resolving a local name or leaving the subprogram on the stack and using stack manipulation commands, and probably more importantly, the global variable will overwrite any global variable named 'TEMPVAR' in the current directory, and will be stored in the current

directory until the user purges it.

With the subprogram stored in a global variable, executing its unquoted name, TEMPVAR, evaluates whatever's stored in the variable, so the EVAL is probably unneeded, although that depends on what evaluating << sub program >> returns.

We could do something like:

```
<<                      @ Begin program.
  << subprogram >>      @ Place the subprogram on the stack.
  'TEMPVAR'             @ Place the name on the stack.
  STO                   @ Store them as a global variable.
  ...                   @ Do some stuff.
  TEMPVAR               @ Evaluate subprogram.
  ...                   @ Do some more stuff.
  TEMPVAR               @ Evaluate subprogram.
  ...                   @ Do yet more stuff.
  TEMPVAR               @ Evaluate subprogram.
  'TEMPVAR'             @ Place the name on the stack.
  PURGE                 @ Discard the global variable.
  ...                   @ Finish up.
>>                      @ End program.
```

But that leaves the possibility of inadvertently purging an already existing variable named 'TEMPVAR', and of course it assumes that the program doesn't change directories.

We could make a utility program using argument checking and the SysRPL CREATE command as a variation on the UserRPL STO command. Given any object on level 2 and a global name on level 1, CREATE creates a new global variable at the beginning of the current directory, even if a same-named variable already exists in the directory. This would have the advantage of not overwriting anything, and since it would be at the beginning of the current directory, it would be resolved quickly. Of course, this assumes that the program doesn't change directories. As long as the variable exists, any same-named variable in the directory will be inaccessible. The variable will still be stored until the user purges it.

For a subprogram, I suggest using a local variable structure instead, such as:

```
<<                      @ Begin program.
  << subprogram >>      @ Place the subprogram on the stack.
  -> p                  @ Bind it in a local variable.
  <<                    @ Begin the defining procedure.
    ...                 @ Do some stuff.
    p                   @ Place the subprogram on the stack.
    EVAL                @ Evaluate subprogram.
    ...                 @ Do some more stuff.
    p                   @ Place the subprogram on the stack.
    EVAL                @ Evaluate subprogram.
    ...                 @ Do yet more stuff.
    p                   @ Place the subprogram on the stack.
    EVAL                @ Evaluate subprogram.
    ...                 @ Finish up.
  >>                    @ Abandon the local variable.
>>                      @ End program.
```

Of course, while a local variable named 'p' exists, nothing else named 'p' is accessible. Using the local variable has the advantage that creating it won't overwrite any already existing variable, and that it will be automatically discarded when its defining procedure ends.

Another approach is to leave the subprogram on the stack and use the stack manipulation commands, such as the following:

```
<<                      @ Begin program.
  << subprogram >>      @ Place the subprogram on the stack.
  ...                   @ Do some stuff.
  a PICK                @ Copy subprogram from level a to level 1.
    EVAL                @ Evaluate subprogram.
  ...                   @ Do some more stuff.
```

```
  b PICK                  @ Copy subprogram from level b to level 1.
    EVAL                  @ Evaluate subprogram.
  ...                     @ Do yet more stuff.
  c ROLL                  @ Move subprogram from level c to level 1.
    EVAL                  @ Evaluate subprogram.
  ...                     @ Finish up.
>>                        @ End program.
```

In the above, *a* PICK or *b* PICK could be some other command in the PICK family, such as DUP, OVER, or (in the 49 series) PICK3, and *c* ROLL could be some other command in the ROLL family, such as SWAP or ROT. This approach may well be a bit faster and/or smaller, but requires the user to keep track of which level the subprogram is in.

Regards,
James

Resourceful-Proficient-Natural vs. Re-Pe-Lent :-)

*Message #9 Posted by **Valentin Albillo** on 22 Feb 2006, 11:28 a.m.,*
in response to message #1 by Han

Best regards from V.

Literature suggestions (was: What's the difference? (RPN/RPL))

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 23 Feb 2006, 2:48 a.m.,*
in response to message #1 by Han

Hi Han, all;

Bill Wickes' `HP41/HP48 Transitions` is one of the most concise sources of information for this very subject. Also, the single-volume version of the HP48 Owner's Manual (mine is January 1993 print, Edition 3) has an additional appendix comparing the HP48S/SX and the HP41. Sometime ago I digitized and converted it to a typeset PDF, available through this link. It's worth reading, only seven pages long.

Cheers.

Luiz (Brazil)

Edited: 23 Feb 2006, 2:49 a.m.

Re: Literature suggestions (was: What's the difference? (RPN/RPL))

*Message #11 Posted by **James M. Prange (Michigan)** on 23 Feb 2006, 10:01 p.m.,*
in response to message #10 by Vieira, Luiz C. (Brazil)

> Quote:
>
> Bill Wickes' `HP41/HP48 Transitions` is one of the most concise sources of information for this very subject.

Note that this book, along with his *Insights* books for the 28 and 48 series, is available on the Museum CD set / DVD. See: http://www.hpmuseum.org/cd/cddesc.htm.

Regards,
James

Re: Literature suggestions (was: What's the difference? (RPN/RPL))

*Message #12 Posted by **Han** on 23 Feb 2006, 10:25 p.m.,*
in response to message #11 by James M. Prange (Michigan)

Luiz and James,

Thanks for the links to the information!

Han

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HP-29C: another faulty calculator through eBay...

*Message #1 Posted by **Andreas Terzis** on 21 Feb 2006, 11:38 p.m.*

I just received another calculator through eBay, HP-29C this time, and it doesn't work. The seller claimed it needs a new battery pack. I instead plugged new alkaline batteries in and I got all sorts of fancy shows from the LED segments. Is it that AA alkalines don't work on the machine or that there are way too many crooks out there?

Re: HP-29C: another faulty calculator through eBay...

*Message #2 Posted by **Han** on 22 Feb 2006, 1:44 a.m.,*
in response to message #1 by Andreas Terzis

Can you not return it?

Re: HP-29C: another faulty calculator through eBay...

*Message #3 Posted by **Andreas Terzis** on 22 Feb 2006, 1:58 a.m.,*
in response to message #2 by Han

I haven't asked the seller yet but he mentioned on his ad that he won't accept returns. He mentioned that the calculator needs a new battery pack, but it should work with regular alkaline AA's, right? Maybe I should use that as my defense since the problem is not the battery pack or the power source.

Re: HP-29C: another faulty calculator through eBay...

*Message #4 Posted by **John Garza (3665)** on 22 Feb 2006, 2:08 a.m.,*
in response to message #1 by Andreas Terzis

Beware the ebay hucksters. When possible, buy from people who actually owned the product and know something about it. There are many businesses / pseudo-businesses on ebay now that are clueless about what they sell. They are usually easy to spot..."when powered, the unit lights up but I don't have the (disk,terminal,speaker,expertise,time,whatever) to test it further". With calcs it's more along the lines of "don't have a battery pack" Yeah, right. Batt packs are cheap to buy (on ebay), and cheaper to build yourself. If the calc owner never bothered with this it should tell you something.

Re: HP-29C: another faulty calculator through eBay...

*Message #5 Posted by **Andreas Terzis** on 22 Feb 2006, 2:23 a.m.,*
in response to message #4 by John Garza (3665)

John, That's very insightful. I'm learning the hard way unfortunately. I guess one avenue I have right now is to at least send the non-working items to FixThatCalc, WaterHosko or any of the other repair places mentioned on the Repair page. Thanks, Andreas

Re: HP-29C: another faulty calculator through eBay...

*Message #6 Posted by **Bram** on 22 Feb 2006, 4:23 a.m.,*

in response to message #1 by Andreas Terzis

> Quote:
>
> Is it that AA alkalines don't work on the machine or

I myself have been using AA batteries in both my HP-21 and HP-29C, but I stopped this habit since I read somewhere that it *might* harm the calc, although in my case it fortunately didn't. Ever since I only apply seperatedly recharged rechargables.

Still I think your device shouldn't react to batteries the way it does.

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Sample problems to evaluate RPL vs. RPN "objectively"

*Message #1 Posted by **Gene** on 21 Feb 2006, 5:20 p.m.*

I'd like to ask for input from our community here to see if there are some sample problems we could pose that would allow us to evaluate the effectiveness and efficiency of RPL vs. 4-level stack RPN.

For example, suppose we said one of the problems was to compute the roots to a quadratic equation given a, b, and c in the stack.

I'd like to see the RPN approach and the RPL approach to see if they can be remotely objectively evaluated for clarity, efficiency, and general usefulness to the average (NOTE THAT) user. :-)

I know that this is not a good sample problem given the built in quadratic function on the 49g+, but I'd like to see if any here have ideas for good sample problems.

It might be that we should have a set of problems that are RPN masterpieces vs. those that are easy to do in RPL but not RPN.

Thoughts? Gene

Re: Sample problems to evaluate RPL vs. RPN "objectively"

*Message #2 Posted by **Howard Owen** on 21 Feb 2006, 6:25 p.m.,*
in response to message #1 by Gene

I think it is interesting that you are asking the question. 8)

Edited: 21 Feb 2006, 6:26 p.m.

Re: Sample problems to evaluate RPL vs. RPN "objectively"

*Message #3 Posted by **Gerson W. Barbosa** on 21 Feb 2006, 7:54 p.m.,*
in response to message #1 by Gene

Hi Gene,

I fear the example below for the HP-15C is not what you'd expect because an RPN (or RPL) program using only the stack is far from meeting the 'clarify' requirement. Nevertheless, I think it meets the 'efficiency' requirement. Well, it is hard to have both.

Furthermore, the HP-15C is an exceptional calculator. Perhaps I should have written an HP-11C version (or even an HP-12C one!). That's one of the programs that are written in the last blank pages of my HP-15C manual. I wrote it in 1984 when I knew RPN even less than I know today.

The RPL version would be straightforward and quite easy to read.

Regards,

Gerson.

```
001-  f LBL E
002-  g CF 8         ; complex mode off
003-    4
004-    *
005-  g R^
006-    *
007-    CHS
008-    x<>y
009-    ENTER
010-    Rv
011-  g x^2
012-    +
013-  g TEST 2       ; x<0
014-  g SF 8         ; if delta <0 then set complex mode on
015-    SQRT
016-  g R^
017-    +
018-    2
019-    /
020-    x<>y
021-    ENTER
022-    Rv
023-    /
024-    1
025-    CHS
026-    *
027-    ENTER
028-  g R^
029-  g R^
030-    x<>y
031-    /
032-    +
033-    1
034-    CHS
035-    *
036-  g RTN
```

Assuming a, b and c in the stack, after running the program the stack will contain x1 and x2. Steps 24, 26, 33 and 35 are only necessary because CHS in complex mode does not change the sign of the argument (a bug or because of a reason unknown to me?). To achieve this it is necessary to multiply the argument by -1. The user will know the roots are complex because of the 'C' indicator.

Re: Sample problems to evaluate RPL vs. RPN "objectively"

*Message #4 Posted by **Palmer O. Hanson, Jr.** on 21 Feb 2006, 10:52 p.m.,*
in response to message #3 by Gerson W. Barbosa

I think that we need to agree on what "effectivenss" and "efficiency" mean and how we separate out the characteristics of the machine from the characteristics of the algorithm. For example, pages 205ff of the *HP-15C Advanced Functions Handbook* defines the quadratic as c -2bz + + az^2 = 0 which allows some efficiency in calculation at the cost of defining a quadratic in a way which is different from the traditional way. For effectivness the 39 step routine on pages 205-206 of the *HP-15C Advanced Fuynctions Handbook* uses a different algorithm which avoids destructive cancellation for difficult problems.

What if you used the old Mach Number problem?

Re: Sample problems to evaluate RPL vs. RPN "objectively"

*Message #5 Posted by **Gerson W. Barbosa** on 22 Feb 2006, 8:18 a.m.,*
in response to message #4 by Palmer O. Hanson, Jr.

You are right. I remember I saw the quadradic solver on the HP-15C Advanced Functions Handbook mentioned here some time ago and how it handled difficult examples. Too bad at the time the

complementary handbook was not available here, neither was it available in Portuguese I think. I need to remember to have the 15C Advanced Functions on the Museum DVD printed out.

The difference between "effectiveness" and "efficiency" is something I still have to learn. I was asked this at least a couple of times at college but I never remember the subtleties. ('Eficiência' vs. 'Eficácia' - Prof. Vieira?)

Re: Sample problems to evaluate RPL vs. RPN "objectively"

*Message #6 Posted by **Valentin Albillo** on 22 Feb 2006, 7:57 a.m.,*
in response to message #3 by Gerson W. Barbosa

Hi, Gerson:

Gerson posted:

"[...] CHS in complex mode does not change the sign of the argument (a bug or because of a reason unknown to me?)."

> More the latter than the former. Have a look at pp 124-125, ***"Changing Signs"*** of ***Section 11: "Calculating With Complex Numbers"*** of the ***HP-15C Owner's Handbook*** where your "bug" is discussed in gory detail.

There's an acronym for this, IIRC, something like **RTFM** ... :-)

Best regards from V.

Re: Sample problems to evaluate RPL vs. RPN "objectively"

*Message #7 Posted by **Gerson W. Barbosa** on 22 Feb 2006, 10:35 a.m.,*
in response to message #6 by Valentin Albillo

Hi Valentin,

Yes, as I have recognized in an earlier post, I should have read the other handbook. But, in this case, the answer seems to be in the standard manual. I have surely read this section already, I just may have forgotten about the content.

Anyway, there's no problem in reminding me this: I always translate **RTFM** as *Read the **Fine** Manual*, which, in the case of HP manuals, is always true! :-)

Best regards,

Gerson.

Re: Sample problems to evaluate RPL vs. RPN "objectively"

*Message #8 Posted by **Valentin Albillo** on 22 Feb 2006, 10:39 a.m.,*
in response to message #7 by Gerson W. Barbosa

Hi again, Gerson:

Gerson posted:

"I always translate RTFM as Read the Fine Manual"

Of course, of course ! Is there any other way to translate this !? **;-)**

Best regards from V.

Re: Sample problems to evaluate RPL vs. RPN "objectively"

*Message #9 Posted by **Les Bell** on 21 Feb 2006, 7:59 p.m.,*
in response to message #1 by Gene

The one that interests me, and I've been trying to find time to write up, is section 9-6 of "The Feynman Lectures on Physics". This is simply a numerical solution of a first-order differential equation (mass on spring) and produces Table 9-1, which lists displacement, velocity and acceleration against time.

I've done it on the 41, and I've done it in Perl. I haven't had time to tackle it on the 48 yet - at least, numerically/programmatically. On the other hand, I was able to enter the equation into the differential equation solver on the 48, and get a nice graph, too.

Which method is better probably depends on why you are solving the problem. The goal might be a numerical solution to the problem, or it might be to develop some intuition as to what is going on in the physical system.

Which approach works better for which goal is left as an exercise for the reader.

;)

Best,

--- Les
[http://www.lesbell.com.au]

Re: Sample problems to evaluate RPL vs. RPN "objectively"

*Message #10 Posted by **James M. Prange (Michigan)** on 21 Feb 2006, 10:25 p.m.,*
in response to message #1 by Gene

Does this "average" user ordinarily use Classic RPN, or RPL, or perhaps neither?

Regards,
James

Re: Sample problems to evaluate RPL vs. RPN "objectively"

*Message #11 Posted by **Gene Wright** on 21 Feb 2006, 10:43 p.m.,*
in response to message #10 by James M. Prange (Michigan)

Well, "average" user is tough to define.

I can write/use 4-level RPN and RPL, but there are times when I'm much happier using a normal RPN machine than an RPL one.

So, I'm just wondering if we can come up with some sample problems that really, really point out the differences between them.

What are some areas where the 4-level stack / classic RPN really shows off?

What are some areas/problems where the RPL system would be very difficult to do in the 4-level stack.

We can argue about it all day, but I'm wondering if we can come up with some good illustrations to help.

Evaluating RPL vs. RPN: Area between two curves

*Message #12 Posted by **Karl Schneider** on 22 Feb 2006, 2:01 a.m.,*
in response to message #1 by Gene

Hello, Gene --

A very illustrative example, IMO, was discussed two years ago:

Area between two curves

This problem was revisited in a stupendously lengthy thread that ran during November 2005 in Archive #15.

Regards,

-- KS

Edited: 22 Feb 2006, 9:39 p.m.

Re: Sample problems to evaluate RPL vs. RPN "objectively"

*Message #13 Posted by **Thomas Radtke** on 22 Feb 2006, 3:27 a.m.,*
in response to message #1 by Gene

> Quote:
>
> I'd like to ask for input from our community here to see if there are some sample problems we could pose that would allow us to evaluate the effectiveness and efficiency of RPL vs. 4-level stack RPN.

I have a very simple example: Add I% interest of A to A (=A(1+I%)). That is on RPN

A
ENTER
I
%
+

while on RPL, it is required to do something like

A
ENTER
ENTER
I
%
+

See? You save one keypress, that is nearly 17% of the total work. If you do nothing else 8 hours a workday, you save more than one hour per day. Clearly, this shows the superiority of RPN;).

Thomas

Re: Sample problems to evaluate RPL vs. RPN "objectively"

*Message #14 Posted by **Palmer O. Hanson, Jr.** on 22 Feb 2006, 4:08 a.m.,*
in response to message #13 by Thomas Radtke

The interest problem is a terrible example. It says that if you are a key punch operator then RPN is clearly the way to go. What if you are an engineer?

Re: Sample problems to evaluate RPL vs. RPN "objectively"

*Message #15 Posted by **Thomas Radtke** on 22 Feb 2006, 9:30 a.m.,*
in response to message #14 by Palmer O. Hanson, Jr.

> Quote:
>
> What if you are an engineer?

Then I would have the insight that Q=1+I% can easily be calculated in mind and end up with typing

A
ENTER
Q
*

which works on both systems and is not only as much as effective but also highly efficient;P.

(My post was probably not the most serious response to Gene's request, sorry for that:).

Thomas

Re: Sample problems to evaluate RPL vs. RPN "objectively"

*Message #16 Posted by **Han** on 22 Feb 2006, 2:39 p.m.,*
in response to message #13 by Thomas Radtke

I only recently read about the differences between RPN and RPL (and by no stretch am an expert in either). I think that the example below is not quite 'objective' enough. For one, not all calculators have a key dedicated to the % operation. On some implementations of RPL (for example, the HP48 series), there are commands that are accessed via menus.

Taking a look at just the keyboard layout of the 41C (I've never used one myself), I do not see a % operation there. Presumably, this is accessible either by menu or catalog of some sort. Likewise, the DUP command on an HP48 can be accessed via the stack operations menu. Thus A ENTER ENTER I % + could easily be A DUP I % + where DUP is from the menu key. Comparisons in terms of the number of keystrokes (because this will be highly dependent on the keyboard layouts of the implementations of RPN and RPL) might not be the most fair comparison. In fact, comparing RPN on one machine with RPN on a different machine may produce a different number of keystrokes.

Also, when doing routine calculations, we're more likely to write a program to do the repetitive tasks.

> Quote:
>
> I have a very simple example: Add I% interest of A to A (=A(1+I%)). That is on RPN
>
> A

ENTER
I
%
+

while on RPL, it is required to do something like

A
ENTER
ENTER
I
%
+

See? You save one keypress, that is nearly 17% of the total work. If you do nothing else 8 hours a workday, you save more than one hour per day. Clearly, this shows the superiority of RPN;).

Thomas

Edited: 22 Feb 2006, 2:43 p.m.

Re: Sample problems to evaluate RPL vs. RPN "objectively"

*Message #17 Posted by **Massimo Gnerucci (Italy)** on 22 Feb 2006, 11:32 p.m.,*
in response to message #16 by Han

> Quote:
>
> Taking a look at just the keyboard layout of the 41C (I've never used one myself), I do not see a % operation there.

[shift]Rolldown *(G key)*

Greetings,
Massimo

Re: Sample problems to evaluate RPL vs. RPN "objectively"

*Message #18 Posted by **Thomas Radtke** on 23 Feb 2006, 4:08 a.m.,*
in response to message #16 by Han

> Quote:
>
> For one, not all calculators have a key dedicated to the % operation. On some implementations of RPL (for example, the HP48 series), there are commands that are accessed via menus.

In that case, the function key to which % is assigned to becomes functionally a % key, right?

> Quote:

> Likewise, the DUP command on an HP48 can be accessed via the stack operations menu.

That would mean to switch between stack and math/real menus all the time. Effective but not very efficient:).

> Quote:
>
> Also, when doing routine calculations, we're more likely to write a program to do the repetitive tasks.

I dare to say that you can overcome nearly any shortcoming of one of the systems by programming a handy shortcut. But you actually have to do this and you have to take that work into account when estimating something like 'efficiency'.

Thomas

Re: Sample problems to evaluate RPL vs. RPN "objectively"

*Message #19 Posted by **Valentin Albillo** on 22 Feb 2006, 6:48 a.m.,*
in response to message #1 by Gene

Hi, Gene:

Gene posted:

"I'd like to ask for input from our community here to see if there are some sample problems we could pose that would allow us to evaluate the effectiveness and efficiency of RPL vs. 4-level stack RPN."

> Though interesting, I'd say this is an exercise in futility, because the RPN vs. RPL topic, which has been discussed *ad nauseam*, probably belongs to the same class as politics, religion, nationality, local mores, etc. The ones who idolize one will despise the other no matter how many examples you care to provide or no matter how rationally you want to discuss the subject, and you're certain to make no converts no matter how good your arguments. For each example favorable to one of them, someone will provide an example favorable to the other, and at the end we all will agree to disagree, if at that.

"For example, suppose we said one of the problems was to compute the roots to a quadratic equation given a, b, and c in the stack. I'd like to see the RPN approach and the RPL approach to see if they can be remotely objectively evaluated for clarity, efficiency, and general usefulness to the average (NOTE THAT) user. :-)"

> Actually, irrelevant. The average user would be best served by the simple HP-71B version (or any vintage SHARP handheld for that matter)
>
> ```
> D=SQR(B*B-4*A*C) @ (-B+D)/2/A, (-B-D)/2/A
> ```
>
> which can run rings around any RPN or RPL version in terms of efficiency and simplicity, requires no mental conversion, and requires no programming, just a command-line statement.
>
> Anyway, if you still insist in comparing a once useful but now obsolete system to perform calculations to an aberrant, obfuscated system to do the same, you should focus in programs which show off their differences to the best. For instance, if you want to highlight RPN, you must seek examples which:
>
> - Make good use of automatic stack replication, i.e., T is replicated whenever the stack drops. A great example for this would be arbitrary (and *not* specified in advance!) degree polynomial evaluation.

- Make good use of the fact that the stack is always 4 registers deep so it's *never* 'nonexistent'.
- Make good use of LASTX and register arithmetic and manipulations directly or indirectly upon stack registers (STO+Y, STO-L, RCL Z, RCL IND ST T, X<> IND ST L, XEQ IND ST X, etc). A good example would be performing complex number multiplication directly on the stack, as well as converting numeric values in the ALPHA register to their full equivalent numeric value in X, just using the stack.
- Make good use of numerically addressed registers, specially in combination with register arithmetic and indirection.
- In the case of the HP42S, make good use of the fact that the whole numerically addressable register set can be dealt with *en masse* as a matrix variable, so you can have multiple sets of independent numerically addressable register banks and the possibilities are almost limitless. A good example for this would be to provide recursion in a simple way, as well as working with any number of matrices simultaneously.

etc, etc, etc. I'm glad if any of these comments of mine can be of any help to your quest, but for the reasons mentioned at the beginning, I wouldn't waste much time on this.

Best regards from V.

Edited: 22 Feb 2006, 6:59 a.m.

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10B Blue

*Message #1 Posted by **Don** on 21 Feb 2006, 3:19 p.m.*

I just got an HP 10B (not 10B11) off E-Bay. It has the blue shift key and all shift-function lettering is in blue. Serial # is 1D03309585 (made in Indonesia). What is the story on this particualr model? Thought I could figure out manufacture date with serial number, but cannot. Would appreciate any information.

Best wishes

Don

Re: 10B Blue and calculating contrast "scores"

*Message #2 Posted by **gene** on 21 Feb 2006, 4:33 p.m.,*
in response to message #1 by Don

Hi. I believe it's actually a "teal green" rather than a blue as such.

Either way, it is a ghastly horrible color scheme combination that is one of the worst HP ever offered. Who on earth thought this would be a good idea?

It had one of the lowest scores of any contrast scheme HP has ever produced. This was discussed (by me) at the HHC2004 gathering in San Jose.

Link to that presentation:

http://www.pahhc.org/2004/HHC2004/Calculating%20_Contrast.pdf

It was a change made to the 10B color scheme within the last year or so of the original HP10B lifetime. The HP10B was then replaced by the HP10BII.

It's actually somewhat rare.

A similar horrible change was made to the HP32SII around this time as well.

Re: 10B Blue and calculating contrast "scores"

*Message #3 Posted by **Geir Isene** on 21 Feb 2006, 4:55 p.m.,*
in response to message #2 by gene

Wow, Gene.

This is a very impressive presentation. Clear. Concise. Solution oriented. I learned a good deal from this one.

Re: 10B Blue and calculating contrast "scores"

*Message #4 Posted by **gene** on 21 Feb 2006, 5:11 p.m.,*
in response to message #3 by Geir Isene

Well, there was a lot I learned from giving it.

It was just an idea I had - to compare contrast as the distance formula, just using an XYZ (RGB) score for each color and computing the distance. Greater distance = better contrast.

Of course, it's not quite that simple, but it certainly is a good place to start. It certainly appears that ALL bad color choices HP has made in the past fail my ~200 score requirement on this test.

If only they had asked. :-)

/commercial

There are many such presentations made at the annual HHC gatherings. If individuals here can attend an HHC meeting, they will find a great group of people and we all learn something. Sometimes, we even get to see toys from HP before they go public. Even better, sometimes we receive toys from HP just for attending.

The next HHC will be in mid-September 2006. Stay tuned!

/commercial off

:-)

Re: 10B Blue and calculating contrast "scores"

*Message #5 Posted by **Don** on 21 Feb 2006, 7:16 p.m.,*
in response to message #2 by gene

Hi Gene;

You are right about the contrast....I have an ordinary 10B and my blue or teal 10B sitting next to each other late in the afternoon and the teal is nearly impossible to read. Actually it is totally impossible to read. Thanks so much for the response. Am glad to know this isn't just another knockoff. Your presentation was very impressive.

Best wishes

Don

Re: 10B Blue and calculating contrast "scores"

*Message #6 Posted by **Karl Schneider** on 22 Feb 2006, 2:46 a.m.,*
in response to message #2 by gene

Gene --

That presentation was a good way to help quantify the principles of good, contrasting colors. The centered yellow-on-dark-faceplate and blue-on-beveled-dark-key scheme utilized by the HP-41, the Voyager series, and the HP-71B was perfection that should never have been tampered with. The blue also suited the light-colored keys on the 71B.

Yellow and blue side-by-side on a dark faceplate also worked well for the HP-34C, HP-20S, HP-21S, and HP-32SII -- until those got replaced by goofy "designer" colors.

Regarding color blindness: I've known that I am color-vision deficient -- probably a carryover from my red/blue colorblind grandfather. I've seen those colored-circle charts before, and the only number I see clearly is the "56" in the middle one.

-- KS

Re: 10B Blue and calculating contrast "scores"

*Message #7 Posted by **John Limpert** on 22 Feb 2006, 11:49 a.m.,*
in response to message #2 by gene

I'd suggest that you take into account the color sensitivity of the human eye. The eye is most sensitive to yellow-green and relatively insensitive to blue. This makes blue legends more difficult to read than might be predicted by models that assume a flat frequency response.

See http://www.amastro.org/at/ot/othcs.html.

Re: 10B Blue and calculating contrast "scores"

*Message #8 Posted by **gene** on 22 Feb 2006, 12:11 p.m.,*
in response to message #7 by John Limpert

yep, those were some of the suggestions made at HHC2004, but this contrast score certainly shows that it would have caught many of the "less than optimal" choices made on some recent calculators.

If any of these efforts at least highlight the problem so that HP notices, it is worthwhile. HP can do the detailed analysis if they are aware of the issue. :-)

Re: 10B Blue and calculating contrast "scores"

*Message #9 Posted by **Jim Creybohm** on 23 Feb 2006, 9:15 a.m.,*
in response to message #2 by gene

Hi Gene.

Read through your presentation and I have to say that I found it er, quite "enlightening". I like the way that you have presented the topic and found also that the "classics" are classics for a reason. I have wondered if it was my old eyes or simply poor contrast selection on HP's part. I'd say I have the answer for the most part.

Good read! Thanks again.

Re: 10B Blue and calculating contrast "scores"

*Message #10 Posted by **Jake Schwartz** on 23 Feb 2006, 4:37 p.m.,*
in response to message #9 by Jim Creybohm

Hi,

Just to say that Gene's HHC2004 conference presentation (as was the entire conference, and all calc conferences going back over 15 years) were videotaped and copies are available. Check out http://www.pahhc.org/video.htm on the web or send me an email at jakes <at> pahhc <dot> org. I'd be glad to offer Gene's presentation on a DVD if anyone wants a copy.

Jake Schwartz

Re: 10B Blue and calculating contrast "scores"

*Message #11 Posted by **Thomas Okken** on 25 Feb 2006, 11:12 a.m.,*
in response to message #2 by gene

How does the blue-on-white used on the HP-25 and 29C rate? Can't be very good, either.
Then again, it never bothered me -- most of those legends are simply the inverses of the very easy to read yellow-on-black legends above the keys (and before too long I was typing blind on the machine anyway. ;-)).

I guess it helped when HP moved away from those multi-colored keyboards. They were pretty (by comparison, I thought the HP-41 was pretty ugly, although it grew on me eventually) but having the number keys be a different color than the rest of the keyboard doesn't really improve usability.

- Thomas

Re: 10B Blue and calculating contrast "scores"

*Message #12 Posted by **Hugh Evans** on 26 Feb 2006, 7:00 a.m.,*
in response to message #2 by gene

For an even better analysis try using the LAB system. You'll get an even better picture of the contrast using it. The 48s was nearly perfect. Under OpenRPN color standards, I've even made an equally legible purple and green. I am still planning to write an article about the color selection process I went through, some of the most useful information and tools came from NASA.

-Hugh

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Any new comment/post of HP 17bII+?

*Message #1 Posted by **Walter** on 21 Feb 2006, 10:40 a.m.*

HI Guys! Is anyone bought a new HP 17bII+ recently? I want to know whether HP has fixed its bug of L() and G() in its solver and keyboard problem.

New owner, please post your review!!

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spare parts for HP19B

*Message #1 Posted by **Nes Mey-Paz** on 21 Feb 2006, 10:13 a.m.*

The closing "door" for the battery hole of my HP19B calculator was lost. I am looking where or how to get a new one. All inputs will be greatly appreciated.

Re: spare parts for HP19B

*Message #2 Posted by **Randy** on 21 Feb 2006, 6:35 p.m.,*
in response to message #1 by Nes Mey-Paz

Calcpro has them for $4.50 each, search for HP19-60029.

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New Datafile articles

*Message #1 Posted by **Valentin Albillo** on 21 Feb 2006, 8:32 a.m.*

Hi, all:

During the very next weeks I'll upload to my web page a number of my Datafile articles, in PDF format, to complement the ones already available on-line. These will include:

```
HP-71B  Fantastic FOUR                  8 pages
HP-71B  Short & Sweet Sudoku Solver    10 pages
HP-71B  Sudoku Solver Sublime Sequel    9 pages
 (all)  Mean Matrices                  11 pages
HP-71B  Minimax Polynomial Fit         12 pages
```

The following recent ones are only available in the printed Datafile magazine:

```
Long Live the HP-16C!                   5 pages
25 Years of Othello                     8 pages
Long Live the HP-25!                    7 pages
```

As mentioned, my 12 previous PDF articles already on-line can be found at my web site.

If you're interested in any of them, make sure to grab them timely, because I'll eventually need to remove them to reclaim some free space for other materials.

Best regards from V.

Re: New Datafile articles

*Message #2 Posted by **Karl Schneider** on 1 Mar 2006, 11:30 p.m.,*
in response to message #1 by Valentin Albillo

Valentin --

Thank you again for advising us of your Datafile articles. I downloaded most of them (they are compact in storage requirements), and will look for the newly-posted ones.

A very impressive sampling of your "body of work" in this area!

Best,

-- KS

Re: New Datafile articles

*Message #3 Posted by **Valentin Albillo** on 2 Mar 2006, 4:36 a.m.,*
in response to message #2 by Karl Schneider

Hi, Karl:

Thanks a lot for your continued interest and very kind words. I'll do my best to upload the remaining

promised ones as soon as possible, it's simply that I'm having some problems with the ftp server and an interfering proxy, but eventually I'll manage.

The PDF format is usually very compact and convenient, wish that Mr. Hicks would allow PDF submittals in MoHP's Articles section but so far I've been unable to convince him. And of course, such formats as PDF are mandatory to preserve fonts, formatting, images, etc., so that interested readers get a true facsimile of the article as originally published.

Within a few days I'll post my S&SMC#14, hope to see you attacking it with all your considerable might. :-)

Best regards from V.

Downloading files

*Message #4 Posted by **Vassilis Prevelakis** on 2 Mar 2006, 10:55 a.m.,*
in response to message #1 by Valentin Albillo

```
Valentin Albillo wrote:
> If you're interested in any of them, make sure to grab them
> timely, because I'll eventually need to remove them to reclaim
> some free space for other materials.
```

Although I agree with the sentiment, the last thing I'd ever want for my site is to have a tons of people downloading everything at the same time. This will bring my short term bandwidth usage over my monthly maximum and incur additional charges.

Do you get charged only by disk size or do you have a monthly cap on bandwidth?

**vp

Re: Downloading files

*Message #5 Posted by **Valentin Albillo** on 3 Mar 2006, 4:24 a.m.,*
in response to message #4 by Vassilis Prevelakis

Hi Vassilis,

Vassilis posted:

"Do you get charged only by disk size or do you have a monthly cap on bandwidth?"

> I have no idea about any limitations. This is a free french web hosting service I found 8 years ago or so. Initially it was called "mygale", then changed to "multimania", then changed to "lycos". Despite all these changes, it seems all hosted web sites were kept and weren't trashed at all, unlike a mirror site I created at Geocities, which eventually disappeared.
>
> Of course, I've never been charged a cent for the site, and it's never been taken out of line for bandwidth excesses or such, so I siimply get it going. By the way, the calc site is a later addition to the original computer chess-related site ("Chess Tests"), which has also been around for 8 years. That's almost "eternity" in these fast changing Internet times.

Thanks for your interest and

Best regards from V.

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Tim Wessman e-mail

*Message #1 Posted by **Hugh Evans** on 21 Feb 2006, 4:50 a.m.*

Sorry to take up forum space over this. I've tried to send two emails to Tim in order to working out shipping details on his gutted 49g+ for my retrofit project. If you can send me a working email address or just email me, I would really appreciate it.

Best Regards, Hugh

hugh.evans@openrpn.org

Re: Tim Wessman e-mail

*Message #2 Posted by **OpenRPN: vaporware, VaporWare, VAPORWARE** on 21 Feb 2006, 10:03 a.m.,*
in response to message #1 by Hugh Evans

The Great OpenRPN Project continues... LOL!

vaporware, VaporWare, VAPORWARE!!!!

Re: Tim Wessman e-mail

*Message #3 Posted by **Etienne Victoria** on 21 Feb 2006, 10:57 a.m.,*
in response to message #2 by OpenRPN: vaporware, VaporWare, VAPORWARE

Hiding behind a vapor-identity to broadcast ineptitudes is a clear sign of bravery.

I hope your high level contribution will be archived to highlight the quality of all others.

Etienne

Vaporware?!?

*Message #4 Posted by **Hugh Evans** on 23 Feb 2006, 2:44 a.m.,*
in response to message #3 by Etienne Victoria

I'm not sure what vapor identity you think I'm hiding behind. I exist, and go by my true legal name. Thus, I have nothing to hide.

On a side note, what are you trying to accomplish by accusing OpenRPN of being vaporware? Would you rather that I take your advice and give up, or would you like to have high quality calculators on the market again?

To make this perfectly clear, I cannot be deterred from this project. Even if if takes years, it will happen.

Best regards, Hugh Evans

Re: Vaporware?!?

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 23 Feb 2006, 3:00 a.m.,*
in response to message #4 by Hugh Evans

Hi, Hugh;

please, forgive me posting before Etienne's response, and I appologize for that, but it is clear to me that Etienne refers to the anonymous post that calls OpenRPN `Vaporware`, and not straight to OpenRPN. In fact, I take Etienne's post as defending OpenRPN, not against it. I take my observations based on previous contacts with Etienne by e-mail and one very successfull negociation with him.

I am one of the guys that support OpenRPN, but I cannot see a way to go beyond and actually work with it.

Again, forgive me, guys.

Cheers.

Luiz (Brazil)

Edited: 23 Feb 2006, 3:29 a.m.

Re: Vaporware?!?

*Message #6 Posted by **Garth Wilson** on 23 Feb 2006, 5:07 a.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

The electronics industry magazines keep talking about the increasing time-to-market pressures and decreasing market windows. They're talking of course about the consumer gadget market, and the things that move very quickly and have short product lives, like cell phones, PDAs, digital cameras, iPods, miniature memory cards, etc.. Editorials in the magazines also periodically lament the fact that products developed under these pressures come out half-baked, with lots of bugs and not even having been given time for a decent manual to be written. Put me down as one who is fed up with this kind of thing myself. Some things take many years to develop, even when they're well funded and have a full-time professional team working on them. I'm not about to pressure openRPN to meet the unrealistic schedules dictated by bean counters or by customers who don't understand what's involved. My own industry is generally not like what I described above; but I do know what it's like to be embarrassed because the small company's impatient president, who doesn't understand engineering, set an unrealistic introduction date and stuck to it, against the advice of his engineers, and showed something at a trade show, or maybe took orders for something we couldn't deliver yet. Give openRPN time. Right from the beginning, I figured they'd probably need several years, considering the time limitations of those involved having day jobs, the custom double-shot keys, maybe a custom LCD, but maybe most of all, a big software job ahead. Now only only three months into the pregnancy, some are saying, "Well, where's the baby?!"

Re: Vaporware?!?

*Message #7 Posted by **bill platt** on 23 Feb 2006, 9:23 a.m.,*
in response to message #6 by Garth Wilson

Here, here!

Wishing Hugh all the best of luck.

(deleted post)

*Message #8 Posted by **deleted** on 23 Feb 2006, 9:53 a.m.,*
in response to message #4 by Hugh Evans

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

Re: Vaporware?!?

*Message #9 Posted by **bill platt** on 23 Feb 2006, 10:48 a.m.,*
in response to message #8 by deleted

Well, some of us do like to hear about OpenRPN here. We also like to here about "Bring back the 15c!" and numerous other projects. For instance, I don't have a functioning 41c, and I don't follow the MLDL project very closely, but I enjoy seeing that it is going on--even though I usually don't read the thread. I don't often "play" in Valentin's quizzes, but I enjoy seeing them and reading them. Some threads do not interest me in the least. I ignore them.

You should do the same. If this thread does not interest you, ignore it!

Re: Vaporware?!?

*Message #10 Posted by **e.young** on 23 Feb 2006, 10:53 a.m.,*
in response to message #4 by Hugh Evans

Hugh, I wish you the best of luck. Your project is very interesting, and from what I know of it, I would definitley want to buy some of your products. I hope that you hang in there.

Re: Vaporware?!?

*Message #11 Posted by **Etienne Victoria** on 23 Feb 2006, 12:40 p.m.,*
in response to message #4 by Hugh Evans

Hello Hugh, Luiz,

Yes, my post was specifically referring to the anonymous post just before and of course NOT to the OpenRpn project which I respect and follow with great interest. I'll be on the waiting list to be in the first production batch!

This clearly shows that my command of English still needs improvement but I felt the need to react to this useless attack.

Thank you very much Luiz for making my intentions clear!

Friendly regards to both.

Etienne

Edited: 23 Feb 2006, 12:41 p.m.

Re: Vaporware?!?

*Message #12 Posted by **Thomas Radtke** on 23 Feb 2006, 5:35 p.m.,*
in response to message #11 by Etienne Victoria

> Quote:
>
> This clearly shows that my command of English still needs improvement but I felt the need to react to this useless attack.

I'm also not a native english speaker but your post was immediately clear to me. It was very likely clear to everyone except Hugh;). I can understand that to some degree, several stupid comments were made concerning OpenRPN so I imagine he is quite touchy now.

Re: Tim Wessman e-mail

*Message #13 Posted by **Tim Wessman** on 21 Feb 2006, 1:40 p.m.,*
in response to message #1 by Hugh Evans

Sorry. I was really busy writing business plan stuff last week until last night at 1:15 PM when I finally got it done. I will ship what you need tomorrow.

TW

Thanks!

*Message #14 Posted by **Hugh Evans** on 23 Feb 2006, 4:08 p.m.,*
in response to message #1 by Hugh Evans

Indeed, this was a confusing thread. I would like to thank everyone for your expressions of support, it's nice to receieve a bit of affirmation from time to time.

Like many of you, I became tired of the current trend of disposable electronics. Given the number of engineers, programmers, and other on this board I realized it was a matter of organizing them and taking care of the production logistics myself. Ultimately Chad and I would like to form a company that will serve as an engineers playground and start making quality high-end products that can outlive their users.

Thanks to Tim Wessman, I now have a 49g+ on the way. Our retrofit kit will be the first OpenRPN product. Now an important question, what to call it? 49gx? 50gx? This could be a fun discussion.

Again, I appologize for any misunderstanding.

Best Regards, Hugh

PS. I have a section ready on our wiki to begin entering a pure 42s based command reference... It's even populated with command names. Please help if you can.

Re: Thanks!

*Message #15 Posted by **Walter B** on 23 Feb 2006, 6:08 p.m.,*
in response to message #14 by Hugh Evans

> Quote:
>
> I have a section ready on our wiki to begin entering a pure 42s based command reference... It's even populated with command names. Please help if you can.

Hmmh, Hugh, are you talking about **this**?

If true, this list looks pretty much the same to me after I appended some proposals for additional commands several weeks ago. What do you need? Do you want us to document the commands? Then IMHO we should agree on the command set first.

Else please tell us what you want and where we shall put it.

Re: Thanks!

*Message #16 Posted by **Gour** on 24 Feb 2006, 4:01 a.m.,*
in response to message #15 by Walter B

> Quote:
>
> If true, this list looks pretty much the same to me after I appended some proposals for additional commands several weeks ago.

I sumbitted a comment regarding ATAN2 function and it's there.

> Quote:
>
> Else please tell us what you want and where we shall put it.

May I suggest that all those interesting to help in any way and/or throw some suggestion(s) regarding OpenRPN register and post to its forum.

It will be nice to see more life in OpenRPN forum(s) and Hugh can inform MoHPC users with the regular 'update' post.

Sincerely,
Gour

Re: Thanks!

*Message #17 Posted by **q** on 24 Feb 2006, 5:44 a.m.,*
in response to message #16 by Gour

s/more/some

Re: Thanks!

*Message #18 Posted by **Hugh Evans** on 24 Feb 2006, 10:53 a.m.,*
in response to message #16 by Gour

I forgot to mention, the link to our old wiki apparently still has yet to be removed. Our new wiki is located at:

doc.openrpn.org/wakka

Thus far we have selected two officially supported programming lanuages: *fix - Our answer to UserRPL, the low leve core of which will be used to write the other languages. Eventually it will function in postfix, infix, and prefix modes. RPN - In its' arguably most mature form adapted from

the 42s.

If you have the time and the inclination please open up your old manuals and fill in what you can in our command reference. For now you don't need to follow the command definition standard. I appreciate the help and will be more than happy to bring everything up to spec.

Re: Thanks!

*Message #19 Posted by **Marcus von Cube, Germany** on 24 Feb 2006, 5:43 a.m.,*
in response to message #14 by Hugh Evans

> Quote:
>
> Now an important question, what to call it? 49gx? 50gx?

IQ 49g++

('HP' + 0x0101 = 'IQ')

Marcus, who will never hide behind a "funny" name...

Re: Thanks!

*Message #20 Posted by **Walter B** on 24 Feb 2006, 6:31 a.m.,*
in response to message #19 by Marcus von Cube, Germany

> Quote:
>
> Now an important question, what to call it? 49gx? 50gx?

Please register my vote for **IQ 49 gx**. It's a merger of 49g+ electronics, 48gx-like keys through the efforts of OpenRPN, symbolized by IQ.

Re: Thanks!

*Message #21 Posted by **Klaus** on 24 Feb 2006, 7:06 a.m.,*
in response to message #19 by Marcus von Cube, Germany

Hi Marcus,

looks like I already have the "copyright" for IQ :-) http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=61514

Re: Thanks!

*Message #22 Posted by **Marcus von Cube, Germany** on 25 Feb 2006, 4:01 a.m.,*
in response to message #21 by Klaus

> Quote:
>
> looks like I already have the "copyright" for IQ :-)

I know, but I felt that funny jokes could be repepeated without loosing their appeal. I think, the idea is much older, think of 'HAL' = 'IBM' - 0x010101 in Kubrick's "2001".

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HP-12C or HP-17BII

*Message #1 Posted by **George Rose** on 20 Feb 2006, 8:16 p.m.*

My son has finally decide to go to college after working for the last two years. He will be taking business management classes. He got hooked on RPN at work (an auto parts store) of all places! My question, since I am only familiar with the scientifics, is which business calculator would you recommend? I think I have narrowed the choices to the 12C and the 17BII. I don't like the clam shell 19 series, unless some can make a case for it. I seem to be partial to the 17BII because it looks to be the brother to my beloved HP-42S. All input will be greatly appreciated.

Re: HP-12C or HP-17BII

*Message #2 Posted by **Stephen Easterling** on 20 Feb 2006, 10:03 p.m.,*
in response to message #1 by George Rose

This may not be the answer you want, but if you can, get both. I own both, use both, and love each of them. Swapping out one for the other on occasions can be fun. If you have to choose, though, I'd say go with the 12C. It's a little smaller and I feel faster with the keys (for me) due to their smaller size and close proximity to each other. I also love the 12C's layout. The two styles are so different that it will ultimately boil down to which layout he likes the most. Both are powerful calcs. There's a reason the 12C has outlasted the 17BII.

I secon Stephen's words (was: HP-12C or HP-17BII)

*Message #3 Posted by **Vieira, L. C. (Brazil)** on 21 Feb 2006, 12:42 a.m.,*
in response to message #2 by Stephen Easterling

Hi;

I also have one of each ('black case' HP17BII, HP17BII+) and some HP12C/12Cp units. Although the HP17BII+ belongs to the newer hybrid family, it is fast and has plenty of memory: 32KBytes against 8KBytes in the HP17BII. My HP17BII+ has a key wit bad contact, the HP17BII works flawlessly.

I am not sure about the reasons ('financial' appeal?), but the HP17BII has a lot more featurs than the HP12C/Cp, and if I have to choose only one, I'd leave the choice to the moment. Can't tell you now which one I'd choose.

Not much of a help... Sorry!

Cheers.

Luiz (Brazil)

Re: HP-12C or HP-17BII

*Message #4 Posted by **John Smitherman** on 20 Feb 2006, 11:24 p.m.,*
in response to message #1 by George Rose

Hi George. I would recommend that you consider the newest 12cp. It is faster and has some enhancements over the 12c and the original 12cp. Also, the keys on my new 12cp have a better feel than my Chinese made 12c. Time will tell if it can hold up to day to day use.

Regards,

John

Re: HP-12C or HP-17BII

*Message #5 Posted by **Karl Schneider** on 21 Feb 2006, 12:33 a.m.,*
in response to message #4 by John Smitherman

George --

I have both models, which are indeed the only business models with LCD readout and RPN.

The HP-17BII is a much faster and more capable calculator; its main disadvantages versus the HP-12C are its poorly legible dot-matrix display (shared with the HP-42S) and its extensive use of menus to organize its functions. I definitely prefer its algebraic equation editor with solver over the HP-12C's inferior keystroke programming capabilities. The HP-17BII's clock and time-calculation functions are very user-friendly. You should be able to get one from eBay for less than US$100.

The HP-12C is an old standard that is annoyingly slow for computationally-intensive functions. Its main advantages include its very legible 7-segment LCD readout and easy accessiblity of functions. The horizontal arrangement is good if the calc is on a desktop, not in your hands. It has no clock; the time-calculation functions are limited and slow. Its TVM equations are implemented on a "per-period" basis, rather than with interest entered as an annual quantity and number of periods per year as a separate setting.

IMO, the enduring popularity of the classic HP-12C is its good looks and form factor: It says, "classy financial accessory", not "dime-a-dozen calculator". It's certainly better-looking than the algebraic-entry HP-10B, -14B, or -17B. The HP-17BII got a new gold bezel and trim along with RPN to compete with the traditional product in those respects.

I don't think that the latest HP-12C Platinum is much of an improvement over the traditional HP-12C except for computational speed. Its looks are definitely a step backward...

Regards,

-- KS

Re: HP-12C or HP-17BII

*Message #6 Posted by **bill platt** on 21 Feb 2006, 7:32 a.m.,*
in response to message #1 by George Rose

I think the 12c is outdated, and the 12CP is a royally stupid design. The 17bii is much more powerful, has a real backspace key, more built-in functions than the 12c and a general purpose solver--not merely the financial solver. And it is faster. And you can buy the new 17bii+ and get the same basic feature set, though I am not sure it supports the Let and Get functions of the 17bii (these enable you to do much more sophisticated programming in the solver. These features are not listed in the manual, but are in the "advanced functions" handbook of the 19bii--which has the same solver.)

A lot of people will tell you that the 12c is a "standard" in finance. While this may be true, it is by no means a must. I have a friend, from high school (we are now 40) who has her own hedge fund. She held many good

positions over the years at Deutche Bank, Credit Suisse, Chase Manhattan etc. She has always preferred a 17bii.

The "programmability" of the 12c is dubious at best. It is not like the 11c or 15c--it is crippled. On the other hand the 17bii has an algebraic solver--very powerful and versatile tool, and for many of those programming tasks that one encounters, this solver is superior.

Edited: 21 Feb 2006, 7:33 a.m.

Re: HP-12C or HP-17BII

*Message #7 Posted by **Matt Kernal (US)** on 21 Feb 2006, 1:48 p.m.,*
in response to message #1 by George Rose

17BII period, exclamation point. The BII+ is a cheap imposter, and the 12CP isn't in the same league. Tell your son not to look back, there's nothing he'll be missing from either of the others.

Your instincts are right about the 17BII and the 42S. You know a good thing when you see it, down to the nice 2-line pixelated display!

More opinion than input,

Matt

Re: HP-12C or HP-17BII

*Message #8 Posted by **George Rose** on 21 Feb 2006, 6:43 p.m.,*
in response to message #7 by Matt Kernal (US)

Thanks for input thus far. I'm not fond of the newer HPs, the 17BII+ and the 12CP. So I think I'll head to eBay to start looking for his 17BII.

Re: HP-12C or HP-17BII

*Message #9 Posted by **Dennis** on 22 Feb 2006, 9:20 p.m.,*
in response to message #1 by George Rose

I own both the 12C and 17BII. If he is going back to school I would recommend the 17BII. It is a lot faster in doing the calculations for TVM/NPV/IRR etc. This would especially be important on a timed exam. Also it is easier to see and edit uneven cash-flows and stat lists.

But if it's possible, I would get both. They both have their strengths. And in an academic situation, one could serve as a backup calc. In real life, I usually carry the 12C because of it's form factor. But the 17BII has the solver that can use the LET/GET statements to do some pretty amazing calculations.

Good luck! Let us know what you decide.

-Dennis

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solving equations using HP48G

*Message #1 Posted by **Catherine Green** on 20 Feb 2006, 7:53 p.m.*

I have an equation that I need to find the roots for. The equations looks like this:

x=3.5x(3.5x(1-x)[1-3.5x(1-x)]

Can it be entered into the HP48G? If so, how?

Re: solving equations using HP48G

*Message #2 Posted by **Namir** on 20 Feb 2006, 10:40 p.m.,*
in response to message #1 by Catherine Green

Catherine,

Afer you nvoke the Solver, you enter the followig equation (the Solver provides the single quotes):

'Y=SQ(3.5*X)*(1-X)*(1-3.5*X*(1-X))'

And then select th OK menu. The above equation defines two variables Y and X. The solver will display these variables. Enter 0 for Y and then enter a guess for X, followed by pressing the SOLVE menu command. Th SOLVER will display the solution for Y=0, i.e. the root.

The above equaion has a root of X=1.

Namir

Edited: 21 Feb 2006, 1:15 a.m.

Re: solving equations using HP48G

*Message #3 Posted by **James M. Prange (Michigan)** on 20 Feb 2006, 10:52 p.m.,*
in response to message #1 by Catherine Green

> Quote:
>
> I have an equation that I need to find the roots for. The equations looks like this:
>
> x=3.5x(3.5x(1-x)[1-3.5x(1-x)]
>
> Can it be entered into the HP48G? If so, how?

Multiplication must be explicit, and brackets (and braces, for that matter) are **not** the same as parentheses. Try:

```
'x=3.5*x*(3.5*x*(1-x)*(1-3.5*x*(1-x)))'
```

Regards,
James

Edited: 20 Feb 2006, 11:02 p.m.

Re: solving equations using HP48G

*Message #4 Posted by **hugh steers** on 21 Feb 2006, 8:37 p.m.,*
in response to message #3 by James M. Prange (Michigan)

the 48g has a polynomial solve as well. i think its in the solve menu somewhere. you have to enter the coefficients as a vector of numbers but it can find all the roots at once - even the complex ones.

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SOS - Batteries exploded in machine

*Message #1 Posted by **Andreas Terzis** on 20 Feb 2006, 7:49 p.m.*

Hi everyone,

I read the responses to the 'Battery leakage and cleaning...' posting, and the last comment about toxicity prompted me to let you know about the following incident that happened to me a couple days ago.

I recently bid and won an HP-34C on eBay which was in good condition. [The HP-34C holds a dear place in my heart and there is a lot of history that goes with it.] The seller included a set of rechargeable alkaline batteries with the machine, and claimed that they worked with it. He had recently bought the machine from someone else who also claimed as well that those worked with the machine. The machine came with a charger that didn't work and the seller sent me a 'good' charger. He e-mailed me some instructions in which he mentioned that the rechargeable batteries needed to be charged about 10hrs in the machine. That seemed a little odd but I thought I would give it a shot!

I installed the rechargeable batteries in the machine, using the indicated polarity [and plugged the charger into the machine]. After about half an hour I heard some loud noise coming from my office (while I was in the living room), checked in there but nothing out of the ordinary had happened. Or so I thought. After about five minutes I heard another noise, which was similar to opening a beer can. I checked again and noticed that the batteries of the HP-34C had leaked all over my desk and some paperwork. The batteries were eminating a 'fuming' sound and they smelled. I immediately grabbed the machine - mistake - and unplugged it from the AC. I tried to take the batteries out with bare hands as quickly as possible but that was hard. (Apparently they were a tad longer than regular AA batteries.) I then used a pen for that, but I had acid all over my hands. I cleaned the machine in and out from the acid (or whatever that liquid was) and plugged a set of new batteries in after a while. I got an 'Fr Error' message, pressed CLX and the calculator seemed to function correctly.

My concern at this point is about the acid that came off on my hands and possible fumes (as well the marks on my desk from the acid, I guess.) The batteries that exploded were Alkaline Rechargeable, made in Korea. The name on them is 'charge.ables' and the brand is LENMAR. The company is based out of Westlake Village, CA.

It looks like either [the charger was bad again, or] the battery contacts were rebuilt incorrectly, or the batteries were bad. Who knows?

Next time, I should either buy from reputable people through the HPMo, or at least ask a lot of questions on the board before I buy. [No HP-34C now. I guess dreams are expensive.] Your thoughts would be greatly appreciated.

Thanks, Andreas

Re: SOS - Batteries exploded in machine

*Message #2 Posted by **Ed Look** on 20 Feb 2006, 9:56 p.m.,*
in response to message #1 by Andreas Terzis

First and foremost, rinse your hands with water... for more than five minutes, in case of any toxic materials. DO NOT use any soap, as it might chemically complicate matters.

Now, if I recall (and I still own a partly working 34C), the batteries were Ni-Cd rechargeable cells. There should be no acid! This battery does not require an electrolyte. It's actually *drier* than the conventional "dry cell".

I suspect you might have been inadvertently or in ignorance given nonrechargeable cells of some kind.

EDIT- You said "alkaline rechargeables"; I am not aware of the existence of such a thing!-*EDIT*

But one necessary ingredient in common disposable batteries is potassium hydroxide, in the "alkaline" batteries. It is an alkali, or base, though it is corrosive as an acid would be, too. But the leakage from either type can be corrosive. I can't speak for the property damage, but if it got on your hands and you washed it off quickly, assuming it's this kind of (nonrechargeable) cell, you *should* be okay (I'm NOT a M.D. and am NOT giving advice; only commenting), but perhaps you should see a doctor just in case.

Now if one tries to recharge nonrechargeable batteries, including these "alkaline" ones, you will cause rather complex electrochemical reactions that do produce gases and if you're lucky, will just leak with a little of the sounds you might have heard. If you are unfortunate, it can explode like a grenade and never mind the mess, you can be severely injured. (If it is one of these types, again, if you rinse off the materials from your skin with a lot of water, there should be no real problem, unless you waited or it got in your eye. In either of these last two cases, GO TO A DOCTOR.)

The conditions you described sounded suspiciously like a nonrechargeable conventional C-Zn or "alkaline" battery attempting to get recharged... and leaking then exploding.

But at least your 34C is working. Get simple rechargeable AA sized Ni-Cd (nickel-cadmium) batteries. Just be sure to short the (-) ends together (but DO check this Museum site's pages for the correct procedure, as my memory is kind of foggy on this).

Edited: 20 Feb 2006, 10:01 p.m.

Re: SOS - Batteries exploded in machine

*Message #3 Posted by **Bill (Smithville, NJ)** on 21 Feb 2006, 4:48 a.m.,*
in response to message #1 by Andreas Terzis

Hi Andreas,

Alkaline Rechargable batteries have been around for about 10 years or so. Rayovac makes them in the U.S. I had tried a couple a few years ago and was not overly impressed with them. I fould the following which describes the leaking or exploding that can occur if the batteries are charged when they are completely drained:

link

I don't remember ever getting any warnings in the literature I had rerceived with the Rayovac.

Glad to hear that the 34C is still working. It's a great calculator.

Bill

Re: SOS - Batteries exploded in machine

*Message #4 Posted by **C. Dehnke** on 21 Feb 2006, 4:44 p.m.,*
in response to message #3 by Bill (Smithville, NJ)

Hi Andreas, pretty clear why this happens. The charger in the calculator is made for NiCad cells. These are a totally different technology than the alkaline rechargebles. I think the exploded cells were recharged in

an external recharger and not inside the HP34C when the seller used them. Regards, Chris

Re: SOS - Batteries exploded in machine

*Message #5 Posted by **Andreas Terzis** on 21 Feb 2006, 5:46 p.m.,*
in response to message #4 by C. Dehnke

Hi there, Thanks everyone. Those comments are very insightful. This is what happened: what Chris said. Unfortunately the eBay seller gave me the wrong directions... And when I mentioned to him what had happened, he wrote that I didn't realize those were not rechargeable batteries but plain alkaline. The batteries said 'Rechargeable Alkaline' on them. Well, I'll take it up with him, be careful next time and ask my HP'ers (sounds like H-peers) first. This community rocks!!! Andreas

Re: SOS - Batteries exploded in machine

*Message #6 Posted by **Palmer O. Hanson, Jr.** on 21 Feb 2006, 10:16 p.m.,*
in response to message #3 by Bill (Smithville, NJ)

I, too, remember that rechargeable alkalines have been around for quite a while. But, I definitely recall cautions about using the wrong charger when the rechargeable alkalines first came out. I went to Wal-Mart and checked out their current display. They carry rechargeable alkalines (NIMH) from Rayovac, Duracell and Energizer. Somewhere in the literature accompanying each of the brands are cautions against using the wrong charger with the possibility of rupture or explosion if you do use the wrong charger. The manufacturers all claim a life with recharging of 3 to 4 times that for ordinary alkalines. I never saw much need for that as opposed to the use of NiCad rechargeables. Obviously someone does as the display of the rechargeable alkalines is quite large.

Re: SOS - Batteries exploded in machine

*Message #7 Posted by **Marcus von Cube, Germany** on 22 Feb 2006, 2:47 a.m.,*
in response to message #6 by Palmer O. Hanson, Jr.

> Quote:
>
> They carry rechargeable alkalines (NIMH) from...

It's either NiMH (Nickel Metal Hydrite) OR (rechargeable) alkaline. Two different beasts.

Marcus

I'm not sure about the spelling of "hydrite".

Re: SOS - Batteries exploded in machine

*Message #8 Posted by **John Limpert** on 22 Feb 2006, 11:58 a.m.,*
in response to message #7 by Marcus von Cube, Germany

> Quote:
>
> It's either NiMH (Nickel Metal Hydrite) OR (rechargeable) alkaline. Two different beasts.
>
> Marcus

> I'm not sure about the spelling of "hydrite".

It's hydride.

I believe they all use a potassium hydroxide electrolyte, so in a sense, they are all alkaline batteries.

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Looking for volunteers to test Free42 Decimal

*Message #1 Posted by **Thomas Okken** on 20 Feb 2006, 5:44 p.m.*

Hi all,

Free42 version 1.4, featuring decimal floating point, is coming along quite nicely, and I could probably release it this week.
The change from binary to decimal is pretty tricky, though, and there could easily be subtle bugs lurking in there. The current development version does seem to run my two major compatibility test cases correctly (Erik Ehrling's PRM? program, and the "1110 digits of pi" program for the HP-41 that was published in the PPC journal many years ago), so I have some confidence.
If there's anyone who has legacy 42S code that did not work well on the pre-1.4 Free42, and who is interested in running some tests to verify the new version's compatibility, I'd love to hear from you and I'll send you the latest Windows build. I can be contacted through the MoHPC mail feature.

Thanks!

- Thomas

Re: Looking for volunteers to test Free42 Decimal

*Message #2 Posted by **Mike T.** on 21 Feb 2006, 6:50 p.m.,*
in response to message #1 by Thomas Okken

I'd love to try to find some but I doubt I'd find anything you havn't already - I am at a bit of a disadvantage as I'm not at all familiar with the HP42..

Mike T.

Re: Looking for volunteers to test Free42 Decimal

*Message #3 Posted by **Thomas Okken** on 22 Feb 2006, 7:56 p.m.,*
in response to message #2 by Mike T.

If you don't use the 42S to run programs, you're unlikely to ever notice the difference between the "binary" and "decimal" versions of Free42... But, still, if you feel like playing around with it, just drop me a line and I'll send you the latest development build of the decimal version.
If you're curious about HP-42S emulation/simulation in general, please take a peek at my Free42 web page; you can download the current "official" (binary-only) versions of Free42 from there, and I have links to several other important HP-42S related web pages.

Thanks for your interest!

- Thomas

Re: Looking for volunteers to test Free42 Decimal

*Message #4 Posted by **Andreas Terzis** on 23 Feb 2006, 3:18 a.m.,*
in response to message #1 by Thomas Okken

Thomas, I just dug out some older programs I had written for the HP-42S that I could test for you. I am not sure if they all work but I can give them a shot. I have a memo editor, a word processor, a database management system and some others. Please let me know if you are interested. Thanks, Andreas Terzis

Re: Looking for volunteers to test Free42 Decimal

*Message #5 Posted by **Thomas Okken** on 24 Feb 2006, 11:19 a.m.,*
in response to message #4 by Andreas Terzis

Absolutely! I'll contact you via email and send you the latest version. I'm very interested to hear how well it works for you.
Thanks!

- Thomas

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hp 42s

*Message #1 Posted by **e.young** on 20 Feb 2006, 4:12 p.m.*

I have never had the pleasure of using an HP 42s, but it seems to be highly prized by its fans. I just noticed one on ebay that is currently at $305 with 6 days left. From the item description it is essentially unused. What is the appeal with the 42s that it consistently goes for such high dollar amounts on ebay?

Re: hp 42S [Overview]

*Message #2 Posted by **Karl Schneider** on 20 Feb 2006, 4:41 p.m.,*
in response to message #1 by e.young

The HP-42S is the most advanced scientific RPN-based calculator that HP produced. Its programming paradigm is shared with the HP-41; it carries over the applicable computational functionality from the 41, but adds MUCH more: complex-number functionality, real- and complex-matrix operations, rootfinding (SOLVE) and numerical integration, as well as hyperbolics. It has 7 kB of RAM, but its firmware will support 32 kB.

It shares the high-res two-line dot-matrix display and IR-printer transmitter with the HP-17B/17BII and HP-27S, but lacks the algebraic equation solver and the clock/time-calculation/alarm functions of those models.

The main criticism of the 42S is that it lacks the I/O and expandability of the 41. In that sense, it was not a fully-adequate replacement. The HP-48SX provided those things, but it was RPL-based -- incompatible with the 41.

In defense of the 42S, its trim-line Pioneer-series package and low-capacity button-cell battery effectively precluded hard-wire I/O and plug-in expandability. If only the 48 had been RPN-based...

I bought my early-version 42S on eBay in 2002 from a somewhat-disgruntled former HP employee. Even then, units in good condition were going for US$200.

Of course, more about the 42S is available on the MoHPC main page.

Regards,

-- KS

Edited: 22 Feb 2006, 10:39 p.m.

Re: hp 42s

*Message #3 Posted by **Thomas Okken** on 20 Feb 2006, 5:33 p.m.,*
in response to message #1 by e.young

In a nutshell, the 42S is the most powerful RPN scientific ever made.

People like it because it has the same easy-to-learn four-level RPN and keystroke programming model as the HP-41 series... But the 42S pushes that model much further, by adding named variables, complex numbers and

matrices that can be manipulated on the stack just like plain real numbers; and it has HP's excellent numeric SOLVE and INTEG applications built in as well. It's perfect for quick-and-dirty programming, and supports even medium-sized applications. And, finally, while it has way too many functions to put on the keyboard, so they had to be hidden away in menus, those menus are much better done than those on any other HP model.

- Thomas

Re: hp 42s

*Message #4 Posted by **Walter B** on 20 Feb 2006, 7:41 p.m.,*
in response to message #1 by e.young

It's the only RPN HP calculator I know allowing you to enter keystroke programs just without any need to care for program space - there will be sufficient space always (for quick-and-dirty programs)!

As mentioned already, it's the RPN model with the highest calculating power. It provides some hundreds of functions. At the same time it has a *very* clean keyboard. If it would feature a better display and a comfortable way of data exchange with PCs, it could compete today still easily. Impressive device!

But alas, this WAS the top model ... so try to get one. IMHO they are particularly expensive in the USA. I got mine for < 130 US$ at eBay two years ago.

Good luck - Walter

Edited: 20 Feb 2006, 7:44 p.m.

Re: hp 42s

*Message #5 Posted by **Valentin Albillo** on 21 Feb 2006, 4:40 a.m.,*
in response to message #1 by e.young

Hi, e.young:

The HP42S is a truly wonderful machine, signaling the exact path RPN calcs should have taken. May I suggest you have a look at this article of mine, Long Live the HP42S !, which is a 14-page PDF document fully describing and discussing the most important HP42S capabilities and outstanding features, plus it includes a large, non-trivial program, which is then thoroughly discussed, pinpointing the special techniques used.

This will surely help give you a clear example of what the machine can do and its powerful programming style.

Best regards from V.

Re: hp 42s

*Message #6 Posted by **e.young** on 21 Feb 2006, 8:38 a.m.,*
in response to message #5 by Valentin Albillo

Thanks to all for your responses.

Most of my experience is with the 11c and 32sII which I did not use for programming, being content with the beauty of RPN. It is actually the 33s that has opened my eyes to the potential of keystroke RPN programming because it has the memory capacity to have more that 2 programs entered into it. From your replies and researching the 42s on MoHPC I wish I could get my hands on one. The prices that it goes for on ebay are a little to high for me though. Actually, the hard part would be convincing my wife about the need to get another HP since I have already obtained several other HP's on ebay.

Re: hp 42s

*Message #7 Posted by **Howard Owen** on 21 Feb 2006, 6:47 p.m.,*
in response to message #6 by e.young

If you have an HP48GX, HrastProgrammer has his HP-42X emulator, which is a binary code simulator of the 42S. The simulation will also run on a 49g or 49g+, with some variation in capability. There are also a pair of very good 42S simulators that run on the PC platform. Christoph Geisslink's EMU42 is a binary code simulator, for which you must supply the ROM. This generally means you need to have a 42S before you can run EMU42. Thomas Okken's Free42, on the other hand, is a reimplementation of the 42S in portable C++. That means that a) you don't need a ROM to run it, and b) you don't need Windows either. Free42 will run on Linux and PalmOS, for example.

Hope this helps.

Regards,
Howard

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Found: "Advanced User RPL Guide" website...FYI

*Message #1 Posted by **Gene** on 20 Feb 2006, 2:37 p.m.*

http://www.therondosseycpa.com/~jbd/AUG/aug013.html

Probably are some items in this effort to keep/save. I had not run across it before, so I thought I'd share it.

Re: Found: "Advanced User RPL Guide" website...FYI

*Message #2 Posted by **Vieira, L. C. (Brazil)** on 21 Feb 2006, 12:22 a.m.,*
in response to message #1 by Gene

Hi, Gene;

interesting way to show the HP48G features. It's worth having a look at it.

Thanks!

Luiz (Brazil)

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OpenRPN site

*Message #1 Posted by **Gour** on 20 Feb 2006, 1:21 p.m.*

Hi!

I hope you don't mind posting here about OpenRPN, 'cause their registering process does not work (I tried twice, but no confirmaion mail is arriving) and I didn't get reply from Hugh emailing him regards.

Any hint?

Shall we see something out of OpenRPN?

In the meantime, I'm going to buy one 33s for myself and another 12cp for my older brother :-)

Sincerely, Gour

Re: OpenRPN site

*Message #2 Posted by **Hugh Evans** on 20 Feb 2006, 5:06 p.m.,*
in response to message #1 by Gour

Gour,

You should have mail by now. If not, please let me know. I'm in the middle of moving and doing my best to keep up with OpenRPN at the same time. Let me know i you have any further problems.

Best Regards, Hugh

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HP48g function

*Message #1 Posted by **Mark Davies** on 20 Feb 2006, 1:21 p.m.*

I am trying to figure out how to use my HP 48G to solve simultaneous equations using vectors for an electrical circuits. So far I am drawing a blank. It seems that all the schools are set up to use TIs' and no one knows the HPs'. Can anyone tell me how to use my HP to perform mesh analysis for AC circuits. I would be most greatful. Thank you.

Re: HP48g function

*Message #2 Posted by **Jan** on 20 Feb 2006, 2:36 p.m.,*
in response to message #1 by Mark Davies

I guess you calculate currents and voltages in complex notation by using (complex) amplitudes and impedances. The 48 can calculate with matrices in order to solve sets of linear equations (see the math menu and the manual on matrix calculations). I am not sure however if the 48 can handle complex matrices as well.

Re: HP48g function

*Message #3 Posted by **Karl Schneider** on 20 Feb 2006, 2:36 p.m.,*
in response to message #1 by Mark Davies

Mark --

You're in luck! In collecge 15 years ago, I not only solved AC and DC loop circuits using matrix functions on my HP-15C, but also now have a 48G at which I am reasonably competent.

After setting up the exactly-determined system-coefficient matrix and the system-measurement vector (both real-valued for DC systems; both complex-valued for AC systems):

1. Choose "SOLVE" (above "7" key) with the green right-shift key
2. Select "Solve lin systems"
3. Enter the (square) matrix as A. Use brackets to enclose each row vector, with spaces between each coefficient; enclose all vectors within another set of brackets to make it a matrix. Enclose complex-valued numbers inside parentheses, with a comma between parts. Use the angle symbol if needed (green right-shift, "SPC"). Load the values with "ENTER".
4. Enter the measurement-vector values as B, inside one set of brackets. (The same guidance applies for complex-valued numbers.) Load the values with "ENTER".
5. Press the "SOLVE" soft-menu key ("F").
6. The answers will be in X. Use "EDIT" (softmenu key "A") to see the full values.

I used this procedure successfully to solve two examples in the HP-15C manual.

BTW, this question could also have been posed in the Usenet group comp.sys.hp48, but it's not inappropriate here.

Regards,

-- KS

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HP 42S

*Message #1 Posted by **Joe Plassmeyer** on 20 Feb 2006, 9:45 a.m.*

Is there a location in this calculator that will convert feet and inches to meters/milimeters? The manual doesn't address the subject. Please let me know if I'm sunk.....thanks.

Re: HP 42S

*Message #2 Posted by **Thomas Okken** on 20 Feb 2006, 10:04 a.m.,*
in response to message #1 by Joe Plassmeyer

The HP-42S does not have built-in unit conversions.
Just remember that 1" = 25.4 mm, and you'll be fine. :-)

- Thomas

Re: HP 42S

*Message #3 Posted by **SteveH** on 20 Feb 2006, 5:05 p.m.,*
in response to message #1 by Joe Plassmeyer

> Quote:
>
> Is there a location in this calculator that will convert feet and inches to meters/milimeters?

This is the sort of thing that you can do really easily with the solver on the HP 42S.

Cheers,

Steve

Re: HP 42S

*Message #4 Posted by **Walter B** on 20 Feb 2006, 8:01 p.m.,*
in response to message #1 by Joe Plassmeyer

Thomas' method is the fastest since the HP45 appeared in 1973.

After this one conversion you need I recommend you to stay with the meters till the end of your calculation(s) - enjoy the benefits of a consistent system of measures. If you really need Olde Imperial Thumbs, convert back just your final result.

After all, unit conversions are history (almost) everywhere today.

Edited: 20 Feb 2006, 8:02 p.m.

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Clear the menu bar

*Message #1 Posted by **Pio** on 20 Feb 2006, 9:21 a.m.*

Hi folks,

How can I clear the menu bar in execute-time in UserRpl?

While the displays shows the results the menu bar is kept alive down.

I used the TMENU and MENU commands but they change only when programs halts

Thanks in advance.

Pio

Re: Clear the menu bar

*Message #2 Posted by **Raymond Del Tondo** on 20 Feb 2006, 10:39 a.m.,*
in response to message #1 by Pio

Hi,

how about the CLLCD, DISP and FREEZE commands?

Regards

Raymond

Re: Clear the menu bar

*Message #3 Posted by **Marx Pio** on 20 Feb 2006, 9:47 p.m.,*
in response to message #2 by Raymond Del Tondo

Hi Mr. Del Tondo,

Thanks for the help.

First I open a grob GAFIG with

CLLCD {#0d #0d} DUP PVIEW PICT SWAP *GAFIG*REPL 7 FREEZE 0 WAIT CLEAR

After this I run an IFB input box with most list fiels and when I print on screen the results with:

CLLCD "BLA.." 1 DISP ... "BLA" 8 DISP 0 WAIT

And in this screen the menu bar from IFB input is still alive.

Must I 7 FREEZE (Freeze all)before 0 WAIT in the output listings? Is that?

Thanks very much!

Pio

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HP71 Cosmetics

*Message #1 Posted by **John Kercheval** on 20 Feb 2006, 8:32 a.m.*

Does anyone know how to take scrapes out of the gold faceplate on the 71B?

Regards,

John

Re: HP71 Cosmetics

*Message #2 Posted by **Jan** on 20 Feb 2006, 9:14 a.m.,*
in response to message #1 by John Kercheval

I guess this will be almost impossible. The only way I see is polishing the entire metal surface with very, very fine (!) sandpaper or some other modestly scraping or polishing material. One should realise however that the texture of the surface will change as well due to such a treatment, resulting in a different optical appearence, which is undesired by you I guess. I would just leave it as it is or provide myself with a replacement of the plate from another unit.

Re: HP71 Cosmetics

*Message #3 Posted by **John W Kercheval** on 20 Feb 2006, 10:15 a.m.,*
in response to message #2 by Jan

Yes, I thought about replacing the plate but then I would need to find another plate and remove it. John

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HP-41 Battery contact flex-cable replacement

*Message #1 Posted by **Donald Leonard** on 20 Feb 2006, 5:19 a.m.*

Whatever happened to the HP-41 battery contact flex-cable replacement I saw mentioned here several months ago? I wanted 2 of these, really expecting them to be mentioned here or receive an e-mail notice of there availability. My -41 is still reliably operating, but expect failure eventually as all battery contacts have had some corrosion from alkaline battery usage.

Donald

Re: HP-41 Battery contact flex-cable replacement

*Message #2 Posted by **Diego Diaz** on 20 Feb 2006, 7:41 a.m.,*
in response to message #1 by Donald Leonard

Hi Donald,

They're ready to ship, I posted a FS ad in the appropriate page at this very site last weekend... ;-)

Hope you find it useful.

Best regards.

Diego.

Re: HP-41 Battery contact flex-cable replacement

*Message #3 Posted by **Donald Leonard** on 25 Feb 2006, 3:52 a.m.,*
in response to message #2 by Diego Diaz

Diego Diaz

I sent you two (2) seperate e-mails from your FS ad requesting that you set up a sale at PayPal for two (2) Flex PCB plus shipping to me within the USA 92335. So far I have not received an e-mail confirmation of this nor have I seen you listed on my account. What's happening?

Donald

Re: HP-41 Battery contact flex-cable replacement

*Message #4 Posted by **Diego Diaz** on 25 Feb 2006, 9:41 a.m.,*
in response to message #3 by Donald Leonard

Hi Donald,

I'm very sorry for the unwanted delay, please accept my apologies. Had to leave on tue. 21th due to personal issues and have just came back this very morning.

I've found several mails from people interested in the PCB replacement, I'll make my best to reply every one with the requested details during the weekend.

Again thanks for your interest and best regards from the Canaries.

Diego.

NOTE: A new (edited) FS ad has been placed, including PayPal relevant info.

Edited: 25 Feb 2006, 9:54 a.m.

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Battery leakage and cleaning ...

*Message #1 Posted by **gr8patra** on 20 Feb 2006, 1:37 a.m.*

Hi, I just opened my HP82240B portable infrared printer battery compartment to find one of the batteries had leaked. There is some white residue on the battery contacts but it looks cleanable. I hope there is no residue inside the printer (as it had been sitting on its regular position in a drawer - not upside down). How could I clean the battery contacts? Is there a special solution I should use and any special tools? Thank you, Patra G.

Re: Battery leakage and cleaning ...

*Message #2 Posted by **Vassilis Prevelakis** on 20 Feb 2006, 5:40 a.m.,*
in response to message #1 by gr8patra

Lemon or vinegar will do. Once all the white stuff is gone, use distilled water to clean the area.

Needless to say, only very small quantities should be used.

**vp

Re: Battery leakage and cleaning ... OT cleaning of car battery contacts

*Message #3 Posted by **Klaus** on 20 Feb 2006, 12:06 p.m.,*
in response to message #2 by Vassilis Prevelakis

I have been told some useful tips to clean the contacts of a car's battery: -lemon -thinner -honey -egg -vaseline -butter

Put any of that on the calc contacts and you will never experience any more problems. Even better, you can eat honey, egg or butter from your calc in extreme situation, so you are prepared :-)

(Reminds me of Adam's Hitchhikers.... where you soak your towel with nutrients)

P.S. I would not use any of the above, but distilled water or tequila!

Re: Battery leakage and cleaning ...

*Message #4 Posted by **David Smith** on 20 Feb 2006, 11:48 a.m.,*
in response to message #1 by gr8patra

The white stuff comes off easily with just plain water or isopropyl alcohol, no need for vinegar.

Re: Battery leakage and cleaning ...

*Message #5 Posted by **Ed Look** on 20 Feb 2006, 1:46 p.m.,*
in response to message #1 by gr8patra

Just remember that there is potential toxicity (mimimal from ordinary carbon-zinc, or even "alkaline" batteries,

which are similar) from battery leakage. Do your best not to touch the stuff, and if you do, rinse it off yourself with water.

Re: Battery leakage and cleaning ...

*Message #6 Posted by **David Smith** on 20 Feb 2006, 11:31 p.m.,*
in response to message #5 by Ed Look

The white stuff is potassium carbonate... not much to worry about there. It is formed when the potassium hydroxide electrolyte in the batteries reacts with carbon dioxide in the air. Best not to snort it or gobble it down though. Wash hands after handling. Shower daily. Lather, rinse, repeat.

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How to determine the ROM-Version of am 71B ?

*Message #1 Posted by **UBoot-Stocki** on 20 Feb 2006, 1:23 a.m.*

Hi,

thats my question: How to determine the ROM-Version of am 71B ?

best regards

Andreas

VER$ (NT)

*Message #2 Posted by **Garth Wilson** on 20 Feb 2006, 1:44 a.m.,*
in response to message #1 by UBoot-Stocki

VER$ <ENDLINE>

Re: VER$ (NT)

*Message #3 Posted by **John Kercheval** on 20 Feb 2006, 7:36 a.m.,*
in response to message #2 by Garth Wilson

Garth:

First your posts are highly informative. What do you do for a living? Do you work for HP?

Secondly, on the subject of ROM version, can you tell me what ROM versions there were and are there any meaningful differences between them?

Thanks!

John Kercheval Georgetown University Washington, DC

Re: VER$ (NT)

*Message #4 Posted by **Bill (Smithville, NJ)** on 20 Feb 2006, 9:59 a.m.,*
in response to message #3 by John Kercheval

Hi John,

The follow is great page with the ROM versions and their associated bugs:

link

Bill

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ROM dump of HP-35 version 2 (with bugs)

*Message #1 Posted by **Peter Monta** on 19 Feb 2006, 5:50 p.m.*

There's a ROM dump of the HP-35 version 2 (the one with bugs) available at my HP-35 page.

Seems to work fine with Nonpareil; Eric, feel free to add it to the distribution if you think that buggy firmware is appropriate to include.

The ROM chips are marked 1818-0006, 1818-0017, and 1818-0020. Here's the errata list from HP---all the described bugs seem to be present.

It will be interesting to analyze the exp() bug---was it an algorithmic error or merely a typo in some constant? The trig bugs also involve arguments with 0.0002 or similar, though, so maybe they're all CORDIC related.

Cheers, Peter Monta

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HP-33S Latest Versions at Walmart

*Message #1 Posted by **Thomas Cox** on 19 Feb 2006, 4:22 p.m.*

Recently observed that the latest version of the HP-33S is available at Walmart in the Greenville, SC area. The price has dropped by 10% recently.

1234 to remove

Re: HP-33S Latest Versions at Walmart

*Message #2 Posted by **John Garza** on 19 Feb 2006, 9:33 p.m.,*
in response to message #1 by Thomas Cox

Dear God. HPs at wally mart. I don't think I like the 21st century very much. I think I'll just go home and play with my 67.

Re: HP-33S Latest Versions at Walmart

*Message #3 Posted by **Palmer O. Hanson, Jr.** on 20 Feb 2006, 12:50 p.m.,*
in response to message #2 by John Garza

The interesting thing is not that the HP-33S is being sold at Wal-Mart but that in western North Carolina and in the Tampa Bay area of Florida I wasn't able to find the machine offered anywhere else. It wasn't at Office Depot or at Staples even though TI and Casio have substantial displays at those stores. So, where does one purchase an HP-33S if one doesn't purchase it at Wal-Mart?

Re: HP-33S Latest Versions at Walmart

*Message #4 Posted by **bill platt** on 20 Feb 2006, 1:08 p.m.,*
in response to message #3 by Palmer O. Hanson, Jr.

direct from HP or from AMAZON. Some time back, HP announced that their focus would be on direct and online sales WRT calculators.

Re: HP-33S Latest Versions at Walmart

*Message #5 Posted by **John Smitherman** on 20 Feb 2006, 11:16 p.m.,*
in response to message #4 by bill platt

> Quote:
>
> direct from HP or from AMAZON. Some time back, HP announced that their focus would be on direct and online sales WRT calculators.

Hi Bill. The Walmart and Fry's near my house are both sold out of the 33s. Also, Fry's is sold out of the 49G+. A few questions come to mind - Has demand outstipped supply, Is HP getting to

release a new product or is it as you say that HP is moving to an Internet based marketing approach?

By the way, there are many old (2004) 17BII+'s and 48GII's at Fry's that don't seem to move at all.

Regards,

John

Re: HP-33S Latest Versions at Walmart

*Message #6 Posted by **Greg Whitfield** on 19 Feb 2006, 10:59 p.m.,*
in response to message #1 by Thomas Cox

Thomas,

What was the serial number on those units? Have they reached CNA6XXXXXXX yet?

The Wal-Mart located in Pea Ridge, Florida (or Pace, Florida, depending on where one sides in the Pea Ridge vs. Pace debate) is having it's Electronics department renovated. I noticed that they now had a wall location and a sticker for the HP-33S, but there are no units in stock. The price was, I believe, $44.97. They now have HP-10BII calculators in stock. Before this, they had no HP calculators at all--only TIs, Casios, and some off-brands.

Cheers,
Greg

Re: HP-33S Latest Versions at Walmart

*Message #7 Posted by **Palmer O. Hanson, Jr.** on 20 Feb 2006, 3:58 p.m.,*
in response to message #6 by Greg Whitfield

The Wal-Mart in Largo, Florida has four HP-33S's on the display. One has serial number CNA 53200443. Is that as good as, or better, than CNA524's? Two of the others are CNA429XXXX and the fourth is CNA442XXXX.

What is the significance of CNA6XXX?

Re: HP-33S Latest Versions at Walmart

*Message #8 Posted by **Greg Whitfield** on 20 Feb 2006, 7:59 p.m.,*
in response to message #7 by Palmer O. Hanson, Jr.

HP-33S calculators with serial number CNA6XXXXXXX would have been produced in 2006 (since the first digit after the country and plant code, "CNA", is the last digit of the year). That just seemed significant to me. :)

-Greg

Re: HP-33S Latest Versions at Walmart

*Message #9 Posted by **John Smitherman** on 20 Feb 2006, 11:07 p.m.,*
in response to message #7 by Palmer O. Hanson, Jr.

Quote:

The Wal-Mart in Largo, Florida has four HP-33S's on the display. One has serial number CNA 53200443. Is that as good as, or better, than CNA524's? Two of the others are CNA429XXXX and the fourth is CNA442XXXX.

What is the significance of CNA6XXX?

I don't believe that there shouldn't be any difference in the quality of the 532 vs 524. Both are the latest with improved display and keyboard and bug fixes.

However, the 429 and 442 have slightly improved display vs the original but still have the poor keyboard and bugs as the original.

It gets kind of confusing, but I hope this helps.

John

Re: HP-33S Latest Versions at Walmart

*Message #10 Posted by **Palmer O. Hanson, jr.** on 21 Feb 2006, 10:24 p.m.,*
in response to message #9 by John Smitherman

Thanks for your help. I bit the bullet and bought the 532.

I noticed one other thing -- the older 33S's were in those anti-theft devices which will sound an alarm if you try to take them out of the store without paying for them. My 532 was not in an anti-theft device. Strange, indeed.

Re: HP-33S Latest Versions at Walmart

*Message #11 Posted by **Bob** on 24 Feb 2006, 1:39 p.m.,*
in response to message #10 by Palmer O. Hanson, jr.

I have 2 HP33S's, one with 527xxxx as the serial number. Both displays are fine. I use them for daily users and for travelling. Basically, all of the time.

I have used HP's starting with the 41CV over 23 years ago and these 2 give good answers all of the time. I had to return my first one because of a non-entry zero key, but the two I have now are great.

Not quite the same feeling as my old 41CV, but certainly good enough to get the job done. Also, I don't have to worry about someone walking off with it or it falling into something messy and destroying it. <$50 and I have a new one. Not great, but it beats losing a 48GX.

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HP28 S ROM

*Message #1 Posted by **Boandl** on 19 Feb 2006, 10:10 a.m.*

Hi there,

I desperately search for a HP-28S (or HP-28C) ROM. My old HP28-S has a damaged battery lid. I also own a HP IPAQ and would like to emulate the HP-28S on the IPAQ.

All searching for a ROM was unsuccessful. Some Methods described in the 'net (http://privat.swol.de/ChristophGiesselink/) are not very helpful, because you need equipment, no one I know owns.

Does anyone a practicable way to get the ROM of a HP-28S or HP28-C for the Pocket PC emulators?

Best regards, Klaus

Re: HP28 S ROM

*Message #2 Posted by **Randy** on 19 Feb 2006, 11:31 a.m.,*
in response to message #1 by Boandl

You can make your damaged 28 work long enough to extract the rom -

Use a piece of aluminum foil across the ends of the batteries to make the connection and place tape over the area of the battery holder to force the batteries into the calculator and hold them in place.

Ugly but it will work...

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HP25 problem at revival

*Message #1 Posted by **Alain Delmotte** on 19 Feb 2006, 4:07 a.m.*

Hi!

After many (many) years I decided to put my HP25 (bought 1/12/1975) at work again.

I left it because at the time I was told that it was not possible to find new battery pack.

I only now discovered the MoHPC following the advice of someone.

Now I replaced the batteries by new NiMH batteries.

After charging when running the display shows a full line of 0 and nothing modify this.

Any hope to solve the problem?

Thanks

Re: HP25 problem at revival

*Message #2 Posted by **Thomas Radtke** on 19 Feb 2006, 6:11 a.m.,*
in response to message #1 by Alain Delmotte

I'm sure others will know better and I don't own one of these fine cals but here is a reasonable guess: After so many (many;) years capacitors tend to go bad. In my experience, this can cause a lot of nasty failures. If no one else will come up with a better idea, replacing all capacitors is worth trying.

Thomas

Re: HP25 problem at revival

*Message #3 Posted by **Randy** on 19 Feb 2006, 9:52 a.m.,*
in response to message #1 by Alain Delmotte

Most caps in HP handhelds are tantalums... it's rare for them to fail.

The problem is bad ACT chip, it was damaged by the charger being plugged in with a bad battery or no battery in place. The battery is the load for the charging circuit, if the battery is open and presents no load, the voltage inside the calculator rises to 10 volts and damages the integrated circuits.

The only source for the chip is from another 21,22,25,25C,29C or 67. The 27 is not compatible. The ACT is the 22 pin DIP at the bottom of the processor board.

Edited: 19 Feb 2006, 9:53 a.m.

HP25 problem at revival

*Message #4 Posted by **Alain Delmotte** on 19 Feb 2006, 12:00 p.m.,*
in response to message #3 by Randy

Thanks for the information.

So there is no solution, unless I change the circuit.

Now the problem will be to find it.

Yours,

Alain Delmotte

Re: HP25 problem at revival

*Message #5 Posted by **John Garza** on 19 Feb 2006, 9:40 p.m.,*
in response to message #4 by Alain Delmotte

To find one, setup a saved search on ebay (look for a cheap woodstock - like a 21). The search will email you when it finds one. Bid, win, pay, receive, unpack, warm up the soldering iron...

Of couse, you could just get another 25 or a 25C.

Regarding batteries on woodstocks. I NEVER recharge batts in the machines. Use the external charger unit, or make one, or better yet remove the central plastic bar in the batt pack so it can accept AA rechargeables, and when they're low remove them and recharge outside the calculator.

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MoHPC *The Museum of HP Calculators*

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HP-41 Date to Week / Week to Date conversion

*Message #1 Posted by **Geir Isene** on 18 Feb 2006, 6:29 p.m.*

Here's a program that converts a date to the ISO week number and a week number to the starting date of that week (monday as specified by ISO). It takes the date in the normal format. The week number to be converted to the date (monday) can be WW for the current year or WW,YYYY for any year.

D-W obviously converts a date to the ISO week number while W-D naturally does the reverse.

```
001 *LBL "D-W"
002  ENTER
003  ENTER
004  XEQ 01
005  X<>Y
006  DDAYS
007  7
008  /
009  2,1
010  +
011  INT
012  RTN
013 *LBL "W-D"
014  ENTER
015  INT
016  X NE Y?
017  SF 05
018  2
019  -
020  7
021  *
022  FS?C 05
023  GTO 02
024  DATE
025  LBL 03
026  XEQ 01
027  X<>Y
028  DATE+
029  RTN
030  LBL 01
031  100
032  *
033  FRC
034  100
035  /
036  4,01
037  +
038  ENTER
039  DOW
040  8
041  -
042  CHS
043  +
044  RTN
045  LBL 02
046  X<>Y
047  FRC
048  100
049  /
050  1,1
051  +
052  GTO 03
053  END
```

Re: HP-41 Date to Week / Week to Date conversion

*Message #2 Posted by **Karl Schneider** on 18 Feb 2006, 10:18 p.m.,*
in response to message #1 by Geir Isene

Geir --

Thank you for the contribution, but I think it needs some more work before it is ready for the MoHPC HP-41 Software Library.

You should mention that the program requires an HP-41CX or an HP-41C/CV with Time Module.

What is "date in the normal format"? We use MM.DDYYYY in the US, but Europe uses DD.MMYYYY. The Time Module and the HP-41CX support both. (Flag 31 clear = MDY; Flag 31 set = DMY).

Also, several examples would be helpful.

I get -12 as the answer, running "D-W" for MM.DDYYYY = 12.182006. That doesn't seem correct, but the program was entered correctly.

Regards,

-- KS

Program submissions

*Message #3 Posted by **Vassilis Prevelakis** on 19 Feb 2006, 12:19 a.m.,*
in response to message #2 by Karl Schneider

I'd encourage people developing programs intended for release to the community to use the old HP program library submission forms.

Look in any "Users's library solutions book" in the MoHPC DVD for the format.

```
----------------------

Karl Schneider wrote:


> I get -12 as the answer, running "D-W" for MM.DDYYYY = 12.182006.
> That doesn't seem correct, but the program was entered
correctly.
```

The program assumes dates in the European format (DD.MMYYYY). As Karl suggested, the program should check flag 31 and behave accordingly.

**vp

Re: Program submissions

*Message #4 Posted by **Geir Isene** on 19 Feb 2006, 3:55 a.m.,*
in response to message #3 by Vassilis Prevelakis

> Quote:
>
> I'd encourage people developing programs intended for release to the community to use the old HP program library submission forms.

Releasing it here makes it possible to get feedback on it (like the flag 31). Thanks.

Re: Program submissions

*Message #5 Posted by **Vassilis Prevelakis** on 19 Feb 2006, 7:20 a.m.,*
in response to message #4 by Geir Isene

```
Geir Isene wrote:
> Releasing it here makes it possible to get feedback on it (like the flag 31).
```

By all means.

My comment was not about posting here. In fact I think this is the best place to post new programs.

I was talking about the *format* of the submission. Specifically, that by following the HP User Library layout you are helped to provide all the info that users will require.

For example, the forms include a section describing the input, another with examples of use, etc. A lot of the programs in the Solution books were submitted to the program library by the user community.

Best Regards

**vp

Re: Program submissions

*Message #6 Posted by **Geir Isene** on 19 Feb 2006, 9:03 a.m.,*
in response to message #5 by Vassilis Prevelakis

Ah, point taken. I do that on more involved programs. Had the idea that this little conversion needed no such "overhead". But at the same time I am a "standardization maniac", so I'll adopt it for all my programs.

Re: HP-41 Date to Week / Week to Date conversion

*Message #7 Posted by **Geir Isene** on 19 Feb 2006, 2:22 p.m.,*
in response to message #2 by Karl Schneider

> Quote:
>
> What is "date in the normal format"? We use MM.DDYYYY in the US, but Europe uses DD.MMYYYY. The Time Module and the HP-41CX support both. (Flag 31 clear = MDY; Flag 31 set = DMY).

The program now supports both date conventions. Bear in mind that it does however show the first *monday* of the week when you enter the week number and execute "W-D". This is according to the ISO week number specification.

> Quote:
>
> Also, several examples would be helpful.

Enter (in DMY mode):

```
2,012006
XEQ'D-W
```

and you get:

```
1
```

Enter (in MDY mode):

```
11,2007
XEQ'W-D
```

and you get:

```
3,122007
```

Enter (in MDY mode):

```
11
XEQ'W-D
```

and you get:

```
3,132006
```

> Quote:
>
> I get -12 as the answer, running "D-W" for MM.DDYYYY = 12.182006. That doesn't seem correct, but the program was entered correctly.

Fixed:

```
001 *LBL "D-W"
002  ENTER
003  ENTER
004  XEQ 01
005  X<>Y
006  DDAYS
007  7
008  /
009  2,1
010  +
011  INT
012  RTN
013 *LBL "W-D"
014  ENTER
015  INT
016  X NE Y?
017  SF 05
018  2
019  -
020  7
021  *
022  FS?C 05
023  GTO 02
024  DATE
025  LBL 03
026  XEQ 01
027  X<>Y
028  DATE+
029  RTN
030  LBL 01
031  100
032  *
033  FRC
034  100
035  /
036  FC? 31
037  1,04
038  FS? 31
039  4,01
040  +
```

```
041  ENTER
042  DOW
043  8
044  -
045  CHS
046  DATE+
047  RTN
048  LBL 02
049  X<>Y
050  FRC
051  100
052  /
053  1,1
054  +
055  GTO 03
056  END
```

Re: HP-41 Date to Week / Week to Date conversion

*Message #8 Posted by **Karl Schneider** on 23 Feb 2006, 10:51 p.m.,*
in response to message #7 by Geir Isene

Geir --

Thank you for the improvements to your program. If you submit it to the MoHPC HP-41 Software Library, you could pick one of the a better templates for formatting the posting.

-- KS

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HP 65/67/97/41 Mag card template for MS Word

*Message #1 Posted by **John Garza** on 18 Feb 2006, 5:26 p.m.*

All,

If anyone's interested, I just posted this to comp.sys.handhelds

It allows you to make professional looking (ie legible!) mag cards. You can use decal paper, white paper & glue, or just print the label cards themselves a la TI58 and keep your limited supply of cards clean and reusable.

Scissors not included - enjoy!

-John

Re: HP 65/67/97/41 Mag card template for MS Word

*Message #2 Posted by **philippe** on 19 Feb 2006, 6:18 a.m.,*
in response to message #1 by John Garza

Hi John,

Many thanks for your Job.

I am unable to access to the site comp.sys.handhelds

Am I wrong somewhere.

Philippe

Re: HP 65/67/97/41 Mag card template for MS Word

*Message #3 Posted by **john garza** on 19 Feb 2006, 9:22 p.m.,*
in response to message #1 by John Garza

If anyone needs a copy I can email you one, just send me your email address.

-John

Re: HP 65/67/97/41 Mag card template for MS Word

*Message #4 Posted by **Iñigo Rodriguez** on 20 Feb 2006, 12:07 p.m.,*
in response to message #3 by john garza

Hello John

Have have read your post and I´m very interested. Can you send me a copy to this address?
ira@claro.jazztel.es

Thank you and best regards

Iñigo Rodriguez Spain

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HP16C manual dated 9/83

*Message #1 Posted by **John Leith** on 18 Feb 2006, 3:19 p.m.*

The original manual for the HP16C (purch. Apr. 1984) is 170 x 117 mm (not counting the spiral binding), their part number "00016-900001 Rev. C English" amd "Printed in U.S.A. 9/83" on the back cover. The calculator has "USA 2417A85315" stamped on one edge. Works fine, never replaced the battery, but it is only lightly used. Not for sale! This relates to some exchanges on the forum from Feb. 2005, but I can't figure out how to link my msg. to that thread.

Edited: 18 Feb 2006, 3:20 p.m.

Re: HP16C manual dated 9/83

*Message #2 Posted by **Karl Schneider** on 18 Feb 2006, 10:30 p.m.,*
in response to message #1 by John Leith

John --

A post from that time has gone to the Archives, and is no longer linkable or "repliable". What you should do is find the original thread in the appropriate HP Forum Archives (#14 or #15), and use the "Link" button below to paste in a link to a specific post in the thread.

P.S. I wish your manual were for sale! A genuine color spiral-bound HP-16C manual is one of the few items I'm missing, but it's rare and expensive on eBay. I do have a correct-size B/W spiral-bound facsimile from the MoHPC scan, prepared by Kinko's for US$40.

Regards,

-- KS

Re: HP16C manual dated 9/83

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 19 Feb 2006, 12:26 a.m.,*
in response to message #2 by Karl Schneider

Hi, Karl;

I have an original HP16C Owner's Manual dated September 1985 (00016-90001, REV. E) and I can generate an entire, relatively high-res, color scan and leave it for a while to be downloaded. The manual is 137 pages long (front and back covers already count). Would that be of interest for the `community members`?

Cheers.

Luiz (Brazil)

Re: HP16C manual dated 9/83

*Message #4 Posted by **Karl Schneider** on 19 Feb 2006, 2:15 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Hello, Luiz --

Thank you for the offer, but I doubt that it would be necessary. The scan of the HP-16C User's Manual on MoHPC CD #1 is full color, pretty good resolution, and 13691 kB in size. (I had it printed and reduced in monochrome because color was way too expensive.)

Best regards,

-- KS

Re: HP16C manual dated 9/83

*Message #5 Posted by **Les Bell** on 19 Feb 2006, 6:40 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

> Quote:
>
> I have an original HP16C Owner's Manual dated September 1985 (00016-90001, REV. E)

Oooh! Oooh! I have one with no revision letter, and dated April 1982. What do I win?

;)

Looks like I'll have to check the version on the Museum DVD. If there were revisions, that suggests there were corrections of errors.

Best,

--- Les
[http://www.lesbell.com.au]

Related topic: HP10C Manual curiosity

*Message #6 Posted by **Vieira, L. C. (Brazil)** on 19 Feb 2006, 9:26 p.m.,*
in response to message #5 by Les Bell

Hi Les Bell, guys;

firts of all, congrats! You have a collectible piece, indeed.

I have some original HP manuals, and I'm glad to say that I have at least one of each Voyager´s: English, Portuguese and one in German (HP11C). The one I think is the most interesting of them is a July 1982, Rev. B HP10C Owner's Handbook. At page #94 it should have a program listing, but it has only the comments and the two big blue arrows indicating how the branching occurs in the edited program. I had to wait for the MoHPC listing prior to see the actual program contents.

Cheers!

Luiz (Brazil)

Edited: 19 Feb 2006, 10:59 p.m.

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An RPN Club

*Message #1 Posted by **Ben Salinas** on 17 Feb 2006, 11:05 p.m.*

The college I attend is 4 years old (www.olin.edu), and we recently realized that we have enough students who use RPN to legitamently start an RPN club. We can get funding from the school, but the question is what would we do?

Any ideas of the purpose of an RPN/HP club. Some ideas we had included spreading the idea of RPN on and off campus.

Re: An RPN Club - umm, why?

*Message #2 Posted by **.** on 18 Feb 2006, 1:46 a.m.,*
in response to message #1 by Ben Salinas

I'm curious. Where does the funding come from? If it's from students, why should fellow students pay for it?

Re: An RPN Club - umm, why?

*Message #3 Posted by **Han** on 22 Feb 2006, 3:27 p.m.,*
in response to message #2 by .

As I understand it, funding often comes from student government (which gets some of its funding from student activity fees). Why should fellow students pay for it? For the same reason every student pays activity fees. It's the same for taxes. You might be retired and not have any children. But you still pay taxes, and some of that money goes to fund education.

> Quote:
>
> I'm curious. Where does the funding come from? If it's from students, why should fellow students pay for it?

Re: An RPN Club

*Message #4 Posted by **Garth** on 18 Feb 2006, 3:22 a.m.,*
in response to message #1 by Ben Salinas

Just have 'em join in here. They'll benefit plenty from it, without leaving their dorms.

Re: An RPN Club

*Message #5 Posted by **Tim Wessman** on 18 Feb 2006, 9:20 a.m.,*
in response to message #1 by Ben Salinas

Promoting programming the calculator is the first idea that comes to mind. Maybe start a group project to write something really cool using HPGCC.

TW

Re: An RPN Club

*Message #6 Posted by **Dan M (NM/USA)** on 18 Feb 2006, 9:31 a.m.,*
in response to message #1 by Ben Salinas

I think this is a great idea. A meeting place where students can gather and exchange tips and get help can really boost interest in HP calculators. Some ideas for your charter:[ul]

- Teach programming concepts on RPN/RPL calculators.
- Develop and maintain library of applications useful to students in each major. Imagine the incentive to buy an HP if you knew there was a packgage of programs tailored to the classes you will be taking.
- Publish newsletter/Web page with tips and tricks.
- Run programming competitions. [\ul] From what I've seen on this group, Ben is just the person to organize a viable club. Sure, the students can participate in our dialog, but meeting in person is much more valuable.

For those who don't know, the funding generally comes from student fees and is allocated to any group who have a common interest and wish to organize a group open to all students.

Re: An RPN Club

*Message #7 Posted by **Bruce Horrocks** on 18 Feb 2006, 10:07 a.m.,*
in response to message #1 by Ben Salinas

1. Have a great time
2. Do something amazing for rag week
3. Write programs to convert beer from your local measure into other measures e.g. litres, pints, etc. and then do real-world testing to make sure that it is correct
4. Do other stuff that students do
5. Finally, if your maths teachers have student notes that are written for the TI, offer to re-write them for the HP. You (a) get to persuade the teacher to try an HP and (b) the act of doing it will help enormously in your understanding/revision of the work.

Re: An RPN Club

*Message #8 Posted by **Ed Look** on 18 Feb 2006, 12:48 p.m.,*
in response to message #7 by Bruce Horrocks

Wanna simple, cheapie routine to guess Miller indices from 2 theta?

(Mostly serious. 5% kidding.)

Re: An RPN Club

*Message #9 Posted by **Mike H** on 20 Feb 2006, 8:56 a.m.,*
in response to message #8 by Ed Look

> Quote:
>
> Wanna simple, cheapie routine to guess Miller indices from 2 theta?

I would. Doesn't have anything to do with beer, but a have seen some nice cleavage (LOL)

Mike

Re: An RPN Club

*Message #10 Posted by **Ed Look** on 20 Feb 2006, 1:58 p.m.,*
in response to message #9 by Mike H

LOL, back!!

What am I supposed to say to that... on THIS forum of all places!

Anyhow, let me now figure out how to post it here in the Museum somewhere, somehow. I'll reply back to you here in a couple of days or so.

If I seem AWOL, just post again!

Re: An RPN Club

*Message #11 Posted by **Lasse of Sweden** on 18 Feb 2006, 3:02 p.m.,*
in response to message #1 by Ben Salinas

I've been doing RPN with my first hp 25c calculator.. 30 years ago. Reverse Polish Notation is best there is...

Recently I got me a 49g+ calculator.. to my surprice... The manual stinks...

So I ask my self.. what can be done?

Well.. you might give simple examples of writing simple programs with diss hp 49g+ / 49gplus.. ?

In programing.. how handle input/ outfiles etc and doing/running programs in hp49g+ ? how to send files to pc/ windows 98/ XP ?

Nice HP-Moments/ Lars Norberg.. Master of Science.

Re: An RPN Club

*Message #12 Posted by **Tim Wessman** on 18 Feb 2006, 4:39 p.m.,*
in response to message #11 by Lasse of Sweden

>Recently I got me a 49g+ calculator.. to my surprice... The manual >stinks...

>So I ask my self.. what can be done?

How about go to the calculator web page, look under "Product Manuals" and discover this. . .

http://h10025.www1.hp.com/ewfrf/wc/manualCategory?
product=351775&lc=en&cc=us&dlc=en&dest_page=product&

Oh look! There are three downloads. One is the 175 page booklet that comes with the calcualtor. Ther "user's manual" that comes with the calculator is a short inrtoduction to the calculator. Then there is a "users guide" that has 860 pages of material. Then there is the "Advanced Users Reference" that has about 700 pages of material.

So where is is the stinky manual you are wanting something to be done about?

TW

Re: An RPN Club

*Message #13 Posted by **Han** on 22 Feb 2006, 3:40 p.m.,*
in response to message #12 by Tim Wessman

Tim,

While I agree with you, I empathize with the previous poster. Does not it seem a bit expensive when, in order to learn how to use a $150 machine, one is required to already own (or perhaps purchase) a computer ($500+) and internet connection ($10-$20 per month)? Even if you printed it out at the library, there's still the paper/ink expenses (10 cents copy?). But let's forget about that. Imagine having to carry around a laptop in order to use your machine. Of course, you could print it... and that would be adding to the cost. I think it's fair to complain if a product does not come with adequate documentation.

Granted, most households will have a computer (though not necessarily an internet connection -- like my parents). I understand you're currently involved in writing data collecting software. I cannot picture you only providing a quick start guide to your software. In fact, I'm sure you'd have a very good set of documents on how to make the most of the software. So why can we not expect the same from a company that operates on a much larger scale?

> Quote:
>
> >Recently I got me a 49g+ calculator.. to my surprice... The manual >stinks...
>
> >So I ask my self.. what can be done?
>
> How about go to the calculator web page, look under "Product Manuals" and discover this. . .
>
> http://h10025.www1.hp.com/ewfrf/wc/manualCategory?product=351775&lc=en&cc=us&dlc=en&dest_page=product&
>
> Oh look! There are three downloads. One is the 175 page booklet that comes with the calcualtor. Ther "user's manual" that comes with the calculator is a short inrtoduction to the calculator. Then there is a "users guide" that has 860 pages of material. Then there is the "Advanced Users Reference" that has about 700 pages of material.
>
> So where is is the stinky manual you are wanting something to be done about?
>
> TW

Edited: 22 Feb 2006, 3:42 p.m.

Re: An RPN Club

*Message #14 Posted by **John Smitherman** on 18 Feb 2006, 8:38 p.m.,*
in response to message #11 by Lasse of Sweden

Lasse, here is a link to a set of learning modules for the 49G+:

http://h20331.www2.hp.com/hpsub/cache/300295-0-0-225-121.html

I hope that you find these useful.

Regards,

John

Re: An RPN Club

*Message #15 Posted by **Vieira, Luiz C. (Brazil)** on 18 Feb 2006, 8:59 p.m.,*
in response to message #1 by Ben Salinas

Hi, Ben;

did you read this post of mine? What about getting in contact with the teachers of the related areas and try getting some calculator-related activities? I guess that as the club is funded with an academic basis, teachers might/should participate.

I think that the main ideas in the post I mentioned here may give the teachers some guidance, though.

Cheers.

Luiz (Brazil)

Re: An RPN Club

*Message #16 Posted by **Les Bell** on 19 Feb 2006, 6:46 p.m.,*
in response to message #15 by Vieira, Luiz C. (Brazil)

> Quote:
>
> What about getting in contact with the teachers of the related areas and try getting some calculator-related activities?

I think that's the best approach. If teachers create or use material oriented towards the TI calculators, then the first order of business should be to "correct" it to use RPN or RPL, so that HP users are not disadvantaged. Students should be able to get to work on a problem and learn about the underlying math, without having to divert their attention to algebraic->RPN translation issues.

Test the material "in-house" at first, then release it to the outside world. I'm sure HP would be more than willing to help polish (pun unintentional) the material and assist with distribution.

Best,

--- Les
[http://www.lesbell.com.au]

Re: An RPN Club

*Message #17 Posted by **John Kercheval** on 19 Feb 2006, 6:40 a.m.,*
in response to message #1 by Ben Salinas

I would consider being a guest speaker at one of your functions.

John Kercheval

Re: An RPN Club (Ben - How is OLIN??)

*Message #18 Posted by **ECL (Eric)** on 19 Feb 2006, 8:30 p.m.,*
in response to message #1 by Ben Salinas

Ben,

We corresponded (through postings) over the topic of Olin before you enrolled. I have read a bit about the philosophy of the school. The try first / study later approach is one that we took in my first mechanical design course. We had an extremely open problem of design/fabricate/deploy a robot that traversed a wall with cargo. Seems simple, yet we had all just come out of first-semester dynamics and had little experience. It was true fun with a bit of frustration for good measure!

I'm in the last leg of my BS in mech engr now, and I intend to pursue an advanced degree. I will investigate Olin (Masters/Doctoral granting?) as I like what I've heard.

How do you like it so far?

Eric (ECL)

Re: An RPN Club (Ben - How is OLIN??)

*Message #19 Posted by **Ben Salinas** on 20 Feb 2006, 10:13 p.m.,*
in response to message #18 by ECL (Eric)

Eric,

Olin is great, but unfortunately we are just undergraduate (as of now, and probably forever). Because of the size (<300 students), everyone is very friendly, and very helpful. The professors are wonderful and dedicated to the students and to teaching the students.

Everyone else,

Clubs at Olin are heavily subsidized so that students will do things other than work. Clubs can easily get money so that way clubs will host events, and students will leave their rooms. It's a great system.

I am thinking we will probably start out by working on advocacy on campus. We will probably then move more off campus (either to other schools in the Boston area, or to other age groups)

Thanks all,

Ben

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Repairing Classic Series battery compartment cover

*Message #1 Posted by **Gordon** on 17 Feb 2006, 7:16 p.m.*

The sliding latches on a few of my Classic series are broken. The common problem tends to be the plastic tab in the inside of the battery cover (where the rubber feet would attach to), they are often broken in half.

There is not enough material for crazy glue to grab on to, and since it occurred on three of my Classic series, I presume it is a common problem.

I had thought about replacing the internal plastic piece with a custom machined/drilled thin metallic tab, and attach the plastic feet (on the outside of the battery cover) to it. But that can get quite involved in making it. Does anyone has a better idea?

Re: Repairing Classic Series battery compartment cover

*Message #2 Posted by **John Garza (3665)** on 18 Feb 2006, 5:14 p.m.,*
in response to message #1 by Gordon

Gordon,

I've come across this problem a couple of times. What I do is line up the two pieces of broken plastic, then glue a thin strip of plastic over the joint, see below.

Battery latch ====== ====== New plastic -------

I find old plastic collar stays from dress shirts work great! Just trim to fit.

-John

Re: Repairing Classic Series battery compartment cover

*Message #3 Posted by **John Garza** on 18 Feb 2006, 5:16 p.m.,*
in response to message #2 by John Garza (3665)

Somehow, the text in my last message was not wysiwyg...

Lets try it again...

Battery Latch ====== ======

New Plastic ------

Re: Repairing Classic Series battery compartment cover

*Message #4 Posted by **Vassilis Prevelakis** on 18 Feb 2006, 8:00 p.m.,*
in response to message #1 by Gordon

If you have all the pieces from the old latch, you can simply add two metal wires to reinfoce the join. Here is a picture of the latch on my HP-97 (the only difference with the HP-67 latch is the colour).

http://www.series80.org/Misc/HP97-latch.jpg

If the latch is broken you arrange the pieces so that they are in the correct positions relative to each other and also correctly aligned (the tops must be level).

You place thin wires (the ones shown in the picture are wires from a resistor pack) on top. You then gently touch each wire with the tip of a soldering iron and wait till the heat allows the wire to sink into the plastic.

**vp

Edited: 18 Feb 2006, 8:02 p.m.

Re: Repairing Classic Series battery compartment cover

*Message #5 Posted by **David Smith** on 18 Feb 2006, 11:42 p.m.,*
in response to message #1 by Gordon

If you have the piece, you can reattach it as good as new with plastic welding solvent (methylene chloride) available at any hobby shop. Lay the pieces of latch on a stone or metal table top. Paint each end of the latch with the solvent and hold them together for around 10 seconds. Let dry overnight. The bond will be as stong as new... something no glue will do.

Thank you for all your great suggestions

*Message #6 Posted by **Gordon** on 20 Feb 2006, 9:02 p.m.,*
in response to message #5 by David Smith

Thank you so much for all your ideas. I think I will try the welding solvent first and see if I have enough pieces to put it together (part of the middle section is quite crumbled). If that does not work, then I will try the metal wires.

Come to think of it, is there enough clearance to put another thin piece of plastic on top, then use the welding solvent to create a new piece. So in the picture below, F stands for the rubber feet, O stands for the old crumbled piece, and N stands for the new piece.

NNNNNNNNNNNNNNNNN OOOOOOOFFFFFOOOOOO

My concern is there may not enough clearance to do that. If it may work, is there any place that I can go and buy that thin piece of backing plastic? Do they sell stuff like that at hobby shops?

Just realize John Garza has the same idea

*Message #7 Posted by **Gordon** on 20 Feb 2006, 9:07 p.m.,*
in response to message #6 by Gordon

John,

After I post my last reply, I realized my second alternative is the same as your suggestion. I will give that a try, I think you are right, the collar tab is just about the right thinkness.

Do you use crazy glue, or the welding solvent? I think most of my collar tabs are plastic-like, but not exactly plastic, as they do not snap when you bend them.

Plastic for latch repair

*Message #8 Posted by **Randy** on 20 Feb 2006, 10:14 p.m.,*
in response to message #6 by Gordon

Collar tabs: They're usually made of polyethylene, very hard if not impossible to bond to. The solvent welders will not work, you need something made of a styrenic material.

Some hobby shops sell styrene plastic in strips, rods, tubes and other shapes. It's used primarily for model railroading and many of the shapes are scaled to real world things like 4x4 timbers. Several of them come in real handy for calculator repair :)

I use strips that are 0.25" x 0.010" for the top cap on the battery latches - it reinforces the tab and doesn't add much in the way of thickness. Evergreen Scale Models is what my local shop carries. If you'd like, send me an email and I'll snail mail you a chunk.

IMO solvent welding is the **only** way to repair anything plastic in an HP handheld - throw the crazy glues away, they only make things worse.

Edited: 20 Feb 2006, 10:17 p.m.

Re: Thank you for all your great suggestions

*Message #9 Posted by **Marcus von Cube, Germany** on 21 Feb 2006, 8:52 a.m.,*
in response to message #6 by Gordon

Gordon,

> Quote:
>
> NNNNNNNNNNNNNNNNNN OOOOOOOFFFFFOOOOOO

I think you mean this:

> Quote:
>
> NNNNNNNNNNNNNNNNNN
> OOOOOOOFFFFFOOOOOO

The forum has some formatting capabilities. If you want to force a line break, hitting the return key is not enough. Add a special tag after the line: [NL] and your line break will be preserved.

Marcus

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[Slightly O.T.] 256KBx8 SRAM in SOP

*Message #1 Posted by **Han** on 17 Feb 2006, 6:42 p.m.*

I know that there are 2Mb (256KBx8) CMOS SRAM DIP chips. Did anyone ever manufacture them in small outline packages (SOIC)? I seem to come up with nothing via Google -- the hits I get usually point toward Flash RAM. So did any company manufacture these?

Re: [Slightly O.T.] 256KBx8 SRAM in SOP

*Message #2 Posted by **Garth Wilson** on 17 Feb 2006, 8:17 p.m.,*
in response to message #1 by Han

I have never seen a 256Kx8 SRAM in any package. 256Kx16, yes; otherwise 128Kx8 or 512Kx8. These are easily available in SOIC.

Re: [Slightly O.T.] 256KBx8 SRAM in SOP

*Message #3 Posted by **Han** on 17 Feb 2006, 9:13 p.m.,*
in response to message #2 by Garth Wilson

Garth,

Thanks for the response. I tried several distributors -- even searched their out-of-stock lists. I managed to find a few 2Mbit (256KBx8) SRAM chips in DIP form (www.digikey.com) prior to posting my question. However, no one seems to have (ever had) any 2Mbit (256KBx8) in the small outline packages. It's odd that these seem to have never ever existed.

Han

Re: [Slightly O.T.] 256KBx8 SRAM in SOP

*Message #4 Posted by **Garth Wilson** on 17 Feb 2006, 10:50 p.m.,*
in response to message #3 by Han

Same thing with 16Kx8 SRAMs. They went from 8Kx8 to 32Kx8. If you want 16Kx8, you use half a 32Kx8, just tying one of the address lines to ground or Vdd.

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HP-41 ROM Packs

*Message #1 Posted by **SteveH** on 17 Feb 2006, 5:21 p.m.*

Is there anywhere in the UK that can supply ROM packs, expansion packs or just a range of accessories for the HP-41CX?

Cheers,

Steve

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Last post here on MoHPC

*Message #1 Posted by **Joe Edwards** on 17 Feb 2006, 4:43 p.m.*

Good evening, As a previous owner of a HP 32s, which I purchased in college back in 1989, I was delighted to find the Museum and, especially, this forum. After almost 15 years I found out that I wasn't the only person who knew how to use this "weird" calculator. In fact, after reading much of the information here at the Museum, I learned that there was an entire community built around the HP calcs. Not only that, but that there was also a deep and rich history regarding these machines.

That was about three (3) years ago. Fast forward to today. A post was made regarding my obviously confrontational additude regarding some of my earlier posts. Not only that, but I have been informed that I have made too many requests for information for someone who is new to this forum.

I didn't grow up in the HP culture like so many of you folks, so all of this is new to me, but nonetheless interesting. So interesting in fact, that I spent a decent chunk of change on a number of HP calcs. Money well spent. The idea of studying and using this older technology seemed like a chance to live the history, more than just read about it. Chalk that up to a bad case of want-to-be nostalgia. :) I guess I figued that it would be possible to play catch up.

After reading that post, it became very apparent that no matter how much I study these fine, old machines, I will never truly be part of the community, since I didn't live through the HP Era that so many of you fine folks did. At best, this makes me a wanna-be and at worst a person playing with old "junk" that will have no real value in my daily life. As has been stated here many times, most folks use computers today to deal with serious work or just use a calc for simple "down-and-dirty" number crunching.

Therefore, this is my last post here at MoHPC forums. I greatly appreciate those who took the time to share their knowledge and insights. I am sorry it took so much time out of so many folks' daily schedules to answer my multiple questions. For those that I accidentally offended, my apologies. For those who were intentionally rude to me, no apologies are given.

I guess I should thank Karl for his comments, no matter how I feel about them. It has clearly shown me that I am not a member of this community and also, that (my epiphany) they are just calculators. So, back to ebay goes my newly started collection. There are many others out there who will have more use for them. The 33s and 49g+ will do me just fine (real HP or no).

Good luck to all of you folks who visit this site. Thanks.

Joe Edwards

Re: Last post here on MoHPC

*Message #2 Posted by **Stephen Easterling** on 17 Feb 2006, 4:55 p.m.,*
in response to message #1 by Joe Edwards

Hey Joe! I appreciate your posts here and sad to see you go. As one that has also considered selling my collection (mainly just to get the money back), I respect your decision to sell. But, what are you selling? I need an extra 41CX and maybe some others.

Stephen s_easterling@earthlink.net

Re: Last post here on MoHPC

*Message #3 Posted by **John** on 17 Feb 2006, 5:49 p.m.,*
in response to message #2 by Stephen Easterling

Stephen, you will make a good collector. No misplaced plea for Joe to stay and not leave the forum, just wondering what he's selling. Marvelous!

Personally, it would help if people using the internet would always try google first before posting questions to forums, blogs, whatever. Why waste everyone's time when you won't spend your own time first?

And, a thick skin often helps one get through life. Running away the first time someone disagrees with you, even if it is harsh disagreement, will lead to a long and unrewarding life.

So, Joe, if you can take criticism, whether warranted or not, then stay. Otherwise, asta la vista.

Re: Last post here on MoHPC

*Message #4 Posted by **Matt Kernal (US)** on 17 Feb 2006, 7:31 p.m.,*
in response to message #3 by John

>a thick skin often helps one get through life.

Good advice. Just remember, everyone here comes from all walks of life, culture, education, geographic location, occupation, etc.. All of us have different reasons for coming here. Some may be most interested in efficient programming, others in collecting, others may want to get their HP repaired, and some may want to share a good story or memory of how their HP saved their life (OK, I made up that last part :-).

In whatever category the discussion may be concerned, I often just lurk, hoping to learn a thing or two from the "smarty pants" people ;-). Lord knows, I ain't [sic] one of them brain-cells. When I do ask a question, or make a comment, I want to be aware of who will be reading my words, so I try to be polite, friendly, and respectful. I try to make sure I'm as informed as is reasonably possible, before I put in writing, as I want don't want others to know I'm faking it (insert picture of someone nodding "yes", while hold their chin with one hand and resting their elbow in the other hand).

Finally, just be pleasant and enjoy the ride. Don't be intimidated by this group of people that most likely consist of "above average" intelligence quotients (consider the subject matter: calculators). I've met some of these calculator fanatics (myself included) in person, at coffee shops, and some geniuses (myself not included) at some of the handheld calculator conferences . I left with lots of respect for these folks, but more importantly knowing they were/are just people, just like everyone else around you. OK, maybe just a little quirkier! ;-)

Matt

Re: Last post here on MoHPC

*Message #5 Posted by **Donald Leonard** on 17 Feb 2006, 8:55 p.m.,*
in response to message #3 by John

I don't know, folks. I never did enjoy the sometimes rude and inhospitable comments of some members on this and other forums. I view all forums as a SOURCE of information, not a CLUB. As such, I always use the 'search' function on all forums whenever I have a question. Then, if the answer is not

found, I ask.

Sometimes 'Enquiring Minds Want To Know'. Thats why we're here. Those who have an attitude really should remain silent and allow those that don't provide the help and guidance. That way the environmental 'Atmosphere' remains friendly and non-confrontational. Bad 'tudes are just unfriendly at best and rude at worst. Let's keep both out of this forum.

hey Joe, don't go

*Message #6 Posted by **Don Shepherd** on 17 Feb 2006, 6:07 p.m.,*
in response to message #1 by Joe Edwards

Joe, please don't let the ill-mannered comments of one or two people scare you away. I'm like you, I own a few HP calcs and love RPN, but I'm not into it like some of the people on the forum. That's OK, there is room for everyone. It is a great source of information, and my experience is that most of the folks welcome all comers and are anxious to help.

Hope you decide to stay. I value your opinion.

Don Shepherd Louisville, KY

Re: Last post here on MoHPC

*Message #7 Posted by **Geir Isene** on 17 Feb 2006, 6:28 p.m.,*
in response to message #1 by Joe Edwards

Different people with different viewpoints all make up a colourful and more interesting forum, really.

Re: Last post here on MoHPC

*Message #8 Posted by **Vieira, L. C. (Brazil)** on 17 Feb 2006, 8:04 p.m.,*
in response to message #1 by Joe Edwards

Hi, Joe;

I am posting here since the beginning of the milenium. I didn´t have the chance to read 'on line' posts of many people that were just mentioned in past posts, others are no longer here sharing their knowledge, skills, rants... Anyway, many good souls prevail, and I try to 'fit in' for as long as I can... or deserve to.

I deal with HP calculators since 1982. And I found here many others that had gone a lot further than I could even dare dreaming of going. I intend to stay and go ahead with them. I feel home, here.

I respect your decision to leave, but shouldn't you consider your motivations being your own instead of other's? Just a question, please, don't feel compeled to consider if you do not intended to.

If it's worth a try, see yah!

Cheers.

Luiz (Brazil)

Edited: 17 Feb 2006, 8:05 p.m.

Re: Last post here on MoHPC

*Message #9 Posted by **Ed Look** on 17 Feb 2006, 9:27 p.m.,*

in response to message #1 by Joe Edwards

Joe, how do you know you didn't ALREADY fit in? Wherever you or anyone else will go, there'll be disagreements, even an exchange of hot words; it's human nature.

But in these three years, I'm sure you might have found that on this little bright spot of sanity (or is it insanity, $400 for a 32SII !!!) people generally, in an overwhelming proportion of the time, more than polite; they are positively quite nice.

I mean, look at me- I am not an engineer, surveyor, or mathematician. I often find my posts igno... um, unresponded to. (Being insignificant is worse than being treated somewhat poorly because they HAVE taken notice of you... and I'm kind of only one quarter to one half joking...) But there are many nice folk here and even one of them might have a bad day. And often enough, there are those who may have a thoughtful comment or answer to my posts or queries. And I only have in common with the others here what you have, namely a deep appreciation for HP's finely crafted past calculators and their current fairly well designed ones.

Anyway, for what it was worth, I generally found your posts worth reading... er, even if... um, I may not have responded...

Well, I hope you reconsider and post other thoughts for me to consider.

Re: Last post here on MoHPC

*Message #10 Posted by **Andreas Terzis** on 18 Feb 2006, 5:07 a.m.,*
in response to message #1 by Joe Edwards

Joe, I had been visiting the HP Museum years ago for a while. After a period of inactivity, I recently got back on the bandwagon and started using my beloved HP-41CV and visiting the site again. In the vast majority of the cases, I find our fellow HP aficionados very nice, unlike on any other boards. Here and there someone will take something the wrong way, but in general this site offers a lot of good advice, fun and entertainment. I have read a lot of your posts and don't see anything wrong with them. I would hate to see you go like that. If you still decide to, good luck to your endeavors and I hope you find another area where you can get good info from. Good luck, Andreas

Re: Last post here on MoHPC

*Message #11 Posted by **Nenad (Croatia)** on 18 Feb 2006, 10:29 a.m.,*
in response to message #1 by Joe Edwards

Joe, why take the MoHPC so seriously, as the "community"? Appreciating everybody posting here, especially Dave Hick's efforts to keep the MoHPC going on, all in all it is nothing more than an Internet site. If someone offends me, when I ask something I do not understand, showing me that everybody knows everything about this except me, who cares. If I still do not understand, I will ask again, taking no care about an offensive post of someone else.

Everybody can rant on me on any Internet forum, hiding behind his/hers computer screen. Nobody would dare to do it in real life, believe me.

So, if you in future need any information about your HP33s and/or HP49g+, or any other HP or nonHP calculator, or any machine, gadget or appliance, you should ask, here, or in any other forum on the Internet, dependent on the subject. People here come and go. I remember Glynn, Norm Hill (aka Captain America), Viktor Toth, my friend Dave Colver, ... - I do not see posting them here any more. Once when they, or anybody else, come back with a question, an opinion, an answer, a proposal, or a procedure, who is the one who should complain about it.

For each of my posts I may also say "this is the last one", until I will be in need of another piece of information, or if I see somebody asking how to solve something I know. In that case I try to prepare an answer, but I already know that Luiz Claudio will be faster;)

In case the "community" ignores me for a reason that in someones opinion I ask too much, there is always another opinion. Just fill the name field with something as "Pamela", "Marina", "Renata" or "Sylvia" and ask: how to add two numbers on my sister's HP19C. I will certainly obtain more than 10 answers and the answer is what I needed. How do I know this? This is just how I behave when I see such an entry in the Name field;)

Please, just relax and do not take any Internet forum, even a very polite one like moHPC, so seriously. At least, we are only discussing "old junk" here, that means nothing to most people around us. Imagine a forum of old washing machines collectors - what you would think when you see them discussing errors in their instruction manuals, undocumented features, big "start" button in the centre of their control plate instead of the small one in its down right corner ...

Best regards from sunny Split, Croatia

Captain Who?

*Message #12 Posted by **Massimo Gnerucci (Italy)** on 18 Feb 2006, 10:53 a.m.,*
in response to message #11 by Nenad (Croatia)

Hi Nenad,

> Quote:
>
> Norm Hill (aka Captain America)

Wasn't he Captain Zener?
REEEEEEEEDDD LEEEEEEEDDD!

Greetings,
Massimo

Edited: 18 Feb 2006, 10:54 a.m.

Re: Last post here on MoHPC

*Message #13 Posted by **Thomas Davenport** on 18 Feb 2006, 4:26 p.m.,*
in response to message #1 by Joe Edwards

Joe:

Agreed, your "pedigree" for lack of a better word, is somewhat lacking. Good luck in the future.

Tom @ Stanford University

Go Cardinal!

Re: Last post here on MoHPC

*Message #14 Posted by **PeterP** on 18 Feb 2006, 7:55 p.m.,*
in response to message #1 by Joe Edwards

Joe,

Hope all is well. being a newbie myself who loves this forum and the people on it, I was quite surprised by your post. I appologize for my curiosity upfront and none of the below is meant in any other way than sharing my thoughts as well as my own experience with another newbie and HP enthusiast.

I went through the effort to bring up your previous interactions with other people here, using one of Dave's fabulous search features by your name, to learn what could have caused your negative experience, where things went wrong.

(goto here and type in 'Joe Edwards' in the last search field and select it)

I admitt coming away from reading the threads a bit mixed: The search (which could be incomplete and so please accept my appologies if it paints an incomplete picture) brought up a host of threads which most often start with a question from you and a discussion that follows, sometimes however with intermixed harsh back and forth, one could argue started by you.

Being a newbie myself I feel very grateful for the overwhelming support that I have received through the members of this forum, especially the HP geniuses among them. Their advice has always been friendly, plentyful and exhaustive and I feel that all they ever asked for in return (if anything!) is a kind 'thank you!' for their effort and acknowledgement of the help they provided. We are all human and like to be thanked (and once in a while padded on the back) for our efforts.

Being a newbie (like me) means that information flow is naturally a bit one-sided. We ask, they answer. I try to give back whereever I can and share things that I learned, trying my best to give credit to those I learned it from. But I know that for the foreseeable future it is EXTREMELY unlikely that I will ever be able to provide only the slightest bit of information to the Valentins, Diegos, Raymonds, Tonys, Meinderts, Christophs and All-The-Other-Great-Ones of this forum. So all I can do is make this learning and teaching experience a fun and engaging one for them.

So when one of them would write back to me "Come On, you could have found this in Goodle in 1 sec" I might simply say, "Sorry, you are right, will do next time" (as he/she most likely is...)

My profession makes me work in a world of people with large ego's, very often in no proportion to their actual skills. Personally my experience here is quite the opposite - many here have far more skill and patience with stupid questions like the ones I often ask, then they would have to. I have yet to find a forum where a 'noop' is so contunally welcomed and supported by the Old Wise Man & Woman like this one.

And before spilling the baby with the bathwater (or whichever way this saying works in english...), I might take a look in the mirror and check if me being upset with another person or group is solely the groups fault or if there is something on my part that might have caused the friction in the first place and I can change.

If you love learning and discovering HPs I can't think of a better place than this forum that Dave so generously provides for all of us to use. Tongue in cheek, maybe you want to "give the forum another chance" ;-)

In any case, best of luck and lots of fun, whichever way you move forward.

Cheers

Peter

Re: Last post here on MoHPC

*Message #15 Posted by **Thomas Okken** on 19 Feb 2006, 12:26 a.m.,*
in response to message #1 by Joe Edwards

Please don't take it too hard when someone is rude on this forum -- or anywhere on the Internet, for that matter. That kind of behavior is not *right*, but it is not representative of most of the people here.
I guess it would be nice if this forum offered a feature to let users filter out posts from people who have history of being unpleasant...
Until then: I hope you'll continue to visit here; rest assured that most of us *are* civil. The silent majority. :-)

- Thomas

Joe Edwards' last(?) post here on MoHPC

*Message #16 Posted by **Karl Schneider** on 19 Feb 2006, 12:43 a.m.,*
in response to message #1 by Joe Edwards

Joe (if you are still following the Forum) --

Well! Your response to me and your "farewell" post were, um, I'm not sure how to describe it. Maybe more sarcastic or emotional than sincere and rational, with a large dose of "guilt trip" included -- aimed at me in particular and the group by association. I won't bother to address their contents specifically.

I spoke only for myself, and made no pretense otherwise. I never referred to you as a "newbie", but only suggested that someone with limited history of contributions in particular should not appoint himself an active moderator. Even the Curator (David Hicks) intervenes only when necessary.

No one is asking you to leave, Joe, and I think you probably "fit" in better than you might think. If you are 36 years old (having started college in 1987, according to one of your posts) and bought a 32S in 1989, then you know about calculators from "the old HP".

However, I will echo what "John" stated in response to your last post: One shouldn't spend the time and effort of others without first spending one's own. I felt that your response to Vassilis in particular was way out of line, and I spoke out in direct terms.

My post might have overstated things, and could have been more tactful. I was specifically referring to only three of your posts (which I excerpted), among the 70(!) you made between January 23 and February 17, 2006.

Good luck to you in whichever course of action you decide...

Best regards,

-- Karl

For those who might not have followed, here is a chronological summary of Joe's contributions, just for the record:

> Jan 23, 2006: Introduces himself with recent biography; asks for unfocused guidance on HP calc purchases
>
> Jan 24-27: Asks about HP-41 vs. HP-15C and HP-32S; slide rules; 48GII+ and HP-49G+
>
> Jan 29: Mildly reproaches me for a posting of mine
>
> Jan 30-Feb 13: Receives HP-41, Gets in eBay "bidding war" over HP-27S with Forum reader; asks for advice about culling HP calc collection, RPL programming, HP-48 build quality; HP-71B
>
> Feb 15: Admonishes "e.young", who doesn't seem to appreciate it

Feb 15: Five posts about newly-acquired 49G+, then asks what the advantage of RPL over RPN is

Feb 16: Scolds Vassilis Prevelakis; I am prompted to respond

Feb 16: Seven more posts on various topics

Feb 17: "Flames out" with two posts in reponse to my post of previous day

Edited: 26 Feb 2006, 3:55 p.m.

Re: Last post here on MoHPC

*Message #17 Posted by **e.young** on 20 Feb 2006, 4:02 p.m.,*
in response to message #1 by Joe Edwards

I don't think that you should leave or cull your collection. In any situation where a bunch of people come together there are bound to be times where someone will rub someone else the wrong way. If there are some here you don't get along with then just ignore them. Meaning no disrespect to you, if you do find yourself frequently in confrontations then it's a good idea to examine your own posts to see if someone else can be taking them the wrong way. Or maybe sometimes you have misinterpreted someone elses post and taken offense where none was intended. It happens to all people, myself included.

I also don't think that because you didn't grow up with HP's in the 70's or early 80's you are demoted to wanna-be status. Membership in the HP community does not belong to a select few, who used the HP41 or the first or second generation of HP calcs. It belongs to everyone who uses/used an HP of any time period. I got my first HP in 1988, and have only used the 11C, 32SII, and 33s. I am clueless about electronics, programming, and have only soldered plumbing joints. However, I don't believe that makes me any less of a member of the HP community than those members who could probably build an HP from scratch. It just means that I am different.

Re: Last post here on MoHPC

*Message #18 Posted by **Ed Look** on 20 Feb 2006, 4:26 p.m.,*
in response to message #17 by e.young

Good post; succinct with good points.

I hope all posters read it.

Re: Last post here on MoHPC

*Message #19 Posted by **unspellable** on 24 Feb 2006, 9:54 a.m.,*
in response to message #18 by Ed Look

Two observations:

1. My dear old daddy used to say, "Never be afraid to ask a stupid question. They're easier to deal with than stupid mistakes."

2. This and several other forums on other subjects that I am a member of are a little like cooking stew. Every now and then a big bubble rises to the top and causes a little splatter. But that doesn't mean it's not a good stew.

Last post here on MoHPC

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MLDL2000 update

*Message #1 Posted by **Meindert Kuipers** on 17 Feb 2006, 3:45 p.m.*

Time for an update!

While between houses I have been staying in a trailer with my family. We are now settled in our new house (with many boxes still to unpack) and I have finally setup my MLDL2000 assembly line again. Those who have a unit on order and have their serial number assigned back in 2005 can expect some good news within the next two or three weeks.

There have been some additional orders as well. The potential problem is that I am down to my last 5 or 6 units from the initial production run, and some of the PCB's did not pass initial testing. These units have been reworked, but not yet tested and I am not certain if they will work at all.

Unless there is sudden interest for at least 25 units, this means that I will probably have stop accepting orders for the MLDL2000 and no more will be made. Which is also good news, because I need time to expand the functionality of the MLDL2000!

Meindert

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HP-9G unit conversions

*Message #1 Posted by **Herman** on 17 Feb 2006, 12:25 p.m.*

The HP-9G seems like a nice little machine, so I checked into its specs at hp.com. Its "up to 24-digit internal calculation accuracy" is definitely way beyond enough for me.

HP's info about the 9G's unit conversion capabilities is here. On page 2 of the above document is a table displaying the units used in the HP-9G CONV menu. The text underneath the table says that "some units are exact (e.g. feet, inch, gallon) while others are provided up to 13 digits of accuracy". Looking at the table, I see that indeed several units (amongst which gallon) are off in their last (13th) digit. However, yard and pound are quite off the mark and only are specified with 8 to 9 digits accuracy.

Now, why can't HP get a yard as 0.9144 m (by definition) built into this calculator, instead offers us 0.9144000009144 m ?

And why can't HP get a pound as 0.45359237 kg (by definition) in it ? The 9G says "1 lb = 0.4535923772575 kg". Using Excel to figure out how many HP-9G correct ounces are in an HP-9G off-the-mark pound, it says "16.00000026"... That's a whopping 8 digits of accuracy, or 'back to the early seventies' !?

At hp.com I filled in an inquiry form about these HP-9G unit conversion inaccuracies, then got an 'email undeliverable' message... That's why I'm posting here and hope to get an answer from a Hewlett Packard expert.

Well in due time I'll probably get one anyway, because it's a handy and quite powerful calculator that you don't have to lock up at night. Meanwhile, I will continue to use my good old [censored] fx-4500P, and keep the correct conversion units in an Excel sheet.

Re: HP-9G unit conversions

*Message #2 Posted by **John** on 17 Feb 2006, 12:33 p.m.,*
in response to message #1 by Herman

First you should realize that the 9g is an OEM product produced by someone other than HP and in addition was not designed by anyone at HP.

Second if 24 digits is too much, why is something off 1 digit in the 13th place too far off?

If you're needing to measure/convert things to that degree of precision then the 9g is a bad choice to begin with.

Re: HP-9G unit conversions

*Message #3 Posted by **Herman** on 17 Feb 2006, 12:52 p.m.,*
in response to message #2 by John

Please do read my questions, I wasn't fussing about the units that have an incorrect 13th digit, rather the units that only have 8 or 9 correct digits, for instance inch is given correctly as 0.0254 m but the 9G yard is off, they'd better use 36 inches than the number that they provide for a yard.

And yes for most practical purposes my old slide rule is also precise enough. I'm not questioning the practical applicability of the 9G.

The point here is the difference between the accuracy claimed and the accuracy provided. If the exact international agreed on conversion unit has for instance 4 digits, that's it (the rest is all zeroes) why does this machine have these nonsensical 10th through 13th digits ?

Edited: 17 Feb 2006, 12:56 p.m.

Re: HP-9G unit conversions

*Message #4 Posted by **Frank Boehm** on 17 Feb 2006, 1:10 p.m.,*
in response to message #1 by Herman

Obviously printing "HP" onto some piece of chinese &%$&%$ didn't improve the quality of the original product :)

That said, Sanyo offered 16 digits in their first pocket calculators, 35 years ago. Though it's tough to offer that on an entry-line scifi calculator, it certainly would be possible. The mentioned "slips" in details wouldn't have happened 20/30 years ago at HP. But then this calc didn't cost you a fortune, so one probably has to accept some tradeoffs. I'm sure, for 5k$ of todays money you'd be able to buy a calc that has correct unit definitions ;)

Re: HP-9G unit conversions

*Message #5 Posted by **Herman** on 17 Feb 2006, 1:27 p.m.,*
in response to message #4 by Frank Boehm

Hm, I was starting to wonder if HP didn't replace their last engineer after he retired...

Is there a table somewhere where I can find which machines are really made by HP (if any) and of a good quality, and which models are OEM (Chinese @!#?@!) ?

PS just now received a second 'undeliverable' trying to contact HP...

Edited: 17 Feb 2006, 1:29 p.m.

Re: HP-9G unit conversions

*Message #6 Posted by **bill platt** on 17 Feb 2006, 1:23 p.m.,*
in response to message #1 by Herman

Herman,

I understand your frustration.

It is maddening beyond belief, when something so straightforward and factual should be wrong, and at the same time glossed over and glitzed up.

Re: HP-9G unit conversions

*Message #7 Posted by **Herman** on 17 Feb 2006, 1:44 p.m.,*
in response to message #6 by bill platt

Well I'm mostly amused - check that table, and you will see that they just told someone "press 1, convert it and fill in the result in this table". So now there are two surprising °F to °C and vice versa "conversion

units" at the "Temperature" section.

Re: HP-9G unit conversions

*Message #8 Posted by **John** on 17 Feb 2006, 1:56 p.m.,*
in response to message #6 by bill platt

But at the same time, give HP credit for not hiding it. The information Herman found came from a document on HP's website.

Confusion reigns!

Re: HP-9G unit conversions

*Message #9 Posted by **Herman** on 17 Feb 2006, 3:59 p.m.,*
in response to message #8 by John

That's definitely right - Casio for instance doesn't have the units for the fx-991 listed anywhere.

Well thank you all for your responses and your moral support, this forum is very active and responsive, unlike HP...

Re: HP-9G (and HP-30S) unit conversions

*Message #10 Posted by **Karl Schneider** on 18 Feb 2006, 2:31 p.m.,*
in response to message #1 by Herman

Herman (if you're still monitoring the thread) --

I poked around an HP-30S, which probably uses similar firmware and computational methods (which do not utilize binary-coded decimal representations, to my understanding).

The pound-kilogram conversions on the 30S seems OK. However, I found the same problems for the yard-meter conversions.

It seems that the root of the problem -- strangely enough -- is that one "yard" on these calculators is not exactly three feet!

The conversions between inches or feet to meters, centimeters, and millimeters all followed the internationally-accepted definitions. However, conversions betwen yards and anything else weren't quite accurate.

One more thing: The HP-30S does not distinguish between the international foot (0.3048 meters) and the survey foot (0.304800609601 meters). Thus, the conversions between acres (one acre is 43560 square survey feet) and any metric unit of area is incorrect. If the HP-9G/9S also has area conversions, that same problem is probably there.

If you want a calculator with an excellent unit library and conversion utility, the HP-28C or HP-28S can be bought on eBay for well under US$100.

Regards,

-- KS

Edited: 19 Feb 2006, 1:36 p.m.

Re: HP-9G (and HP-30S) unit conversions

*Message #11 Posted by **Herman** on 20 Feb 2006, 10:58 a.m.,*
in response to message #10 by Karl Schneider

Yes, I was checking back.

Oh, I'll check my 30S too for the pound/ounces discrepancy of the 9g. The 30S indeed uses binary internal calculations, not BCD. Someone once had a table with test results for a load of calculators, calculating something like arcsin(arccos(arctan(tan(cos(sin(9))))))= 9?. Results usually looked like 9.00023455 or 8.9987654. But the 30S was the first one to return 9 exactly thanks to its internal accuracy (and rounding off for the final result).

The HP-9G has indeed more than 25 squares inches short on a square acre because it uses regular feet for its 'acre'.

And thanks for the tip Karl.

Edited: 20 Feb 2006, 11:48 a.m.

Re: HP-9G (and HP-30S) unit conversions

*Message #12 Posted by **Marcus von Cube, Germany** on 20 Feb 2006, 6:29 p.m.,*
in response to message #11 by Herman

The term **9 sin cos tan $\tan^{-1}$ $\cos^{-1}$ $\sin^{-1}$** is known as the "Calculator forensics". A description can be found here: http://www.rskey.org/~mwsebastian/miscprj/forensics.htm.

Marcus

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HP33s CNA54 - improved one?

*Message #1 Posted by **Gour** on 17 Feb 2006, 11:37 a.m.*

Hi!

I'd like to buy 'improved' HP 33s and Samsoncables replied they have CNA54 model on stock.

Anyone can confirm it is the improved (in readability & ROM bugs) one?

I'm ordering from Croatia (Europe) and would like to be sure?

Sincerely,
Gour

Re: HP33s CNA54 - improved one?

*Message #2 Posted by **John Smitherman** on 17 Feb 2006, 12:15 p.m.,*
in response to message #1 by Gour

Hi Gour. I've got a CNA 524 which has an improved display and keyboard as well as bug fixes.

Regards,

John

Re: HP33s CNA54 - improved one?

*Message #3 Posted by **Gour** on 17 Feb 2006, 2:19 p.m.,*
in response to message #2 by John Smitherman

Hi John!

> Quote:
>
> Hi Gour. I've got a CNA 524 which has an improved display and keyboard as well as bug fixes.
>
> Regards,
>
> John

You've made my day today :-)

Sincerely,

Gour

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HP 41 ???? Look

*Message #1 Posted by **gileno** on 17 Feb 2006, 5:38 a.m.*

link to Ebay

More information on her?

Buy before Corbulin. . . :-)

Re: HP 41 ???? Look

*Message #2 Posted by **Diego Diaz** on 17 Feb 2006, 6:46 a.m.,*
in response to message #1 by gileno

Thanks! I've got it ;-)

This is not a 41 but a field-shield rugged enclosure for surveying. It also includes a HP-IL interface and some sort of IL->RS-232 interface I've not been able to decipher so far... I've already got one of those, but a second unit may help to confirm functionality or troubleshoot misfunction.

To whom it may concern, my only interest is in the technical aspects of this device, so I'll sell/trade it agan as soon I finish my (non destructive) "experiments"... ;-))

Cheers.

Diego.

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MOLLIER DIAGRAM FOR HP41-71B-48SX/GX

*Message #1 Posted by **FABIO ALBONICO** on 17 Feb 2006, 4:19 a.m.*

I ask if anyone as a program that simulate the water Mollier diagram with consequent calculations of properties on one of the HP machine I have.

Thanks very much

Re: MOLLIER DIAGRAM FOR HP41-71B-48SX/GX

*Message #2 Posted by **Charles** on 17 Feb 2006, 8:00 a.m.,*
in response to message #1 by FABIO ALBONICO

Fabio,

There are at least 4 programmes for steam tables on these links for the 48 series

http://www.hpcalc.org/hp48/science/physics/

http://www.hpcalc.org/hp48/science/misc/

I have a reference for one for an HP41CX but don't have a copy

Regards Charles

Re: MOLLIER DIAGRAM FOR HP41-71B-48SX/GX

*Message #3 Posted by **FABIO ALBONICO** on 17 Feb 2006, 10:18 a.m.,*
in response to message #2 by Charles

Thank you

Re: MOLLIER DIAGRAM FOR HP41-71B-48SX/GX

*Message #4 Posted by **Mike (Stgt)** on 17 Feb 2006, 8:38 a.m.,*
in response to message #1 by FABIO ALBONICO

For the HP-41 See here

Ciao.....Mike

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use of calculators in the classroom

*Message #1 Posted by **Don Shepherd** on 16 Feb 2006, 9:06 p.m.*

OK, it is not my intention here to start a flame war, but this is a subject that needs some rational discussion: the place of calculators in the classroom. This is a subject that is dear to my heart, because I spend 7-8 hours a day in a middle school math classroom that includes TI-78 calculators. There are 30 of them, and they hang in little pockets on a blanket attached to one wall, each one numbered (and every student in every class has his/her assigned calculator number).

I am the student teacher, which means I assist the real teacher and teach some classes each day. This is 6th grade, and one group of kids is learning how to add and subtract fractions while the other group is moving into data analysis and probability. Fractions are probably the most complex math topic that a 6th grader faces. Just a simple thing like adding two fractions requires a lot of skills that many 6th graders (in fact, many adults) do not normally have: determining the common denominator; converting mixed numbers to improper fractions and vice versa; creating equivalent fractions with the new denominator; adding the numerators; and simplifying the result (if necessary, and determining when it is necessary). Think about how overwhelming that process can be for a 6th grader who does not have the logical, analytical, and organizational skills that you and I have. So how do we teach it? By going over the basics again and again until most of the kids have it, and then moving on. Do we use calculators in this process? No, not for fraction addition, because we know how important it is for the kids to know how to do it without the calculator.

Let me tell you how we do use the calculator. On a recent test, we said that the national debt of the US is $7,030,125,000,000 and the median income is $14,900, so if each family earned the median income, how many families would it take to eradicate the national debt? So we let kids use the calculators to divide the 7 trillion by 14 thousand, because once a kid has mastered long division (and almost all of these kids have) there is no reason for them not to be able to use technology for problems like these. When they leave school they will enter a world full of technology and they had better be able to use it if they are to compete in the marketplace. And we let kids use computers in the classroom (when it is educative) for the same reason.

OK, I know that many of you guys (and gals) learned math without the benefits of technology. Heck, so did I. There were no calculators back when I was in middle school (then called junior high school) in 1961. And we all learned it OK (or at least most of us did). But if we don't expose kids to the current technology, we are doing them a disservice.

Please understand what I'm saying. A kid has to demonstrate that they can add, subtract, multiply, and divide using pencil and paper before they can use the technology. But once they have that knowledge, let them use technology for the purpose for which it is intended. Face it, guys, no one calculates square roots manually anymore. I learned how to do it in the 60's, but I couldn't do it today. But I know where the square root key is on my calculator.

OK, let's get a discussion going…..

Don Shepherd

Re: use of calculators in the classroom

*Message #2 Posted by **Garth Wilson** on 16 Feb 2006, 10:27 p.m.,*

in response to message #1 by Don Shepherd

> But if we don't expose kids to the current technology, we are doing them a disservice.

That reminds me of a political cartoon that was in our newspaper years ago. It shows a business owner following Clinton around his office with a clipboard trying to get his attention and saying, "We can teach new employees to use the computer in two weeks; but we **can't** teach them to read!"

Bob Pease, highly regarded electronics industry guru, talks about these new guys fresh out of the box that were taught to use the circuit simulation software in school but can make a small error inputting the data and get ridiculous results and not realize it because they couldn't get an idea from mental calculations of what to expect generally. There can also be erroneous outputs resulting from faulty circuit component models in the software. These new graduates generally have no workbench skills to actually try something. Relying on the computer can prove very expensive when errors are not caught early in a design cycle. The problem is when the computer is used as a substitute for thinking instead of as merely a tool.

Calculators in the classrooms are mostly a substitute for thinking. Even after the student has shown they know how to multiply and divide, they still need more practice to make sure the skills will stick. When they don't get that practice, high-school graduate clerks are surprised that I can tell them how much change I'm supposed to get at the cash register before the display even arrives at the total and adds the sales tax. They can't do anything without the computer. Most school math problems are artificial anyway, meaning the answers are usually round numbers that should be calculable in one's head.

Our older son was supposed to get a TI-83 graphing calculator for a high school math class. I held off because I didn't think it was really necessary or even appropriate. He did fine without it. He said what most students used the calculator for was playing video games in class, looking busy.

As for finding a square root-- You should have been able to come up with a way to do it even if you can't remember the neat way taught in school. Being resourceful is part of understanding the math. Take a guess. Divide the original number by the guess. The real square root will be somewhere between the result and the guess, right? Average the two and do it again, until you're satisfied that you're close enough. There are several ways to find a square root. There is one that doesn't even require any multiplying or dividing, although it's not fast at all.

Edited: 16 Feb 2006, 10:34 p.m.

Re: use of calculators in the classroom

*Message #3 Posted by **Chan Tran (USA)** on 17 Feb 2006, 8:11 a.m.,*
in response to message #2 by Garth Wilson

Interesting problem! The problem you presented exceeded the capability of most calculators.

Re: use of calculators in the classroom

*Message #4 Posted by **Jan** on 17 Feb 2006, 4:23 p.m.,*
in response to message #1 by Don Shepherd

I think one should combine the best of both worlds so to say. In my opinion kids should leave school with enough skills to do even more tedious calculations without a calculator. It simply gives them more feeling for numbers and orders of magnitude, which can be quite convenient on many occasions and in many professional activities, whether it's in science, business, or just during a visit to the local supermarket where the cashier makes a typo and charges you USD 35.50 for a few packs of milk, some bread and a bottle of coke. On the other hand, learning tricks and how to apply them is simply not enough. As a kid I found arithmetics specifically boring at school, which sounds quite strange for a kid that would grow up to have a PhD in physics

and astronomy. The major reason was that, during the lessons, there was no (or hardly no) room for understanding about what is behind all those rules for calculations and tricky manipulations on numbers. Everything came down to practicing the same routine over and over again without any immediate purpose and without knowing what one is actually doing (at least not in detail). All this does not mean that I was not interested in the subject. Some things really puzzled me. For instance that dividing 1 by a number smaller than 1 produced a number larger than 1. If you apply your box of tricks you learned in the lessons about fractions to a specific problem of this kind you just get the result and that's it. But it may look strange to a kid and so I remember being busy with the subject to find some propper explanation and insight myself. It is from this period that computing devices have some appeal to me. One day when I was 6 or maybe 7 years old, my dad brought an HP 45 home from his work and I was fascinated by that marvellous, expensive machine that could do all those dull calculations in an instant (back in 1974 I had never seen a calculator before). Later the real math classes were indeed a revelation on many topics and I am hooked on mathematics and related stuff ever since. It is here however that the calculators could enter the picture. Especially the programmables not only provide a tool to learn kids, almost while playing with it, to think in a structured logical way, but they can also be incorporated in a process of understanding about what arithmetics is actually about. For instance, it is a perfect tool to demonstrate trends in a certain type of calculation upon variation of input parameters. For the lower grades, simple (programmable) calculators will do fine. No need for graphic calculators in this respect (the possibility of gaming in the classroom being an extra con). An extra benefit here is that kids also get at least some idea of what happens in all those computer systems that they encounter every day and which they often use themselves for games or surfing the www. However, dull as it may be, there must also be time for calculations with paper and pencil or even without.

Re: use of calculators in the classroom

*Message #5 Posted by **Ed Look** on 17 Feb 2006, 9:40 p.m.,*
in response to message #1 by Don Shepherd

Sir, it is my opinion that in the sixth (to twelfth) grade classroom, there really is NO ROOM for a calculator.

During those years, a child is supposed to learn mathematical principles and reasoning. How much blunter is his intellect going to be if a black (okay, sometimes gaily colored) plastic and metal box does ALL his drudgery for him? It is in fact in that drudgery that the child learns how to calculate, use mathematical tools as logarithms, exponents, trigonometric functions.

In a college chemistry laboratory once, a student announced that she was going to leave and skip the class, as she had left her calculator and was then going to be unable to perform the requisite calculations to prepare for the experiment, unless she can borrow a departmental calculator.

The technician said for her to wait a moment and disappeared into the stockroom. She waited anxiously and he reappeared after several minutes and handed her some log tables and trig tables. Her eyes popped out and she angrily and incredulously shouted, "I ask for a calculator and you give me sheets of paper??!"

Well, the tech and I shared a huge horselaugh, and the young lady, disgusted, threw the papers down on the desk and stomped out.

Okay, now, after the yuks and the years, I feel that her secondary or even primary schooling let her down. She was clearly a child of the silicon revolution (probably, to drown her sorrows, she probably headed home to play a few rounds of video games on her PC or game machine or whatever) and she could not use age old, time honored, and STILL HIGHLY USEFUL methods to execute simple calculations.

If I could, I'd lobby hard to keep calculators, including our beloved vintage or even new HP RPN beauties, out of the secondary and especially, the primary level classroom.

Now if only I can find my reville bugle...

Re: use of calculators in the classroom

*Message #6 Posted by **Don Shepherd** on 17 Feb 2006, 10:45 p.m.,*
in response to message #5 by Ed Look

Thanks for all the thoughtful responses, folks. This forum is great for enabling intelligent discussions of sometimes complex and controversial issues. That, in my opinion, is one of the best features of the Internet. We are all learners.

The issue of using technology in the classroom is very complex. On the one hand, we have to prepare our kids for the world beyond school, and computers and calculators are part of that world. So we have to see if we can use these devices in ways that enhance the learning process. On the other hand, I recognize how these devices may be misused and end up hurting the learning process, and the kids.

I'll be honest with you: teaching 6th graders is tough! We keep spending more millions and billions of dollars on education, and the test results just keep going down. Our schools of education teach us the obvious: that the 6th grader does not have the level of logical ability, maturity, and organizational skills that we adults have. We expect that they come to school ready and able to learn, and that is just not the case in many instances, for many more reasons than I can cite here. And we have many teachers who are burned out and who do much more harm than good. I'm a new teacher, and I am excited about helping these kids learn, but I know it's not going to be easy, and I won't reach every kid. But I do it with the knowledge that I will help most of the kids.

Some uses of technology in the classroom are obviously good, such as using a tablet PC connected to a projector and writing math problems on the tablet screen instead of the whiteboard (which, by the way, leaves your hands dirty all day from the markers and erasers!). And kids love to come forward and write their own problems on the screen. Or keeping your gradebook electronically instead of the old paper book (I am currently convincing my cooperating teacher to do this; it's hard for her to give up the paper book after using it for 26 years).

No matter what we do in the classroom, the bottom line is the same: is it good for the kids? That should always be the principle criteria for what we do.

Don Shepherd

Re: use of calculators in the classroom

*Message #7 Posted by **Garth Wilson** on 17 Feb 2006, 11:15 p.m.,*
in response to message #6 by Don Shepherd

> Quote:
>
> Some uses of technology in the classroom are obviously good, such as using a tablet PC connected to a projector and writing math problems on the tablet screen instead of the whiteboard (which, by the way, leaves your hands dirty all day from the markers and erasers!). And kids love to come forward and write their own problems on the screen. Or keeping your gradebook electronically instead of the old paper book (I am currently convincing my cooperating teacher to do this; it's hard for her to give up the paper book after using it for 26 years).

Ok, I'll be the grinch here. Even Bob Pease, the industry guru I mentioned above, still advocates the overhead projector over PowerPoint, and has solid proof of its greater effectiveness. It definitely puts up a bigger image than a TV screen, it's much cheaper, instant-on, and doens't complain that you don't have the latest software installed. You can put another clear slide over a prepared one and scribble

additional diagrams by hand while talking, etc.. Old-fashioned is not bad.

My wife is a 2nd-grade teacher, and I hear all the time about the problems they've had with electronic grading. Several times over the years, the server or a hard disc fault wiped out all the grades and they had to be re-entered from the paper records (which fortunately, the teachers kept). The GradeQuick software has had a very frustrating, never-ending stream of bugs. Often a parent comes in and asks about a bad grade on the report card, and she looks it up in the computer and finds the one on the report card is not what's in the computer that reported it to the office. In fact, once in the junior high of the same school, our younger son was sent someone else's grades, and another time the grades on his report card didn't seem to go to anyone in the class. Three times in his two years in junior high, they had to re-send report cards because of computer errors.

I'm not against technology. There's no excuse for those bugs. What I'm against is the idea that the new way is always better. Some misapplications of technology need to go the way of the talking car of the early 1980's that drove everyone nuts. "Your door is ajar... Your door is ajar... Your door is.."

If we're really going to teach better thinking and reasoning skills in the classroom with calculators, we should teach programming, not operating an appliance. The latter can be picked up very quickly and does not require classroom time.

Re: use of calculators in the classroom

*Message #8 Posted by **Don Shepherd** on 18 Feb 2006, 10:00 a.m.,*
in response to message #7 by Garth Wilson

Hi Garth. We may agree to disagree. I am not necessarily for all the new technology either. I despise cell phones, but I recognize their potential value in certain situations (NOT in the grocery, "honey, should we get Van Kamps or Del Monte?").

I would love to teach programming to middle school kids who are interested, and I hope I get that opportunity.

When I taught computer science at the local community college, I kept grades via the standard paper grade book. But I only had one or two classes of 20 students each, and it was manageable. Now I have 5 classes of 30 kids, and keeping track of 150 kids with maybe two dozen assignment grades each 6-week period is an enormous administrative task. Electronic grade books don't completely eliminate the task, but they certainly reduce the time required to figure grades, and I am finding that being a teacher requires an enormous amount of time, and anything I can do to give me more time to plan exciting lessons for the kids is worth it. I wasn't a big fan of the "keychain" disk drives either, but now I am (for making quick backups).

Technology. It's a two-edged sword, but how many of us HP fanatics would be willing to go back to this?

Re: use of calculators in the classroom

*Message #9 Posted by **Ed Look** on 18 Feb 2006, 12:54 p.m.,*
in response to message #8 by Don Shepherd

First, your last question: I might not mind! In fact, if I remember, I'm going to ask an even older fella how to use this slide rule I picked up just for fun.

Second, turn off your cell phone: van de Kamps's battered fish is best and Del Monte anything is pretty good; their old "catsup" might even be better than Heinz' !!

(Okay, no ketchup throwing, hear?)

Slide rules and Addiators

*Message #10 Posted by **Palmer O.Hanson, Jr.** on 18 Feb 2006, 10:26 p.m.,*
in response to message #9 by Ed Look

The important things to remember when people talk about going back to old technology are that

Slide rules can't add and subtract.

Addiators, Addometers and related pocket sized devices can't multiply and divide.

The result is that users couldn't do chain calculations with portable devices using combinations of addition, subtraction, multiplication and division without switching intermediate results back and forth between machines. When the first pocket-sized four-bangers came out some slide rule manufacturers came out with a device which had a slide rule on one side and an addiator on the other. The users still had to switch intermediate results back and forth.

My recollection is that we had desktop devices such as the Fridens wich would do mixed chain calculations. Personally, by the late 1960's I had pretty much switched most of my engineering work to a company-operated telephone network which supported an extended BASIC which offered double precision and matrix manipulation.

I suspect that most of the people who long for the "good old days" when we used slide rules never really used the damn things to do engineering.

Re: use of calculators in the classroom

*Message #11 Posted by **Garth** on 18 Feb 2006, 6:28 p.m.,*
in response to message #8 by Don Shepherd

> Quote:
>
> Technology. It's a two-edged sword, but how many of us HP fanatics would be willing to go back to this?

Wow, I had forgotten about those. I think I only saw one once. I did use slide rules however until 1981 when I needed programmability, since calculators weren't really any faster, and the slide rule gave a better mental idea of number relations.

I should have mentioned that my wife says grading takes more of her time now with the computers than she took when it was all paper. The only thing about the paper she does not miss is having to press through four layers of NCR paper with a ball-point pen on the report cards. If you know of some grading software that's better than GradeQuick, let me know so I can suggest it to the head administrator. If it runs under Linux instead of Windows, so much the better, since that'll help them get away from Windows and save a ton of money and some headaches too. I used to be on the board of this school.

Grade Book software

*Message #12 Posted by **Don Shepherd** on 19 Feb 2006, 9:21 a.m.,*
in response to message #11 by Garth

Hi Garth. Yes, I still like those old manual "adding machines." To do a "carry," you moved the stylus up and over, advancing the next higher power of 10 by 1. It's interesting becoming a teacher late in life. When I learned subtraction in the 1950's, we "borrowed" one from the next column. Now, we "regroup" since borrowing implies paying back, which we don't do! It turns out that the "new math" isn't really that new at all, it just uses different terms.

I'm certainly no expert on grade book software, but I found a neat teacher webpage (http://people.clarityconnect.com/webpages/terri/terri.html) that recommended GradeKeeper (http://www.gradekeeper.com/), and I used that for a couple of months and liked it. It is simple, cheap ($20), and produces the reports that I seemed to need.

Thanks for the feedback (and everyone else too), I know we all benefit from it.

Don Shepherd

As a teacher, I support the use of calculators in the classroom

*Message #13 Posted by **Vieira, Luiz C. (Brazil)** on 18 Feb 2006, 8:18 p.m.,*
in response to message #1 by Don Shepherd

Hi, guys;

It is a known fact that tools where created and developed to enhance human's performance when executing a particular job. When a hammer is used the way it was designed for, related primary tasks are performed faster and more accurate. Depending on the task, there is no replacement for a hammer that could do the same job with the same efficiency.

Based on some personal experience of mine in the classroom, I have observed that in many cases, the need to better understand how to use a tool usually comes from a better understanding of the task that the toll is designed for. The opposed situation has also been observed: a better understanding of the task as a consequence of a better understanding of the tool. And it does not deppend on which tool we are talking about.

If a teacher wishes to improve the way the students learn a particular subject, or the whole context, it is possible to associate the bare instructions on how to use a calculator in order to improve the understanding of the subject itself, and later, how to use the calculator to solve problems related to the same subject. As the use of the calculator *as a tool* eases the learning process, the students go ahead and fetch knowledge by themselves, now that they know how to use a tool that allows them to improve the process of learning.

In both cases, learning the subject and solving related problems, the calculator *as a tool* may be used differently. Also in both cases, the students performance may greatly be enhanced in both ways, either in understanding the subject or when solving related problems. And both facts depend on how the teacher shows the use of calculators in the classroom.

These facts relate to my own experience as both a teacher and a student. Maybe others have a different view, or different experiences, that may conflict with the ones mentioned here.

Cheers.

Luiz (Brazil)

Edited: 19 Feb 2006, 12:07 a.m.

Re: As a teacher, I support the use of calculators in the classroom

*Message #14 Posted by **Don Shepherd** on 19 Feb 2006, 9:39 a.m.,*
in response to message #13 by Vieira, Luiz C. (Brazil)

Thanks Luiz. As always, your input is appreciated.

You are right, a calculator is only a tool, just like a computer or a slide rule. When a student has demonstrated that they can do the 4 arithmetic operations using paper and pencil, letting them use calculators to do that basic math enables us to move into the rest of the curriculum faster, and we have a LOT of curriculum to cover in a short time. And I am a firm believer in letting the students use graphing calculators at the appropriate point in algebra, so they can see and study the graph of y1=3x+4 and play around with variations of it. They learn so much better when they "do it themselves." They own the knowledge.

One thing we teach the kids in fractions, when finding the common denominators, is to list the multiples of each denominator and see where they match. So for 3/4 and 2/3, they list 4:4 8 12 16 and 3:3 6 9 12 15 and so on, and they see that 12 is the common denominator. After they master that, we show them another way to see multiples on their graphing calculator: y1=3x and y2=4x, then look at the table and see the first number shared by both y1 and y2. So now they have two ways to do it, and they have learned something.

Don Shepherd

Re: As a teacher, I support the use of calculators in the classroom

*Message #15 Posted by **Ron** on 19 Feb 2006, 12:04 p.m.,*
in response to message #14 by Don Shepherd

Good thread!

My deceased brother used to say, "I'd give my right arm to be ambidextrous."

That's why we have teachers and supreme courts to sort out the balance. What I would have given in college for a tool to get me to the "bottom line" of the masses of data contained within the concepts of statistical analysis. I later returned to the question as a user and would vote without hesitation for use of any available tools as teaching aids.

The question would have been to me as a student, "How do I optimize this issue for my benefit?" The question to my teachers should have been, "How do I optimize this issue for the benefit of my students?"

Ron

Re: As a teacher, I support the use of calculators in the classroom

*Message #16 Posted by **Ed Look** on 20 Feb 2006, 12:46 a.m.,*
in response to message #15 by Ron

Ah, but the use of "advanced tools" in college math, engineering, or science classes is different from the same in elementary or secondary classrooms.

In these earlier levels, the student is supposed to be mastering the basics to a level of proficiency so as to be able to maximally benefit from the use of these "advanced tools" later in college... or some equivalent thereof.

From what I've seen of most students entering postsecondary levels, including, unfortunately these days, a few even on the graduate level, having difficulties arithmetically, which does affect their

more advanced mathematical skills. And from my own observations, it appears to be an over-reliance on the use of electronic aids, as calculators, PC software, etc.

I think it is academically safer to keep calculators, and even PCs to a great extent out of the elementary classroom, introducing them right before the secondary level or at the early secondary levels. Then, perhaps by the time they hit the universities and colleges, they are truly using the calculator to enhance their work rather than relying on it to make up for shortcomings.

Re: As a teacher, I support the use of calculators in the classroom

*Message #17 Posted by **Ron** on 20 Feb 2006, 2:52 a.m.,*
in response to message #16 by Ed Look

That's part of what I meant about balance, teachers and supreme court. I addressed the advanced student issue, not the basic 'rithmetic which would fall under learning and appreciating just what the tool is for and how you use it. Otherwise I agree that the elementary student needs to learn basic arithmetic, even some trig, geometry and algebra without a crutch. For the advanced student, there are very few uses more dramatic than watching programmable graphic calculators illustrate the dynamics of sensitivity curves or to show symbolically, even numerically as the case may be, a solution to a system of differential equations.

Frankly, I don't see an either/or issue here, it is a trick question for teachers and the answer is yes, no and sometimes maybe. In other words become ambidextrous without losing one arm.

Re: As a teacher, I support the use of calculators in the classroom

*Message #18 Posted by **Ed Look** on 20 Feb 2006, 2:02 p.m.,*
in response to message #17 by Ron

You bring up an interesting idea: let me say that perhaps the teacher ought to do it on a class-by-class basis. That is, some years/semesters the kids, as a group, may be more receptive to truly learning by using the calculator along with their textbook/workbook/rexogr... uh, Xeroxed sheets/blackboard taken notes. Other groups other times in the same grade may not have the intellectual or emotional maturity to realize that the calculator is to be an aid, an extension of one's brain, not the sum of it, especially those that can hold and execute downloaded... ugh... games.

Re: As a teacher, I support the use of calculators in the classroom

*Message #19 Posted by **Vassilis Prevelakis** on 20 Feb 2006, 5:59 a.m.,*
in response to message #14 by Don Shepherd

I agree, at school you learn the meaning of things, so the teacher needs to be sure that the students actually understand what is going on, rather than punch the buttons and copy the result.

For example consider the following problem (from Andy Tannenbaum's book on Networks): Assuming that a laser beam is used to send data across the street, how much should a laser beam be deflected (in degrees) to miss its target. The distance between the transmitter and the target is 100m and the diameter of the beam and the sensor is 10mm. Assume that *any* overlap between the beam and the sensor is adequate for the transmission.

The point of the exercise is to show that the angle is so small, so you have to be very carefull when aligning the equipment.

You should be able to get the ball park figure without a calculator. Then use the calculator to get a

better figure if this is desired.

But some students got an answer that was an order of magnitude wrong while others got strange numbers because of underflows in their calculations.

So a calculator is dangerous unless you really know what you are doing.

Another trend that I have observed is that students also use arbitrary precision calculators (e.g. Unix's bc) to make sure that their answer is correct again without really bothering to understand what is going on. Using bc for this problem may be OK, but if you wanted to do the calculation many times you have to consider the cost of the very high precision.

**vp

Re: As a teacher, I support the use of calculators in the classroom

*Message #20 Posted by **Ed Look** on 20 Feb 2006, 2:09 p.m.,*
in response to message #19 by Vassilis Prevelakis

Yeah, ha ha!

Tell even an exceptionally advanced high school kid, like Ben Salinas used to be, or a college student to calculate the quantum mechanical wavelength of a pitched baseball and most likely they'll use a calculator, be it TI, Casio, HP, Sharp, or the 99-cent store brands, and they'll get an answer, which is, at least mathematically, correct, including the correct digits down to the ninth to twelfth place after the decimal point.

But it doesn't require the calculator to tell that it isn't a very useful result, as even a rough order of magnitude calculation will show that. In fact in such a (silly?) calculation, what is important is the the order of magnitude and its significance, which really can be and really ought to be done either in your head or on the back of an envelope, preferably the former.

Re: As a teacher, I support the use of calculators in the classroom

*Message #21 Posted by **Marcus von Cube, Germany** on 20 Feb 2006, 6:11 p.m.,*
in response to message #19 by Vassilis Prevelakis

In a physics class at school I've learned the following simplification which comes in handy here:

sin alpha ~= tan alpha ~= alpha (in radians), if alpha is sufficently small.

In our case: alpha ~= tan alpha = 0.01m / 100m = 10^{-4}.

No calculator or trig tables neccessary!

The class was held back in the mid seventies. Only very few of us had calculators back than (I was the proud owner of an SR-51A while my teacher only had an SR-50!).

Marcus

Re: As a teacher, I support the use of calculators in the classroom

*Message #22 Posted by **Vieira, L. C. (Brazil)** on 20 Feb 2006, 6:45 p.m.,*
in response to message #21 by Marcus von Cube, Germany

Hi, Marcus;

allow me a question? Just curiosity of mine.

Can you tell me if you either memorize, learn or had it proven somehow? I myself take great care when defining inner processes. If you actually know the facts, then I'd suppose they are based on scientific proof. In this case, a number-based statement, did you use any other source that was not any of the ones you mentioned, namely a calculator or trig tables?

Cheers.

Luiz (Brazil)

Re: As a teacher, I support the use of calculators in the classroom

*Message #23 Posted by **Vassilis Prevelakis** on 20 Feb 2006, 9:53 p.m.,*
in response to message #22 by Vieira, L. C. (Brazil)

When I said that you can get a quick ballpark figure without a calculator, that was based on Marcus' simplification. I also learned that at school.

**vp

Re: As a teacher, I support the use of calculators in the classroom

*Message #24 Posted by **Dave Shaffer** on 20 Feb 2006, 10:04 p.m.,*
in response to message #22 by Vieira, L. C. (Brazil)

Luiz,

I suspect you know this, but if not .....

The small angle approximations for sin and tan can be derived from the Taylor series approximation (now, perhaps, the question is where did THAT come from?) for sin, and the fact that tan = sin/cos and the approximation for cos, which is very close to 1 for small angles.

I have pointed this out in physics class to students with modest mathematical sophistication who had never heard of it. I then had them calculate sine of 1 degree and compare it with 1 degree converted to radians.

Re: As a teacher, I support the use of calculators in the classroom

*Message #25 Posted by **Vieira, L. C. (Brazil)** on 21 Feb 2006, 12:18 a.m.,*
in response to message #24 by Dave Shaffer

Hi, Dave;

Thank you for pointing this relation out. This is the one I remember, too. In fact, cos(0)=1, sen(0)=0, and if we apply limit to the tangent relation, we get to the close-to-zero relation.

What called my attention was the following sentence:

> Quote:

In our case: alpha ~= tan alpha = 0.01m / 100m = 10^{-4}

Is there a way to get this precision without a number-crunching tool? I was not aware of this figure, believe me, that's why I'm asking for guidance. If there is a way to find this 10^{-4} precision without some computing device, I would like to know how. I thought of going ahead with pencil and paper to compute the series terms, but I still would like to know if there ia another way. The teacher's side of my brain is now acking...

Cheers.

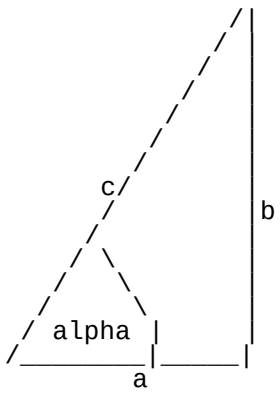
Luiz (Brazil)

Re: As a teacher, I support the use of calculators in the classroom

*Message #26 Posted by **Marcus von Cube, Germany** on 21 Feb 2006, 8:09 a.m.,*
in response to message #25 by Vieira, L. C. (Brazil)

Luiz,

all the trigonometric functions are defined in a rectangular triangle as the ratio of two sides:



sin alpha = b/c
cos alpha = a/c
tan alpha = b/a

This can be simplified if you make c the length 1 (any unit you like):

sin alpha = b
cos alpha = a
tan alpha = b/a

The latter makes it clear why tan = sin/cos.

Do you see, why $\sin^2+\cos^2 = 1$? (Think of good old Phytagoras!)

If you make alpha very small, a will be very close to c=1:

sin alpha = b
cos alpha ~= 1
tan alpha ~= b/1 = sin alpha

The angle (in radians) is nothing more than the length of the arc of a circle with

radius c=1. For very small angles, this arc is very near to the length of b:

sin alpha = b ~= alpha (length of arc)

The trigonometric functions are not just keys on a calculator or function names in some software!

Marcus

Re: As a teacher, I support the use of calculators in the classroom

*Message #27 Posted by **Vieira, L. C. (Brazil)** on 21 Feb 2006, 1:17 p.m.,*
in response to message #26 by Marcus von Cube, Germany

OK, Marcus; so far, so good.

Thank you for your explanation and for taking the time to draw the sketch showing the basic trigonometric and the relations between trigonometric functions. My approach to the students in the classroom when teaching trigonometrics is more 'graphics-based'. At least some of them tell me that this approach makes it easier to understand the subject.

http://www.logeng.com.br/images/rel_trigs_2.GIF

In the above drawing, the triangle relation d/radius = sin/cos is obtained by triangle proportionality. You see, both triangles (sin,cos,r=1) and (d,radius,side) share the same internal angles. By giving ‘d’ the name ‘tangent’ and knowing that ‘radius = r=1’, we have:

```
d/radius = d/1 = tan = sin/cos
```

and:

```
radius^side = cos^r=1 = alpha
```

The issue here is the magnitude of alpha when alpha ~= sin(alpha): 10^{-4}.

> Quote:
>
> The trigonometric functions are not just keys on a calculator or function names in some software!

You bet!

Cheers.

Luiz (Brazil)

Edited: 21 Feb 2006, 1:52 p.m.

Re: As a teacher, I support the use of calculators in the classroom

*Message #28 Posted by **Vassilis Prevelakis** on 21 Feb 2006, 7:44 p.m.,*
in response to message #24 by Dave Shaffer

The easiest way to show that sin(x) = x for small values of x, is to use the Pade approximation:

From http://www.dattalo.com/technical/theory/sinewave.html we get:

http://www.series80.org/Misc/Pade.gif

(x is in **radians**)

You can easily check that this is a fairly good approximation with bc (standard Unix or Linux utility):

```
% bc -l
n1 = -325523.0/2283996.0
n2 = 34911/7613320
n3 = 479249/11511339840
d1 = 18381/761332
d2 = 1261/4567992
d3 = 2623/1644477120


define num(x) {
        return(1 + n1*x^2 + n2*x^4 + n3*x^6)
}
define den(x) {
        return(1 + d1*x^2 + d2*x^4 + d3*x^6)
}
define ss(x){
        print x * num(x)/den(x)
        print "\n"
        print s(x)
}


ss(1)
.84155226541146287688
.84147098480789650650
ss(0.5)
.47942618520237196517
.47942553860420300270
ss(0.3)
.29552022483199108139
.29552020666133957510 0
ss(0.1)
.09983341665515269688
.09983341664682815230 0
ss(0.0001)
.00009999999983333332
.00009999999983333330
```

Now observing the Pade approximation formula you can see that as x gets close to zero the powers of x (x^2, x^4, x^6) will get vanishingly small, hence the formula will end up being

sin(x) = x + epsilon

Hope this helps

**vp

PS to keep this relevant to the MoHPC here is the HP-97 version of the Pade approximation:

http://www.series80.org/Misc/Pade-HP97-lr.gif

Edited: 21 Feb 2006, 7:53 p.m.

Re: As a teacher, I support the use of calculators in the classroom

*Message #29 Posted by **Gerson W. Barbosa** on 21 Feb 2006, 8:22 p.m.,*
in response to message #28 by Vassilis Prevelakis

What about the limit of the Taylor series for sin(x) when x tends to zero?

```
lim (x - x^3/3! + x^5/5! - x^7/7! + ...) = x
  x->0
```

Regards,

Gerson.

Edited: 21 Feb 2006, 8:24 p.m.

Re: As a teacher, I support the use of calculators in the classroom

*Message #30 Posted by **Vieira, Luiz C. (Brazil)** on 22 Feb 2006, 1:14 a.m.,*
in response to message #28 by Vassilis Prevelakis

Hi, Vassilis;

after seeing this

> Quote:
>
> ```
> ...
> ss(0.0001)
> .00009999999983333332
> .00009999999983333330
> ```

I see the 10^{-4} in both the argument and the (close to 10^{-4}) resulting value. Thanks!

I guess that there is no way to get to this point without some `number crunching` procedure, thought. And a computing device would be of great help, I think.

Cheers.

Luiz (Brazil)

Edited: 22 Feb 2006, 1:14 a.m.

Re: As a teacher, I support the use of calculators in the classroom

*Message #31 Posted by **Vassilis Prevelakis** on 22 Feb 2006, 9:58 p.m.,*
in response to message #30 by Vieira, Luiz C. (Brazil)

```
Vieira, Luiz C. (Brazil) wrote:
> I guess that there is no way to get to this point without some
> `number crunching` procedure, thought. And a computing device
> would be of great help, I think.
```

I think that the whole point is that you do **not** need `number crunching` capabilities.

Consider the problem, you have a right-angle triangle and you know the two sides on either side of the right angle, and want to find the hypotenuse (h). One

side is 100m and the other is 10mm (or 0.010 m).

Normally you'd use Pythagoras' theorem:

h^2 = a^2 + b^2

but a^2 = 10 000 while b^2 = 0.0001

Just looking at the number (h^2 = 10000.0001) tells us that there is no point in calculating the square root if all we want is 4 decimal place accuracy. So, **for the purposes of this problem** h = a + epsilon, but since epsilon is not within the desired accuracy we can ignore it, i.e. h = 100.0000

Same thing about the angle. We **know** its very very small (since we have calculated it as Marcus suggested earlier). This tells us that there is no point in calculating its sine, since we **know** it is equal to the angle.

Thus while you may need `number crunching` capabilities once (to demonstrate what is predicted by theory) you do not need such capabilities to solve this particular problem. No log tables, no trig tables, nothing, just the ability to move decimal points around.

You have to be careful of course, that the dropped digits are not needed later, but you have to be aware of that even if you use a calculator (which also has limited accuracy).

The beauty if this is that if you later use a computer or calculator to get the answer to a gazillion decimal places, knowing roughly what the answer should look like from the quick and dirty calculations will save you from showing up with a number that has 30 digit accuracy, but is wrong by an order of magnitude. :-)

**vp

Re: As a teacher, I support the use of calculators in the classroom

*Message #32 Posted by **Vieira, Luiz C. (Brazil)** on 23 Feb 2006, 12:22 a.m., in response to message #31 by Vassilis Prevelakis*

Hi, Vassilis;

thanks again.

I had to go to the whole thread once again and read all posts, top to botton, to try finding something I missed, and I think I finally saw a connection I didn't explicitly see at the first and second times I read them (I've already read all of the posts two times prior to go ahead...)

Somehow I did not connect Marcus von Cube solution to your specific laser beam proposal (Tannembaum's book) till now that you affirm this connection explicitly. It could save us all the many posts in this thread that were based just in my lack of attention. I appologize you all, Marcus von Cube at first, because I could not see that his answer was to the specific problem, instead I thought it was a general approach to the whole relation between the small-

value angle and its tangent, so I was trying to understand why this relation was valid only when alpha<=10^{-4}. My bad! In fact, about a year ago, I remember this particular relation was explored here by other contributors.

At least I could read some more about programming, math, trigonometry and related stuff. As for a lesson to my own, I'll be more carefull reading posts and trying to figure out a solution prior to turn it into a problem...

Forgive me, please, folks, and thanks.

Luiz (Brazil)

Laser-aiming problem

*Message #33 Posted by **Karl Schneider** on 21 Feb 2006, 2:05 a.m.,*
in response to message #19 by Vassilis Prevelakis

Vasillis posed a laser-aiming problem:

> Quote:
>
> Assuming that a laser beam is used to send data across the street, how much should a laser beam be deflected (in degrees) to miss its target. The distance between the transmitter and the target is 100m and the diameter of the beam and the sensor is 10mm. Assume that *any* overlap between the beam and the sensor is adequate for the transmission.
>
> The point of the exercise is to show that the angle is so small, so you have to be very carefull when aligning the equipment.
>
> ...
>
> But some students got an answer that was an order of magnitude wrong while others got strange numbers because of underflows in their calculations.

Of course, the answer Theta is,

```
Theta = tan-1 (10 mm / 100 m)
      = tan-1 (0.0001)
      = 0.00573 deg

      ~= (180/pi) * 0.0001 deg, since tan (x) ~= x for small x in radians
```

Now, here's my question: What calculators would cause underflow errors for this calculation?

-- KS

Re: Laser-aiming problem

*Message #34 Posted by **Garth Wilson** on 21 Feb 2006, 4:57 a.m.,*
in response to message #33 by Karl Schneider

> Quote:
>
> Now, here's my question: What calculators would cause underflow errors for this

> calculation?

Without taking the time for an analysis, I don't expect that any of them would. In embedded systems, I often work with 16-bit fixed-point/scaled-integer cells, which means less than 6 digits (although intermediate results can be 32 bits). In this number system, we divide a circle up into 65,536 (ie, 2^16) pieces. It works out very conveniently in both signed and unsigned arithmetic, as 350° for example is the same as -10°; and 5x90°, although it overflows the full circle, is still 90° as far as the actual angles go. The angle above is very close to one count, and my SIN function is accurate to the last bit in most cases. (Once in awhile it's high by one count, never more, and never low.) It takes the first four terms of the infinite series, except that I tweaked the coefficients slightly. The output of this one, scaled by $7FFF (since you can't have +$8000 in signed 16-bit numbers to represent +1), is 3, which although 8.5% low, is as close as the granulariy allows when you're so close to 0. Calculators, which have the advantage of floating-point and usually at least 10 digits, shouldn't have any problem. BTW, all 10 digits of my HP41cx on this one agree with my HP71 which has the greater precision.

Edited: 21 Feb 2006, 5:15 a.m.

I support the use of calculators in the classroom: add in

*Message #35 Posted by **Vieira, L. C. (Brazil)** on 20 Feb 2006, 1:08 p.m.,*
in response to message #13 by Vieira, Luiz C. (Brazil)

Hi, guys;

thanks to all of you who added your own opinions and thoughts to my own. It is always a good experience.

What I'd add is that I emphasize the need of focusing the understanding of the problem and the related solution, both with Calculator-Aided support. I remember when teaching Logarithms to my first-semester students (Telecommunication Technology). After showing them all properties and having them seen enough, I asked them to use their calculators and see how calculations could be performed faster. I saw some students teaching others how to use their calculators, others comparing results and some groups asking for extra activities. They were all using only the keys/functions necessary to compute what was asked, I do not remember seeing students 'fooling around' and testing unnecessary keys in that particular class. Because they saw how to use the 'tool' accordingly, in order to accomplish the task, the task itself was the issue, not the 'tool' (calculator). Later on, I was showing them the polynomial series equivalent to trigonometric functions, and I told them that we could compare the values obtained with the series to the ones obtained with the internal functions in their calculators. Once again, a controlled 'brainstorm'...

Just to add these words.

Cheers.

Luiz (Brazil)

Re: I support the use of calculators in the classroom: add in

*Message #36 Posted by **Ed Look** on 20 Feb 2006, 2:13 p.m.,*
in response to message #35 by Vieira, L. C. (Brazil)

In previous eons, the teacher would try to pique our interest by saying it was how we hear volumes and how it related to the big, round volume knob on our stereo receivers. Some of the students didn't hear or understand him because they were listening to their radios (surreptitiously via earphone) and the others were too busy admiring their HP RPN spice or classic powerhouse. Of course this last group

figured it out or did hear a little something! (Perhaps as evidenced by all of you here! ;))

Two simple assignments

*Message #37 Posted by **Marcus von Cube, Germany** on 21 Feb 2006, 8:43 a.m.,*
in response to message #1 by Don Shepherd

Here are two simple assignments which shouldn't require a calculator. All I want as a result are rough estimates. And please don't answer in ounces or pounds, otherwise I'll be completely lost ;-)

1.) What is the weight of thousand steel balls, 1 millimeter in diameter each?

2.) What is the weight of a single ball of cork with a diameter of 2 meters?

Try to guess first and than think a litte further...

Marcus

Edited: 21 Feb 2006, 8:44 a.m.

Re: Two simple assignments

*Message #38 Posted by **bill platt** on 21 Feb 2006, 8:57 a.m.,*
in response to message #37 by Marcus von Cube, Germany

1.)

1000 * 1^3 mm = 1000/1000 grams water * 7.8 = 7.8g. That is assuming a "cube" equal to the diameter. But V = 4/3 r^3 pi. So come closer: 0.5^3 = 0.125 . times pi = 0.4 . times 4/3 =~ 1.6/3.

So, about 4g.

2.)

1 meter = radius, so volume = 1.3333*Pi ~= 4.1 m^3. Density of cork. Hmmmm. I guess 5 lb/ft^3. (that's about 0.08 specific gravity.

4.1 m^3 = 4 .1 metric tonne of water. So, cork = 8% of that, or about 0.32 metric tonne.

No calculator.

Re: Two simple assignments

*Message #39 Posted by **Marcus von Cube, Germany** on 21 Feb 2006, 9:31 a.m.,*
in response to message #38 by bill platt

Hi Bill,

very quick answer.

1.) is perfectly correct. Just to outline a slightly simpler to understand approach:

- Put 10 balls in a row, you'll get a centimeter.
- Put 10 rows together, so you get a square of 1 cm^2
- 10 of these will fit exactly in a cube of 1 cm^3

The specific weight of steel is somewhere between 7 and 8 grams/cm . Since about half of the cube is empty space between the balls, the weight must be somewhere between 3 and 4 grams.

2.) Your estimate for the specific weight of cork is off, its about one fith of that of water. My rough estimate is as follows:

- V = 4/3*pi*r^3 ~= 4*r^3 = 4m^3.
- Weight ~= 0.2t/m^3 * 4m^3 = 800kg.

Most people I've asked tend to think of a few kilos for question (1) because "thousand" sounds like "so much". Likewise many people can't believe that "light" cork can weigh almost a ton if you just get enough of it!

Marcus

Another funny question: What is the linear speed of the moon, circling earth? I tried to calculate it in the top of my head. It kept me busy on a boring road trip.

Re: Two simple assignments

*Message #40 Posted by **Valentin Albillo** on 21 Feb 2006, 10:02 a.m.,*
in response to message #39 by Marcus von Cube, Germany

Marcus posted:

"Another funny question: What is the linear speed of the moon, circling earth?"

About one kilometer per second.

The linear speed equals the distance travelled divided by the time it takes to do it.

The distance, roughly assuming that the moon's orbit is exactly circular, would be 2*Pi*DistanceToTheMoon, which, assuming the distance to the moon is some 400,000 kilometers, would be 2*Pi*400,000 = 6 * 400,000 = 2,400,000 kilometers.

The time is more or less a month, i.e., 30 days, and a day has 24 times 60 times 60 seconds, i.e: 24 x 60 x 60 seconds, which slightly less than 25 x 60 x 60 = 5 x 5 * 60 x 60 = (5 x 60) x (5 x 60) = 300 x 300 = 90,000 seconds, so a month has 30 x 90,000 seconds = 2,700,000 seconds.

So the speed is 2.4 million kilometers / 2.7 million seconds = 2.4/2.7, which equals one kilometer per second, more or less.

Best regards from V.

Re: Two simple assignments

*Message #41 Posted by **Marcus von Cube, Germany** on 21 Feb 2006, 1:58 p.m.,*
in response to message #40 by Valentin Albillo

Valentin,

Your approximation is quite good. If we assume a circular orbit with r=4E5 km, the result given by a calculator is 1.04 km/s.

In such calculations it's totally OK to assume that a day has 25 hours or that the value of Pi is 3.

The result will be of the right magnitude. The many digits of a calculator make the result more exact but does it really affect the idea you get, if the moon runs at exactly 1.04 km/s or slightly more or less? It's not millions of kms per hour and still faster than walking...

Will any of the teachers here use these questions in class?

Marcus

Re: Two simple assignments

*Message #42 Posted by **Dave Shaffer** on 21 Feb 2006, 2:12 p.m.,*
in response to message #41 by Marcus von Cube, Germany

Here's the next thing you should worry about for the moon:

How far does it FALL in one second? You may also be amazed at how small this value is. Remember - as deduced above, it goes forward about 1000 meters every second.

(Remember, an orbiting body is basically "falling" around its parent body at just the right rate. It was this rate of fall that convinced Newton that he understood gravity, when he compared it to how fast bodies fell at the surface of the Earth.)

Re: Two simple assignments

*Message #43 Posted by **Garth Wilson** on 21 Feb 2006, 3:07 p.m.,*
in response to message #40 by Valentin Albillo

Don't forget the earth orbits the moon too; ie, the center of mass of the two is not the center of the earth, but nearly ten times as far from the center of the earth as its surface is. If the earth's mass is approximately six times that of the moon, the resulting radius of the moon's orbit will be, very roughly, 340,000km, not 400,000, and the rest is the earth's orbit around the same center of mass.

Re: Two simple assignments

*Message #44 Posted by **bill platt** on 21 Feb 2006, 3:09 p.m.,*
in response to message #43 by Garth Wilson

Or to simplify, "it is all relative motion" :-)

Re: Two simple assignments

*Message #45 Posted by **Valentin Albillo** on 21 Feb 2006, 6:26 p.m.,*
in response to message #43 by Garth Wilson

Hi, Garth:

"Don't forget the earth orbits the moon too;"

> Nope, the Earth doesn't "orbit the moon", it orbits around the Earth-Moon system's mass center.

"the center of mass of the two is not the center of the earth, but nearly ten times as far from the center of the earth as its surface is."

> Nope, the Earth-Moon system's mass center is only 4,700 km from the Earth's center,

so it is 1,700 km *below* its surface, still *inside* the Earth's body.

"If the earth's mass is approximately six times that of the moon [...]"

Nope, the Earth mass is approximately 81 times that of the Moon.

Nice try but you need to sort out your astronomical data a bit :-)

Best regards from V.

Re: Two simple assignments

*Message #46 Posted by **Garth Wilson** on 21 Feb 2006, 7:09 p.m.,*
in response to message #45 by Valentin Albillo

> Quote:
>
> "Don't forget the earth orbits the moon too;"
>
> Nope, the Earth doesn't "orbit the moon", it orbits around the Earth-Moon system's mass center.

That's what I meant; that the earth is not unaffected by the moon's orbit. The two are a system, both orbiting the center of mass of the two.

> Quote:
>
> Nope, the Earth mass is approximately 81 times that of the Moon.

Ok, you caught me. If my memory weren't so good, I would have looked it up. I was specifically taught in grade school that the moon's mass was about 1/6 that of the earth. The fact that the force of gravity on the moon's surface is around 1/6 G despite the smaller diameter by itself should have alerted me to the teacher's mistake. So too should the fact that its diameter is about a quarter of the earth's, which would mean about 1/64 the mass if the average density were the same. I should have known, judging from all the other things I was taught that I knew even at the time were wrong (like that a light bulb's filament got so hot because of all the light coming out of it, a situation where the teacher took my protests to be disrespect for her, the "facts", and authority in general). I regret wasting people's time with errors. Thankyou for the correction.

Re: Two simple assignments

*Message #47 Posted by **Randy** on 21 Feb 2006, 7:46 p.m.,*
in response to message #46 by Garth Wilson

> Quote:
>
> a light bulb's filament got so hot because of all the light coming out of it

Is that why it's so cold in the dark? I knew there had to be a reason :)

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Non-graphic calculator

*Message #1 Posted by **Coby** on 16 Feb 2006, 5:56 a.m.*

I spent 2 hrs on the internet to search for a new scientific calc.(non-graphic). I tried to compare the (TI, Casio, Canon, HP)specifation but too complicated.

I need it to use in my Grade 10 Maths class. Please gimme some recommendation.

Re: Non-graphic calculator

*Message #2 Posted by **Joe Edwards** on 16 Feb 2006, 8:23 a.m.,*
in response to message #1 by Coby

If you are looking for a current HP model, then the HP 33s is the only choice.

> Quote:
>
> I spent 2 hrs on the internet to search for a new scientific calc.(non-graphic). I tried to compare the (TI, Casio, Canon, HP)specifation but too complicated.
>
> I need it to use in my Grade 10 Maths class. Please gimme some recommendation.

Re: Non-graphic calculator

*Message #3 Posted by **bill platt** on 16 Feb 2006, 9:32 a.m.,*
in response to message #1 by Coby

Hi,

If it is a maths class, then you shouldn't be using a calculator...

Re: Non-graphic calculator

*Message #4 Posted by **Joe Edwards** on 16 Feb 2006, 10:40 a.m.,*
in response to message #3 by bill platt

Bill, I totally disagree. I remember having to look up logs and trig funcitions from tables. This is a prime example of where a caculator will be of much use.

Joe

> Quote:
>
> Hi,

If it is a maths class, then you shouldn't be using a calculator...

Re: Non-graphic calculator

*Message #5 Posted by **bill platt** on 16 Feb 2006, 2:22 p.m.,*
in response to message #4 by Joe Edwards

If you were looking up logs and trigs, then it was either

```
physics
chemistry
applied maths
```

maths doesn't even have any numbers :-)

Edited: 16 Feb 2006, 2:22 p.m.

Re: Non-graphic calculator

*Message #6 Posted by **Walter B** on 16 Feb 2006, 3:53 p.m.,*
in response to message #5 by bill platt

Oh, come on! We're talking about Grade 10, so let him learn this matter first. I agree there is more math (and more fun) to come where a calc is no use, but this will be constructed later on the fundaments layed now.

Re: Non-graphic calculator

*Message #7 Posted by **bill platt** on 16 Feb 2006, 5:15 p.m.,*
in response to message #6 by Walter B

Maybe I am totally lost, be seriously, what on earth would you need a calculator for in a maths class? Really.

It is not like I am ancient or anything. I graduated from University in 1991.

Let's see---algebra, no calculator required. Yo uare unravelling spgetti and shuffling numbers. A bit of simple arithmetic, that's all. Mostly symbolic manipulation. Calculator does not help. Unless one is *allowed* to do some sort of "brute force" estimation instead of rearranging the equations....

Analytical geometry. Oh, I see, let's plot points. I suppose you could use a calculator to make all the points. But isn't it better for the kid to get some arithmetic practice while he's at it?

Calculus. Here I can see absolutely no reason for a calculator. And from following the c.s.hp48 place for a couple of years, I can see that making the CAS stuff useful for learning is spotty at best, and perhaps more dangerous than useful.

So, again, what does he need a number cruncher for in maths?

Re: Non-graphic calculator

*Message #8 Posted by **Joe Edwards** on 16 Feb 2006, 6:21 p.m.,*
in response to message #7 by bill platt

I totally disagree. Being able to quickly see what a function looks like (and then remember it for the future) is very useful in something like an algebra class. Also, using a calc (I mean a symbolic calc) to walk thru steps when working with symbolic math is very useful.

Geometry - all you need is a straight-edge and a divider (compass) and you are set! :) Once again, though, being able to bring up pics of various objects and the formulas that go with them can be quite a teaching TOOL, not to be confused with a crutch.

Calc...hmmm...my instructor never used one in our class, but again, they can be used to walk thru a problem if you are alone and don't have anyone to help you out.

I think we need to clarify WHAT the calculator will be used for in the math class...and which class, before we spout off (for or against) any more opinions.

> Quote:
>
> Maybe I am totally lost, be seriously, what on earth would you need a calculator for in a maths class? Really.
>
> It is not like I am ancient or anything. I graduated from University in 1991.
>
> Let's see---algebra, no calculator required. Yo uare unravelling spgetti and shuffling numbers. A bit of simple arithmetic, that's all. Mostly symbolic manipulation. Calculator does not help. Unless one is *allowed* to do some sort of "brute force" estimation instead of rearranging the equations....
>
> Analytical geometry. Oh, I see, let's plot points. I suppose you could use a calculator to make all the points. But isn't it better for the kid to get some arithmetic practice while he's at it?
>
> Calculus. Here I can see absolutely no reason for a calculator. And from following the c.s.hp48 place for a couple of years, I can see that making the CAS stuff useful for learning is spotty at best, and perhaps more dangerous than useful.
>
> So, again, what does he need a number cruncher for in maths?

Re: Non-graphic calculator

*Message #9 Posted by **Joe Edwards** on 16 Feb 2006, 6:12 p.m.,*
in response to message #5 by bill platt

Actuallyl, it was algebra II (in 1984) and my instructor went beyond the standard curriculum and taught trig and base 8 mathematics as well. There was more, but I don't remember the rest of the details other than I did well and the teacher had gorgeous leg!!!

> Quote:
>
> If you were looking up logs and trigs, then it was either
>
> ```
> physics
> chemistry
> applied maths
> ```

maths doesn't even have any numbers :-)

Re: Non-graphic calculator

*Message #10 Posted by **Ron Ross** on 16 Feb 2006, 9:56 a.m.,*
in response to message #1 by Coby

In the non-graphing catagory, the selection is more limited in many ways than the graphics line.

There are actually 4 entry methods for pocket calcualtors:

Algebraic-no precidence, used by business/finance calculators such as the Hp10B, Hp 17Bii, Ti's BA-ii and Sharps EL 713??? (I don't know ALL the pocket calculators off the top of my head). I wounldn't suggest any of them, unless you are considering a business major. They all are great financial calculators though, but only the Ti has built in trig.

Algebraic - AOS, older algebraic entry with post fix trig functions. Harder to find than the more modern Algabraic, but still offered on some Sharp scientifics and amazingly the Hp33s (this is a selectable OS calculator as it is also RPN, see below). I actually like this algebraic system best.

Algebraic - EOS (Equation entry OS, also called VPAM: Visually Perfect Algebra Method?? by Casio, DAL by Sharp). This is now used by most pocket calculators and nearly ALL graphics calculators. You key in equations exactly as you see them in the text book. Nearly all of todays calculators on the shelf are of this type. This includes Hp's lower end Hp9s and Hp30s as well as all Ti's, Casio's and high end Sharp's (as I stated, the very cheapest Sharp will still be an AOS probably).

RPN - Reverse Polish Notations, clearly the favorite on this board. Only the Hp33s offers this. Also the Hp33s is the only real pocket programmable on the market. That is why it is $50 and everything else is $10-20. If you are a serious engineering/physics/science type student, this is the calculator to buy.

However, if you just need to learn math, the calculator is merely a tool to help and for learning math ie trig, nearly any scientific will do for you.

The TI BAII Plus uses AOS or chain logic

*Message #11 Posted by **Gene** on 16 Feb 2006, 10:17 a.m.,*
in response to message #10 by Ron Ross

It has the option to use precedence or not.

telling my students to change it from "chain" mode (adding machine style logic) to "AOS" is the first thing they do.

Amazing that TI's $30 business calculator knows that 1+2x3 should really equal 7 as written, but none of the HP business calculators do.

Why does HP assume business users never learned "multiplication and division before addition and subraction"?

Gene

Re: The TI BAII Plus uses AOS or chain logic

*Message #12 Posted by **bill platt** on 16 Feb 2006, 10:30 a.m.,*
in response to message #11 by Gene

I've always wondered about this, too. Must have been some sort of study done---it goes all the way back to their 18c, yes?

Re: The TI BAII Plus uses AOS or chain logic

*Message #13 Posted by **Ron Ross** on 16 Feb 2006, 10:59 a.m.,*
in response to message #12 by bill platt

I suspect it may be a carry over from the early 70's era when electronic calculators became cheap enough to use in businesses. All early electronic calculators (esp desktops, aside from Hp) were offered w/o precidence. Hence to mimick this standard, the business pocket calculator lines were purposely crippled to mimick the older electronic calculators that had become the standard tool in this line of work. When Hp finally entered an AOS business calculator into the market, they followed the rest of the herd.

Only the BA-II offers the choice to abandon this business feature.

Thanks for the info on the Hp9s. I should have remembered that it is an AOS, but I don't have one (yet) to confirm and now that EOS is the supposed standard, I forget that some still offer the older AOS.

I do like the Hp33s for this feature as it allows it to mimick the older Hp20s very closely (aside from its looks). That way, both Hp32s and Hp20s users whose calculators eventually fail, still have a reasonable substitute available for replacement.

Re: The TI BAII Plus uses AOS or chain logic

*Message #14 Posted by **Joe Edwards** on 16 Feb 2006, 6:14 p.m.,*
in response to message #13 by Ron Ross

It would be nice if it mimiced the 22s instead of the 20s. Being able to edit equations would be nice on the 33s. So far all I can seem to do is delete the entire equation and start again.

Am I missing something?

> Quote:
>
> I do like the Hp33s for this feature as it allows it to mimick the older Hp20s very closely (aside from its looks). That way, both Hp32s and Hp20s users whose calculators eventually fail, still have a reasonable substitute available for replacement.

Re: Non-graphic calculator

*Message #15 Posted by **bill platt** on 16 Feb 2006, 10:29 a.m.,*
in response to message #10 by Ron Ross

Hp9s is actually the older type, "AOS" as you call it. (Infix for mathematical operators , postfix for trig etc.

Re: Non-graphic calculator

*Message #16 Posted by **bill platt** on 16 Feb 2006, 10:34 a.m.,*
in response to message #10 by Ron Ross

Beware the often cited "enter it just like it is in the textbook" business.

Essentially *every* one of these systems has quirks which make it so that it does not work exaclty as you might think. Frequent errors occurr with differentiation of function between the minus and the change sign "+/-", "unary minus" issues, as in -5^3 does this equal a positive or a negative problem (this was a problem in the HP 32sii equation editor! but has been improved in the 33s)

There are numerous other quirks when going from sharp to casio to hp or even from one sharp to another etc.

RPN has only one *real* advantage: it is totally consistent and the logic is simple and fool-proof. That is why I like it.

But forgo the calculator in maths class :-)

Edited: 16 Feb 2006, 10:41 a.m.

Re: Non-graphic calculator

*Message #17 Posted by **Eamonn** on 16 Feb 2006, 1:42 p.m.,*
in response to message #16 by bill platt

Hi Bill,

-5^3 should return -125, regardless of whether it is treated as (-5)^3, or -(5^3). Now, -5^2 on the other hand could be treated as (-5)^2 which is 25, or -(5^2), which is -25.

Out of curiosity, I flipped my HP-33S over to ALG mode (a rare occurence) and entered -, 5, y^x, 2, Enter. I was pleasantly surprised to see that the upper line displays 0-5^2, with the result -25 on the lower line.

Next I entered 5, +/-, y^x, 2, Enter. Now the upper line displayed (-5)^2, with the result 25 in the lower line. I don't have any Casio or Sharp algebraics on which to try out the same test, but at least the ambiguity seems to be removed in the display line of the HP-33S.

Best Regards,

Eamonn.

Re: Non-graphic calculator

*Message #18 Posted by **bill platt** on 16 Feb 2006, 2:25 p.m.,*
in response to message #17 by Eamonn

Oops, sorry about the cube thing. That was an oops. Glad you were a better reader than I was a proofreader.

Yes, the 33s ALG is pretty cool that way. I remember, when I 1st got my 32sii in the mid '90s, having a crazy problem getting some equation to work. IT was that unary minus bug that was causing all the trouble.

The real important improvement on the 33s is in the equation list. Try it there, too.

Edited: 16 Feb 2006, 2:27 p.m.

Re: Non-graphic calculator

*Message #19 Posted by **Arnaud Amiel** on 16 Feb 2006, 10:52 a.m.,*
in response to message #10 by Ron Ross

What about the hp8s?

Any one tried it yet?

Arnaud

Re: Non-graphic calculator

*Message #20 Posted by **bill platt** on 16 Feb 2006, 11:41 a.m.,*
in response to message #19 by Arnaud Amiel

That is *not* and HP. It just has a badge.

The 33s is not made by HP, but at least it is designed by HP.

Re: Non-graphic calculator

*Message #21 Posted by **Arnaud Amiel** on 17 Feb 2006, 3:36 a.m.,*
in response to message #20 by bill platt

Yes it looks awfully like the casio all my colleagues use but it is retty cheap. Maybe worth concidering. The 6s wasn't hp eather but for the price it is pretty good.

Arnaud

Re: Non-graphic calculator

*Message #22 Posted by **Coby** on 16 Feb 2006, 8:08 p.m.,*
in response to message #10 by Ron Ross

I need to buy my new calc. with EOS operation. What other functions I also have to pay attention?

Re: Non-graphic calculator

*Message #23 Posted by **Samuel Heddle** on 16 Feb 2006, 9:22 p.m.,*
in response to message #22 by Coby

A well implemented equation solver is a useful tool, as are statistic functions, and matrices.

Re: Non-graphic calculator

*Message #24 Posted by **John Noble** on 17 Feb 2006, 12:14 a.m.,*
in response to message #1 by Coby

I hate to say this, but you are probably better off without a calculator at all until you have the basics nailed down.

I'm not an Olde Phart like some of the esteemed geezers around here (Class of '85), but I learned everything

(including trig) with pencil and paper plus whatever specialist stuff was needed like trig & log tables, compass & straightedge, etc. That learnin' more or less stuck with me and made me comfortable with numbers. I'm pretty sure a calculator would have been an obstacle to learning rather than a help.

To this day I try to get a first approximation in my head, to within an order of magnitude or better, *before* pulling out a pencil & paper, let alone a calculator. This practice has saved me a lot of grief over the years: if I already know what the answer should look like, I'm less likely to fall victim to, say, fat fingering a number on a calculator or computer keyboard.

Nevertheless, calculators, especially programmable machines, are wonderful labor savers when you have long chains of calculations or when you need high accuracy quickly.

Learning math has nothing to do with this sort of work. Stick to good old pencil & paper. If your math teacher requires you to have a calculator, see what you can do about getting another teacher.

Just my opinion, eh?

Re: Non-graphic calculator

*Message #25 Posted by **Ed Look** on 17 Feb 2006, 10:00 p.m.,*
in response to message #24 by John Noble

Mr. Noble, I agree with you and while I'll withhold the exact date my college kicked me out, it isn't too many years removed from yours...

... and yes, sir, I am an Olde Phartte. (Note more era-correct spelling.)

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HP-9G

*Message #1 Posted by **katie** on 16 Feb 2006, 5:40 a.m.*

I'm studying the manual of HP-9G that I just bought in last 2 weeks. On page 8, it shows how to input the standard memory, A,B,C.....variables. Do anyone know what kinds of situation I can apply this function?

Re: HP-9G

*Message #2 Posted by **Vieira, L.C. (Brazil)** on 16 Feb 2006, 5:56 a.m.,*
in response to message #1 by katie

Hi, Katie;

May I suggest this?

Hope it helps.

Cheers.

Luiz (Brazil)

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belt drive for HP-85 ?

*Message #1 Posted by **Richard Caruana** on 16 Feb 2006, 4:15 a.m.*

Hello

Where does one purchase a replacement toothed drive belt for the HP-85 ?

Does anyone know how to get to share files between a Windows PC and a HP-85 ?

Any help is appreciated Richard Caruana Australia

Re: belt drive for HP-85 ?

*Message #2 Posted by **Juergen Keller** on 17 Feb 2006, 2:36 a.m.,*
in response to message #1 by Richard Caruana

> Quote:
>
> Where does one purchase a replacement toothed drive belt for the HP-85 ?

From time to time, they are offered on eBay.

> Quote:
>
> Does anyone know how to get to share files between a Windows PC and a HP-85 ?

See HP Series 80 Web Site and 1980s Vintage Computers. I think the owners of these web sites can also help you with the printer belts.

Best Regards, Juergen

Re: belt drive for HP-85 ?

*Message #3 Posted by **Vassilis Prevelakis** on 19 Feb 2006, 10:02 a.m.,*
in response to message #1 by Richard Caruana

I suspect that these parts are available new but I am not aware of a particular source. They do appear from time to time on eBay. E.g. http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=8768463193

**vp

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Card programmer

*Message #1 Posted by **Han** on 16 Feb 2006, 1:31 a.m.*

Does anyone here own one of those card programmers for the HP48? They were sold by Educalc, if I recall. Can you explain how they work, where you got the cards to be programmed, and if any of this is still available?

Re: Card programmer

*Message #2 Posted by **Raymond Del Tondo** on 16 Feb 2006, 2:56 a.m.,*
in response to message #1 by Han

Hi,

we had these EEPROM card programmers back then at W&W.
It consisted of a card dock/programmer with serial interface,
an HP-48 library for programming control,
and the EEPROM cards, of course;-)

You simply copied the library to the HP-48,
and then you could either copy HP-48 RAM contents
to an EEPROM card, or just copy one card to another.

Nice items!

However the cards cases were made like the other TDS
cards at that time, out of one piece of plastic,
with a metal plate on the back, and no contact protector slider.
Cheap design, you always had to store the card
in an extra non-static case when not in use.

I don't recall if these EEPROM programmers were ever sold in Germany,
maybe due to the price...

And no, I don't have any of these EEPROM programmers here.
However I have an EPROM programmer which is able to
burn EPROM cards (from EPSON) for the HP-48:-)
Unfortunately the suitable EPROM cards are hard to get these days...

Regards

Raymond

Re: Card programmer

*Message #3 Posted by **Han** on 16 Feb 2006, 10:25 p.m.,*
in response to message #2 by Raymond Del Tondo

How much would an EPROM card from Epson cost nowadays? It seems that the software for the HP48GX has become fairly stable in the sense that the programs are not being updated all that much (if at all). It would be nice to be able to do away with battery operated RAM cards and also not worry about having to redownload programs if something bad should happen (e.g. forgetting to write-protect the cards when testing low-level programs).

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O.T. and a it long: Bad luck! Definitively, bad luck... (sob)

*Message #1 Posted by **Vieira, L. C. (Brazil)** on 16 Feb 2006, 1:16 a.m.*

Hi, all;

this is more a warnning than just a bad luck story.

I keep four of my computers running with two hard disks, one with system files and programs, the other with ordinary data. All of these four computers compose my home network, so if some data is actually priority data, I keep it in a CD/DVD and in more than one data HD (I had some CD ROM disks unable to be read, so...).

There is a fifth computer, the one I use to access internet, and it is the only exception to the rule: it has one single 6GB hard disk. Yeap, an old device, instead working. All I need to be saved after being downloaded is copied somewhere else in the other computers, but the main mail data (income and outgoing messages) plus some not priority data are kept in the same hard disk. In some circumstances, recently downloaded priority data is kept in this computer for no longer than a day, mainly when the other computers are turnned off at the moment the download happens.

Yesterday (feb. 14th), it took me a few hours to download the HP48G AUG (telephone line, 56Kbits tops...), and as it was late in the night, I simply turned the computer off and let the copy of the HP48G AUG file to be made today morning (feb, 15th). What a surprise seeing the scandisk plane cyan and yellow image after turning the computer on today morning... and automatically running surface scan!

When the surface scan was closed to the last 4% of the surface area, two bad-cluster indication arose and all of the last 15 areas made the surface scan to slow down considerably. Then I heard some different noises and felt worried about what was going on. When the first of the last four small squares was being scanned, the hard disk shriek loudly and then sounded as if something was being scratched. I turnned the computer off, waited for a few seconds and turnned it on again. The noise was then louder, and the harddisk was no longer being detected.

I removed it and tried another computer: same results. I tried some soft taps with the palm of the hand and with a small rubber hammer and did not get better results. Yeap, I know, it is neither scientific nor technical, just a desperate tryout... Yes, you can blame me. Preferably with a small rubber hammer...

Well, let's exhume the corpse and see if we find something. Believe me, I have neve seen something like that: one of the heads was simply unstick from its arm, and part of the surface of the corresponding disk had scratches all over. Total loss.

The bigger losses were definitely the e-mail contents, some kept since October 2004. Most of the other data, unfortunately not all, had a copy somewhere. And, of course, the HP48G AUG file, that took me some hours to download, and was not backed up.

I know that the head being unstick is a hard-to-happen misfortune, but if I had an additional data-only hard disk, I ´d not loose these files and info. After that, when preparing my new hard disks for this computer, I´ll take some time to periodically make a copy of the e-mail files and folders...

This did not happen to a friend of a friend of mine. This happened with me. And I hope it helps you, guys, to consider backing up data more frequently.

Cheers.

Luiz (Brazil)

Re: O.T. and a it long: Bad luck! Definitively, bad luck... (sob)

*Message #2 Posted by **John Limpert** on 16 Feb 2006, 1:35 a.m.,*
in response to message #1 by Vieira, L. C. (Brazil)

I go by the rule that all hard disks will fail, it's just a question of timing. I backup everything on writable DVD disks.

Re: O.T. and a it long: Bad luck! Definitively, bad luck... (sob)

*Message #3 Posted by **Giuseppe Marullo** on 16 Feb 2006, 2:18 a.m.,*
in response to message #1 by Vieira, L. C. (Brazil)

Give it a shot, maybe (*maybe*) this could save your day too...

http://www.pcinspector.de/download.asp?language=1#file_recovery

Re: O.T. and a it long: Bad luck! Definitively, bad luck... (sob)

*Message #4 Posted by **Klaus** on 16 Feb 2006, 2:43 a.m.,*
in response to message #1 by Vieira, L. C. (Brazil)

Hi Luiz,

in Germany we say: Wer zuletzt lacht, hat ein Backup gemacht

(Who has the last laugh, has made a backup)! Last Weekend, I connected a casio docking station (Casio FA-7) to the RS-232 of my notebook. I boted windows an was about to start a terminal program when the computer switched off. And it refused to switch on! I often hope that things regenerate themselves when left alone, so I waited for the next day to try again. I usually make backups of the important things, but at night, I remembered many things I hadn't considered for important, but now seemed to be important for me. The next day, the computer still didn't switch on, and I opened it. By the smell I could locate one bad chip, and looked for the datasheet on the internet. It was some voltage converter for RS232, so I decided to ampute (remove) it. After that, the computer booted, but the display stayed black. It was the background light of the display not working. I used a lamp to see the contents of the display, and managed to copy the data to a USB-stick.

Apparently the casio docking station had generated a voltage peak and therefore destroyed my PC.

Well, bad luck, but now I have more spare time!

Have a nice day! Klaus

Re: O.T. and a it long: Bad luck! Definitively, bad luck... (sob)

*Message #5 Posted by **bill platt** on 16 Feb 2006, 12:42 p.m.,*
in response to message #4 by Klaus

You would be a good man to have on an expedition, Klaus.

Re: O.T. and a it long: Bad luck! Definitively, bad luck... (sob)

*Message #6 Posted by **HrastProgrammer** on 16 Feb 2006, 3:24 a.m.,*
in response to message #1 by Vieira, L. C. (Brazil)

Sorry to hear the bad news ...

I am backuping everything on:

(*) Two different hard disks on my server (every day)
(*) Workstation connected to server (every 2-3 days)
(*) My notebook (every 2-3 days or when I need it)
(*) Two different 750MB ZIP drives (odd/even days)

So, this is 6 copies of everything I have ever done :-)

I am periodically saving everything to CD/DVD, too.

Best regards.

Re: O.T. and a it long: Bad luck! Definitively, bad luck... (sob)

*Message #7 Posted by **Thomas Radtke** on 16 Feb 2006, 4:44 a.m.,*
in response to message #1 by Vieira, L. C. (Brazil)

Have a look at dd_rescue (from a linux boot cd). It once saved me a lot of trouble. Great tool!

Thomas

Re: O.T. and a it long: Bad luck! Definitively, bad luck... (sob)

*Message #8 Posted by **Eric Smith** on 16 Feb 2006, 12:26 p.m.,*
in response to message #1 by Vieira, L. C. (Brazil)

On all my computers other than my laptop, I use either RAID 1 (mirroring, 2x drives) or RAID 5 (distributed parity, 1 extra drive). This obviously costs more, but then I won't lose data from a single drive failure.

But even with RAID, it is STILL necessary to make backups, because RAI doesn't protect against user stupidity, and I've demonstrated that occasionally I can do very stupid things.

Eric

Re: O.T. and a it long: Bad luck! Definitively, bad luck... (sob)

*Message #9 Posted by **bill platt** on 16 Feb 2006, 12:40 p.m.,*
in response to message #1 by Vieira, L. C. (Brazil)

I mirror my hard drive onto my office hard drive--by physically carrying it in and slaving it every so often.

I used to mirror onto a second on-board hard drive that I kept plugged in, but then I had a power supply blow up in the computer, and it fried my secondary hard drive! I will buy another onboard mirror though; I just won't leave it powered up.

My office work files are backed up to tape, and also archived to CD.

I learned, from those early days on Timex Sinclair, Atari, Commodore, 8088 with 5" floppies, that memory is friable...

I really do not trust any "archiving" that is not refreshed (re-written) to new media every year or so.

But I plugged in my 486 the other day--hasn't been run in 3 years, made in 1994-5? and it still works! All the old files are there!

Interestingly, I had let my Sony digital8 video get pretty old before making analog backups--6 years for the oldest. They all read without any failures. I was getting worried, which is why I made my analog backups (you know--vhs may be low grade, but at least it merely goes snowy with age, rather than blank).

Re: O.T. and a it long: Bad luck! Definitively, bad luck... (sob)

*Message #10 Posted by **Marx Pio** on 16 Feb 2006, 3:10 p.m.,*
in response to message #9 by bill platt

Did you try to leave the HD some hours in the freezer inside a plastic protective case? I read it in Info Magazine.

Some says it works and you will have some time to back up the data.

Well hope it is not a mech problem.

Pio

Re: O.T. and a it long: Bad luck! Definitively, bad luck... (sob)

*Message #11 Posted by **Ed Look** on 17 Feb 2006, 9:48 p.m.,*
in response to message #10 by Marx Pio

Er... why would THAT work??

Is the temperature low enough to prevent change in the spin orientations of the magnetic domains???

Re: O.T. and a it long: Bad luck! Definitively, bad luck... (sob)

*Message #12 Posted by **Marx Pio** on 17 Feb 2006, 10:39 p.m.,*
in response to message #11 by Ed Look

Don't ask me how or why.

Some people tried it and said it worked. I have a magazine edition in portuguese(Info) that explains how to do that and some take it seriously and got the hd back having the necessary time to back up the data to another media.

Could be magic? I really don't know.

;)

Pio

Re: O.T. and a it long: Bad luck! Definitively, bad luck... (sob)

*Message #13 Posted by **Ed Look** on 18 Feb 2006, 12:55 p.m.,*
in response to message #12 by Marx Pio

... maybe in a young girls' heart, but not in calculators nor photon torpedoes.

Re: O.T. and a it long: Bad luck! Definitively, bad luck... (sob)

*Message #14 Posted by **Vassilis Prevelakis** on 19 Feb 2006, 5:13 p.m.,*
in response to message #10 by Marx Pio

```
Marx Pio wrote:
> Did you try to leave the HD some hours in the freezer inside a plastic protective
case?
```

This will work if there is a defective IC that overheats and fails. However the treatment does appear to be a extreme because it will subject the drive *mechanism* to thermal shock when you power it on after you take it out of the freezer.

Many years ago I had a drive that would work a little bit 10-20 minutes and then go off-line. I found that if I raised the PCB to a 30 degree angle (so that the wires at one end would remain in place) and use a fan to blow cool air in the gap, it would allow the drive to continue working. I operated in that configuration for about 18 months at which point I replaced the drive (it did not fail again).

More recently I had the same problem with a Seagate SCSI drive and I managed to extract all data from it by operating it with an ice pack placed on its PCB (ziplock bag filled with ice cubes placed in another ziplock bag).

I then left the drive on my desk for a month or two and when I came back to do the paperwork to get it replaced under warrantee I found out that now the drive worked just fine [1].

**vp

[1] Seagate has a diagnostic CDROM that you boot from and it runs diagnostics on the disk drive. The drive passed the full diagnostic a couple of time. I then installed it inside a PC (so that it would operate on the same temperature conditions as when it failed in the first place) and let it run the diagnostics for a week. It still passed them all without any errors.

@#^%$#%^@$# I do not trust the drive because it failed me once and it does not have the decency to die on me so that I can have it replaced :-(

Re: O.T. and a it long: Bad luck! Definitively, bad luck... (sob)

*Message #15 Posted by **John Limpert** on 20 Feb 2006, 2:53 p.m.,*
in response to message #14 by Vassilis Prevelakis

> Quote:
>
> @#^%$#%^@$# I do not trust the drive because it failed me once and it does not have the decency to die on me so that I can have it replaced :-(

It would be a shame if something bad happened to the drive while it was sitting on the shelf. The world's a very dangerous place. :-)

Intermittent parts are a major headache. Especially when the repair depot can't find a problem and restocks it as a good replacement part.

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HP-12C batteries...

*Message #1 Posted by **gr8patra** on 16 Feb 2006, 12:41 a.m.*

Hi there, I am in the process of buying an HP-12C just as a collecting item. I am a computer scientist/IT developer and I won't use it for anything. (Is this an impulsive purchase?) The seller claims that it takes only one battery. Is that true? I thought it takes three of them. He says that HP started making those with one battery after a while. I asked if he's selling a Platinum edition but he says it's a regular HP-12C. Any ideas on that? Thanks, Patra

Re: HP-12C batteries...

*Message #2 Posted by **Vieira, L. C. (Brazil)** on 16 Feb 2006, 1:21 a.m.,*
in response to message #1 by gr8patra

HI;

the information proceeds. Earlier regular HP12C worked with 3 x 1.5V, LR44-like button cells. Newer units work with a single 3V, flat button cell. Same as the one used with the Platinum series.

Cheers.

Luiz (Brazil)

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RPN or RPL

*Message #1 Posted by **Joe Edwards** on 15 Feb 2006, 10:22 p.m.*

I realize most folks here are probably more comfortable with RPN versus RPL (am I wrong?).

RPN seems so simple and the programming style for the 41/42 models seems rather easy to use - not to mention the 32 models and the voyager models as well.

RPL seems so much more, well MORE powerful, but at the same time has a much larger learning curve. I assume (incorrectly?) that RPL can do much more (my programming skills are very much at the novice level) than RPN.

My question is this: what niche does the RPL programming language fit, especially nowadays with the 49g+. With so many more powerful handheld devices, is the RPL in the 49 series just a left-over concept that just works well to power the 49g?

Overall, I just don't see much of a use when compared to a simple RPN calculator. I assume I am not seeing the forest due to all the trees!

Anyone care to enlighten a simple "grasshopper"???

Joe

Re: RPN or RPL

*Message #2 Posted by **Vassilis Prevelakis** on 15 Feb 2006, 11:01 p.m.,*
in response to message #1 by Joe Edwards

The french say that "better" is the enemy of "good".

This is my opinion of RPL. HP took a system that was easy to use/efficient and ruined it.

I agree fully with the statement that RPL is elegant. It is also more complete with fewer exceptions and strange rules (cf discussion on raising the stack which usually takes 1 to 2 pages at the end of every RPN calculator manual).

But is elegant better? In the case of RPN vs RPL my opinion is that it is not. Take a simple job where you want to carry out a bunch of calculations and keep an audit trail. On the HP-97 this is trivial, just switch the printer from MAN to NORM. On the HP-41 ditto. Try the same on the HP28 or later. You have to write a program to do this.

Consider programming. On the HP-41 you just switch to PRGM mode and press the same keystrokes that you would when solving the same problem manually. On the HP-28C or the HP48GX you have to deal with that horrible object editor.

But I won't bore you with any more arguments. I just do not like it.

BTW for a great discussion for and against RPL check the first issue of the HPX Exchange (Jan/Feb 1987

V1N1). Pages 5-9 Bill Wickes presents the then new HP28C, and pages 9-13 has an article called "The HP28C A wonder that wasn't" by Harry Beruccelli.

The scans for this magazine are available from Jake Schwartz's CDROM and may be available from TOS.

**vp

Re: RPN or RPL

*Message #3 Posted by **Andreas Terzis** on 15 Feb 2006, 11:28 p.m.,*
in response to message #2 by Vassilis Prevelakis

Vassili, I couldn't agree with you more. And with all the latest postings on this, and similar subjects like a possible HP-43S, I don't feel so much of a dreamer. "Every past year was better" type of thing? Andreas Terzis

Re: RPN or RPL

*Message #4 Posted by **Joe Edwards** on 15 Feb 2006, 11:33 p.m.,*
in response to message #2 by Vassilis Prevelakis

> Quote:
>
> BTW for a great discussion for and against RPL check the first issue of the HPX Exchange (Jan/Feb 1987 V1N1). Pages 5-9 Bill Wickes presents the then new HP28C, and pages 9-13 has an article called "The HP28C A wonder that wasn't" by Harry Beruccelli.
>
> The scans for this magazine are available from Jake Schwartz's CDROM and may be available from TOS.
>
> **vp

Is this the CDROM sold on this website? If not, where would I find Jake Schwartz's CD. I don't know what TOS is either.

You have confirmed how I feel about RPN. I have tried doing the same thing with a 41 and a 49g and it seems so much more complicated for someone as simple as myself. :)

I am still unsure of where RPL fits in these days, other than as an "OS" to run the 49g+/48gII. It really seems that HP would be better off with a 43s model versus trying to compete with TI. A 43s would be a wonderfully useful calculator. The new 49g+ seems to be aimed more at the educational market as opposed to the market(s) that the 48 series was - engineers, scientists, surveyors, etc.

TOS

*Message #5 Posted by **Klaus** on 16 Feb 2006, 2:47 a.m.,*
in response to message #4 by Joe Edwards

TOS is a homepage about the 41C and contains copyrighted material. Therefore its link should not be mentioned in this forum. On the simulation pages of this museum there is a link to http://www.furlow.org/ and this will lead you to TOS

Re: TOS

*Message #6 Posted by **Joe Edwards** on 16 Feb 2006, 8:49 a.m.,*
in response to message #5 by Klaus

Thanks for the update. I will do some research regarding TOS. Have a good day.

Cheers.

> Quote:
>
> TOS is a homepage about the 41C and contains copyrighted material. Therefore its link should not be mentioned in this forum. On the simulation pages of this museum there is a link to http://www.furlow.org/ and this will lead you to TOS

Re: TOS

*Message #7 Posted by **Eric Smith** on 20 Feb 2006, 2:53 a.m.,*
in response to message #5 by Klaus

> Quote:
>
> TOS is a homepage about the 41C and contains copyrighted material.

It contains copyrighted material that is there BY PERMISSION OF THE COPYRIGHT OWNERS. Yes, including HP. The gentleman who runs TOS is scrupulous about this.

If someone at HP asked Dave to disallow links to TOS from MoHPC, that's only because HP's left hand doesn't know what the right hand is doing (or has done), which is not too surprising given how big HP is.

Re: TOS

*Message #8 Posted by **Klaus** on 20 Feb 2006, 6:23 a.m.,*
in response to message #7 by Eric Smith

Hi Eric,

you are right, Warren states that he has permisson and I have no reason to doubt his words. I will try to correct this in my original post.

(EDIT: Editing messages is not allowed as soon as there are responses to the message, so I can't correct it. Perhaps one of the moderators can correct or delete my original message?)

Greetings, Klaus

Edited: 20 Feb 2006, 6:26 a.m.

Re: RPN or RPL

*Message #9 Posted by **Vassilis Prevelakis** on 16 Feb 2006, 3:23 a.m.,*
in response to message #4 by Joe Edwards

```
Joe Edwards wrote:

> Is this the CDROM sold on this website? If not, where would I find
```

> Jake Schwartz's CD.

come ON!!! Just type

Jake Schwartz CDROM

in google and click on the first entry.

**vp

Cut the hostilities

*Message #10 Posted by **Joe Edwards** on 16 Feb 2006, 8:31 a.m.,*
in response to message #9 by Vassilis Prevelakis

How about you COME ON!!! I am trying to engage in conversation here, not play, screw you go google it. You realize it would be a great deal more polite to just answer a question versus playing games.

Maybe something along the lines of..."Oh, Jake Schwartz's CD is a compliation of information from the PPC (club) over the years. <Add in a neat historical comment>.

I was raised to be generally polite and show others consideration, how about you doing the same!

Joe

> Quote:
>
> Joe Edwards wrote:
>
> > Is this the CDROM sold on this website? If not, where would I find
> > Jake Schwartz's CD.
>
> come ON!!! Just type
>
> Jake Schwartz CDROM
>
> in google and click on the first entry.
>
> **vp

About politeness

*Message #11 Posted by **Karl Schneider** on 16 Feb 2006, 11:57 p.m.,*
in response to message #10 by Joe Edwards

Joe, I'm getting a bit tired of the incereasingly-confrontational tenor characterizing some of your own recent posts. You have made many requests here recently for advice, guidance, information, and insights regarding HP calculators, but have rarely acknowledged those (including myself) who have taken considerable time and effort to respond. You have also dished out a fair amount of lecturing, scolding, and imperative statements, which is rather unseemly for someone who is a fairly new participant in the MoHPC Forum:

> Quote:

> We are interested in folks reasons for using the calcs, not bashing them due to their choice. Everyone has their own personal preferences. Let's leave them to enjoy those preferred machines.
>
> Quote:
>
> Why even ask if someone is trying to start a flame war? That question in itself is inflammatory. Just answer the guy's question and if he responds with a reasonable answer, or not at all, you have the answer to your question.
>
> Quote:
>
> How about you COME ON!!! I am trying to engage in conversation here, not play, screw you go google it. You realize it would be a great deal more polite to just answer a question versus playing games.

Frankly, Joe, it would have been much faster for you to do a search for "Jake Schwartz CD-ROM" (without quotes; include the hyphen) under Google, Yahoo, Altavista, etc., than for someone to track down the latest URL of Jake's site and paste it into a titled, clickable link for your convenience.

However, for the benefit of you and others who are interested, I have done exactly that. The search quickly led me to these locations on the first page of listings:

CD-ROM at Jake Schwartz' home page, updated 05 Oct 2005

CD-ROM at Jake Schwartz' home page, updated 10 Feb 2006

In closing, it takes a fair amount of effort to research, develop, edit, and proofread answers to the questions you and others present to us. It's not reasonable to expect a detailed, spoon-fed response to every query that is posed here. I'll add, though, that new enthusiasts for the fine HP calculators and other products of an earlier era are certainly welcome and needed -- I would surmise that the ones who care are mostly the ones who remember, which makes most of us over 40 years old...

Regards,

-- KS

Edited: 17 Feb 2006, 1:57 a.m.

Re: About politeness

*Message #12 Posted by **Joe Edwards** on 17 Feb 2006, 4:19 p.m.,*
in response to message #11 by Karl Schneider

Karl, 1. I have thanked folks for their insight. I am sorry you are upset that I didn't thank you personally. Therefore, Karl, thank you for all your help in the past regarding my questions.

2. It seems that I have misunderstood the concept of this forum. I was under the (mistaken) impression that this was a place where folks could ask for advice, etc. regarding the HP calculator topics. I guess this forum is more of a place for those who are already well-versed in HP calculator lore (and/or have lived through the actual HP age) to share ideas.

Since I fall into neither of these catagories, I will refrain from requesting information from those who visit this site since I have only been visiting the MoHPC forum since 2003.

3. Since my status here is "newbie" it seems I don't have the right to make my opinion known regarding other's confrontational comments. My apologies for speaking up and acting in the manner of a moderator.

4. Frankly Karl, while I did admit to a lack of knowledge regarding the TOS and the Schawart'z CD it wasn't my intention to ask someone to track down the info and post hyperlinks. I was merely engaging in conversation. It seems that I mistook the forum as a place to converse (see point above) with other like-minded individuals.

Your points are well taken.

> Quote:
>
> Joe, I'm getting a bit tired of the incereasingly-confrontational tenor characterizing some of your own recent posts. You have made many requests here recently for advice, guidance, information, and insights regarding HP calculators, but have rarely acknowledged those (including myself) who have taken considerable time and effort to respond. You have also dished out a fair amount of lecturing, scolding, and imperative statements, which is rather unseemly for someone who is a fairly new participant in the MoHPC Forum:
>
> Frankly, Joe, it would have been much faster for you to do a search for "Jake Schwartz CD-ROM" (without quotes; include the hyphen) under Google, Yahoo, Altavista, etc., than for someone to track down the latest URL of Jake's site and paste it into a titled, clickable link for your convenience.
>
> However, for the benefit of you and others who are interested, I have done exactly that. The search quickly led me to these locations on the first page of listings:
>
> CD-ROM at Jake Schwartz' home page, updated 05 Oct 2005
>
> CD-ROM at Jake Schwartz' home page, updated 10 Feb 2006
>
> In closing, it takes a fair amount of effort to research, develop, edit, and proofread answers to the questions you and others present to us. It's not reasonable to expect a detailed, spoon-fed response to every query that is posed here. I'll add, though, that new enthusiasts for the fine HP calculators and other products of an earlier era are certainly welcome and needed -- I would surmise that the ones who care are mostly the ones who remember, which makes most of us over 40 years old...
>
> Regards,
>
> -- KS

Re: RPN or RPL

*Message #13 Posted by **Valentin Albillo** on 16 Feb 2006, 4:46 a.m.,*
in response to message #1 by Joe Edwards

Hi, Joe:

Though this isn't an answer to your exact question, let me quote a relevant post from 2001:

> *"And here's what I think about RPL versus RPN: All classic machines, such as the wonderful 15C, 41C and 42S, had a simple but powerful and elegant RPN keystroke programming language, with an efficient 4-level-plus-LAST-X stack, which was easy to understand and easy to visualize while programming. They also had some simple looping controls (decrement and increment), storage arithmetic and indirection, and a fairly useful, uncomplicated filesystem.*
>
> *Now, they've been 'replaced' by these new machines using RPL, which is kinda some "FORTH-with-dressing", which only transforms the intuitive and simple RPN programming paradigm into something so arcane and complicated that matter of fact, a lot of people desist from writing programs in that 'language' not to mention trying to understand them.*
>
> *You need several yellow-pages-sized 'advanced' manuals just to try and grasp the basics and fundamentals of their programming style, the thousands of whimsical functions and their complicated syntax and expected parameters, to the point where you can do almost nothing without such a manual or hefty guide always at hand.*
>
> *Tha sad truth is that the extremely simple, useful and elegant RPN paradigm has been 'improved' to utterly preposterous extremes. The typical RPL program is a nearly unfathomable mess where you actually need paper (lots) and a pen plus the advanced manuals, just to attempt to understand what it's going on. It's kinda some 'obfuscated C' contest, if you know what I mean.*
>
> *Not to mention its efficiency, or lack of it. Where you could do wonders in RPN on a 41C in just 224 bytes, you'll find yourself using more and more kilobytes for the simplest programs. So what ? After all, those RPL machines do have hundreds of Kbytes, even a Mb or two, so who cares anymore for elegant, efficient programming ?*
>
> *[...]*
>
> *To summarize, **RPL is RPN's "Peter's Principle" come true: It's RPN raised to its saddest level of incompetence**. And like it or not, there it will remain forever, no turning back."*

There's also this other post on the subject:

> *"Back then we were waiting for the dream HP calculator for everyone, kinda a super-HP42, i.e., full compatibility with the 41C and all its peripherals, full I/O, large screeen (>= 4 lines), menus, named variables plus registers, matrix operations, complex math, much better alpha capability, much faster, more RAM, the works !*
>
> *Should that have happened, we all would've been in paradise, and would still be there, 20 years later. RPN would've had a natural expansion, users would have had a natural grow path for their skills.*
>
> *What did HP release instead ? The HP-28S ... and RPL, thus creating a schism among loyal HP users that still persists. But we HP lovers were a very tiny minority among people using calculators at the time, what with us having to defend and proselitize RPN, and the *last* thing we needed was a schism among us, much less something that literally required to throw all our carefully developed programming skills and start anew, back to square one. RPN was already too cryptic for the average non-HP users, RPL made it absolutely obfuscated for everyone. While you had a chance to convince some people of RPN's value in normal use and programming, no non-HP users would ever touch RPL with a ten feet pole, or be convinced of its alleged advantages, and many HP users of old thought along the same lines.*
>
> *The result is, RPN never properly developed an upgrade path, the 42S was dismayingly handicapped,*

> *and we got extremely complex, very large, graphing calculators that many of us neither needed nor wanted. Effort, time, and money who could've been spent in RPN were instead focused on the new models. A truly golden opportunity for RPN was absolutely wasted because someone at HP just happened to have other ideas in mind, and practically *killed* RPN from then on."*

I might add now a lot of things related to program editing, traceability, debugging, inconsistent and incoherent program structures, inefficiency, etc, etc. but it's no use, 'nuff said.

Best regards from V.

Note: Edited for a typo

Edited: 16 Feb 2006, 5:39 a.m.

HP 49g+ just purchased

*Message #14 Posted by **Joe Edwards** on 16 Feb 2006, 8:32 a.m.,*
in response to message #13 by Valentin Albillo

V, Thanks for the ever interesting information. Was HP still a company focusing on engineers, etc. back in the mid/late 80's when RPL was introduced?

At this point, does anyone today really care about what "OS" their graphing calculator runs? It seems few folks at my university would care if they ran embedded linux or whatnot, as long as they can display a graph of a function, or perform other higher maths. While I have played with RPL on my 49g+, it seems to be just as useful without ever really touching the programming aspect of the machine. HP could have hidden the RPL away like on the first machine (18??) and very few folks would really care, I feel IMHO.

Joe

Edited: 16 Feb 2006, 8:45 a.m.

Re: HP 49g+ just purchased

*Message #15 Posted by **Maximilian Hohmann** on 16 Feb 2006, 9:16 a.m.,*
in response to message #14 by Joe Edwards

Hello!

> Quote:
>
> 1. Was HP still a company focusing on engineers, etc. back in the mid/late 80's when RPL was introduced?
>
> 2. At this point, does anyone today really care about what "OS" their graphing calculator runs?

1. Certainly not, since no engineer can afford to use RPL at work! We (I am one myself) get paid for doing our job quickly and efficiently which is simply not possible using RPL. As a matter of fact, very few of the engineers I work with (mainly aerospace and IT) use pocket calculators at all. Excel (and programs like Mathematica for the more complicated stuff) has won the battle long ago.

2. The same as #1: In industrial/engineering environments no graphing calculators are used at all. The only graphing calculatos I ever see at the office are used by our trainee students for playing games, but even in this role they quicky become phased out in favour of mobile phones...

Greetings, Max

Re: HP 49g+ just purchased

*Message #16 Posted by **Valentin Albillo** on 16 Feb 2006, 9:26 a.m.,*
in response to message #14 by Joe Edwards

Hi again, Joe:

Joe posted:

"V, Thanks for the ever interesting information."

> You're welcome. Glad you found it interesting.

"Was HP still a company focusing on engineers, etc. back in the mid/late 80's when RPL was introduced?"

> I think HP was then on the verge of a major change (for the worse). On the one side, there were some of the best US engineers ever, assembled at Corvallis, who thought they were still designing the most powerful and state-of-the-art products for the worldwide best engineers out there. So far so good.
>
> But on the other side, as yet unnoticed to them, there were some of the most cretin 'marketeers' and 'bean counters' in the whole US, the kind of people who will take any US company, no matter how great, and quickly reduce it to irrelevancy after getting their pockets full, who were moving fast to take full control of everything designed and produced at HP Corvallis Division, with sales and short-term profits as their main regard and next to perfect disregard for HP's traditional customer base, utmost quality, cutting-edge technology, in short 'the HP way'.
>
> This wasn't that obvious to the people working there at the moment, but became painfully so the moment the 1st Saturn machine was developed and released, namely the HP-71B. Have a look at this revealing and heartfelt post by Steven T. Abell, one of the HP-71B's 'fathers' and see for yourself just how badly he felt with the whole experience. It was just the beginning of HP's unstoppable decline, which continues to this day but not for long ...

Best regards from V.

HP's unstoppable decline? Measured by what?

*Message #17 Posted by **Gene** on 16 Feb 2006, 10:42 a.m.,*
in response to message #16 by Valentin Albillo

Not by stock price.

http://money.cnn.com/quote/quote.html?pg=qu&sid=2385&symb=HPQ&time=all&uf=0

Looking at this graph, there is an obvious spike around 1999/2000, but then, the market fell a good amount in 2001-2003 for a lot of companies.

The stock is still 4 times higher than it was in the mid-1980s. So since the beginning of HP's unstoppable decline, they have increased value to their shareholders by 400%. How dare they do that!

That's hardly running down the hill to oblivion.

And, with revenues this year estimated at nearly $90 billion, that's a lot of sales.

HP may yet go under, but I would beware premature predictions of doom.

Gene, one of those bean-counters

Re: HP's unstoppable decline? Measured by what?

*Message #18 Posted by **Valentin Albillo** on 16 Feb 2006, 10:58 a.m.,*
in response to message #17 by Gene

Hi, Gene:

Gene posted:

"Gene, one of those bean-counters"

> No you aren't, because I specifically addressed *"some of the most cretin 'marketeers' and 'bean counters' in the whole US"* and I do not think you fit that cathegory, neither do you.
>
> Please, Gene, no offence was meant, less of all to you. I do not think you are a "bean-counter" and even if you were, you certainly aren't like that. There are bean-counters and there are bean-counters and everyone knows which side they are on.
>
> As for 'decline', if you really think that current HP, 400% increased value or not, can hold a candle to HP of the past, the one we knew and loved, then our views of the current state of affairs are far too apart for meaningful discussion.

Best regards from V.

Re: HP's unstoppable decline? Measured by what?

*Message #19 Posted by **Gene** on 16 Feb 2006, 12:06 p.m.,*
in response to message #18 by Valentin Albillo

No problem on the bean-counter reference...I intended to make the point, which you echo'd that not all bean-counters are the same.

However, it is not obvious to me that a company's success is limited by not growing, by not expanding sales/profits, and catering to a limited market instead of changing to grow.

The company, as a corporation, exists to make money for shareholders. It is their fiduciary responsibility to do so.

A 400% increase in market value is good news for shareholders. That is the only measure of success.

Since sales are much, much larger than they were in the 1980s, obviously the buying public has not minded this change, nor have the owners, the shareholders.

The fact that some of us lament the loss of exquisitely made machinery does not mean that HP should have continued doing that, if the stock had only gone up 10% since the 1980s.

Basic point from Principles of Finance: The corporation exists to make money for the

shareholders. Period.

But, that also means that you don't do that by sticking it to your customers, raping the environment, etc., because SUSTAINED profitability is what the goal is, not short-term profits.

And, a 400% increase over the last 20 years looks quite sustained to me.

Re: HP's unstoppable decline? Measured by what?

*Message #20 Posted by **bill platt** on 16 Feb 2006, 12:26 p.m.,*
in response to message #19 by Gene

400% over 20 years is 7.2% per annum. That sucks, especially considering what the bond market did over the same period.

Re: HP's unstoppable decline? Measured by what?

*Message #21 Posted by **Gene** on 16 Feb 2006, 1:09 p.m.,*
in response to message #20 by bill platt

Well, that 400% is an eyeball estimate of the stock price graph from money.cnn.com over the last 20 years.

It doesn't include dividends which would increase the return.

Over the last 10 years, HP's stock price is up right at the same amount as the S&P 500.

Certainly it is not on some sort of unfailing decline.

Re: HP's unstoppable decline? Measured by what?

*Message #22 Posted by **bill platt** on 16 Feb 2006, 1:22 p.m.,*
in response to message #21 by Gene

yes, since 02 or 03, HP has been a very good investment. Amazing, really, but not so amazing when you compare it to many other "tech" companies.

HP has a lot of desirable qualities, for an investor (no, not for Wayne or Valentin, perhaps):

```
Market Share
Brand Recognition
repeat customer base
```

We noticed the quality of our new printers sliding in the Carly period, though. We've had to retire a number of 2200 laserjets with blown NICs.

And yet, we buy more HP printers. Why? Price to performance, etc works out.

So, yes, HP seems to be a good investment -- but will that stock price continue to climb?

Re: HP's unstoppable decline? Measured by what?

*Message #23 Posted by **Valentin Albillo** on 16 Feb 2006, 12:54 p.m.,*

in response to message #19 by Gene

Hi again, Gene:

Interesting points you raise, and I would like to argue some of them, if you don't mind.

First of all, let me state right front that I know next to nothing about economics or finance so you're the undisputed authority in this particular instance and I abide by what you say, but:

"a 400% increase over the last 20 years looks quite sustained to me."

> The company I work for has sustained a growth of some 2000% in 10 years, so your figure doesn't look that impressive to me, though certainly we weren't as big as HP to begin with. Now the question: that 400% increase over the last 20 years, does it take inflation into account ? What would the real increase be after discounting 20 years of inflation ?

"However, it is not obvious to me that a company's success is limited by not growing, by not expanding sales/profits, and catering to a limited market instead of changing to grow. The company, as a corporation, exists to make money for shareholders. It is their fiduciary responsibility to do so."

> That doesn't sound like "The HP Way" to me. It rather sounds like every run-of-the-mill company's way, i.e., to make money for the shareholders, as much as possible and as soon as possible, and to hell with everything else.
>
> If I'm not wrong, that was not the idea the late Mr. Hewlett and Mr. Packard had about how you should run a successful business and how to keep your customers and your worforce happy, satisfied, and above all, hooked for life to you and your products.
>
> The HP of old was a relatively small company that nonetheless managed to create superb, absolutely state-of-the-art products, mnay times actually pioneers in their field. They were outrageously expensive, but never mind, you felt the quality the moment you saw the *add*, not to mention the product itself.
>
> You would do whatever was necessary to get the money to buy it, you would be extremely proud of owning it, you would be the envy of everyone in your field, and I'm not talking only about calculators but very expensive lab instrumental.
>
> Also, you would be so impressed with the quality and the experience would be so positive that afterwards in life you would always trust in HP for any other lab or computing equipment, based solely on your positive experiences. The keyword here is **fidelization**.
>
> This would result in, for the simple fact of having produced and released a superb calculator, worth $500, say, some very satisfied customer would later purchase goods from HP worth many, many thousands of dollars, both for him and for his company. That's about the best fidelization campaign and the best advertisement campaign you would ever make: "We're the best, you know it, you want us, nothing else will do, we deliver".
>
> Compare *that* with later HP: "The HP way" long abandoned ... crappy products created somewhere else and simply HP-branded ... no outstanding quality

whatsoever ... their engineers disbanded, no research, no pioneering, everything's outsourced ...

So, are you really sure that abandoning the old philosophy has been best for the company and its shareholders ? Short-term, meager-at-best benefits instead of a solid, reputable, the-best-of-the-best company, which people would *die* for, both employees and clients ?

The $250 HP-25 I bought resulted in my buying many, many, many thousands of dollars from HP, and my recommending their products to everyone who would listen, and many *did* listen, with both ears wide open.

Now, I buy *nothing* from HP and recommend their products to noone. And it's not a pathetic revenge for not producing RPN calculators, matter of fact I do prefer SHARP handhelds.

It's just that they're no good value for money anymore.

Best regards from V.

Re: HP's unstoppable decline? Measured by what?

*Message #24 Posted by **Gene** on 16 Feb 2006, 1:14 p.m.,*
in response to message #23 by Valentin Albillo

Certainly, some companies have done better than HP over the last 10 years, 20 years, etc., but you are quite right to note that a % increase in price is much easier if you start lower and smaller.

If HP has abandoned the old "HP way", it certainly does not seem to have affected their sales. The lack of referrals from you (and others) does not seem to have been noticed in their results.

Apparently, those of us (myself included) who really did/do appreciate their products from 20 years ago did not reduce their sales enough when some of us may have taken our business elsewhere.

And, wonder of wonders, HP is up as I write this 8.3% TODAY because of good sales and earnings.

Guess the investors will just cry all the way to the bank.

Re: HP's unstoppable decline? Measured by what?

*Message #25 Posted by **Valentin Albillo** on 16 Feb 2006, 3:07 p.m.,*
in response to message #24 by Gene

Hi, Gene:

Gene posted:

"Guess the investors will just cry all the way to the bank. "

More power to them. There are many people that equate money with success, but I'm not one of them. HP could be earning 10 times more and

that wouldn't improve the crappy quality of their outsourced products an iota. I don't quite see why you think that earning more has anything to do towards improving the quality of their products, actually logic dictates that it should be exactly the opposite.

As for the investors running to the bank, it might be the case that they're going there with some of your very own money in their pockets.

Not mine.

Best regards from V.

Re: HP's unstoppable decline? Measured by what?

*Message #26 Posted by **Gene** on 16 Feb 2006, 3:35 p.m.,*
in response to message #25 by Valentin Albillo

Investors, if they are really investors, would of course equate money with success. I assume that if you invest, you prefer to invest in companies that earn a good return on your investment rather than companies that lose your money.

I'm not equating HP's product quality, as it is, with earning more money. But it does appear that our distaste for some of the quality issues with HP's current products is not being shared with the market in total, and that's what counts.

I'm merely pointing out that despite the statements of some here, in a capitalistic economy, companies win when they provide what consumers want (i.e., buy) and are able to sell them for more than what they cost to make.

The investors will run to the bank with whatever $$ is left from the sales prices paid by consumers after deducting HP's cost of goods and other expenses. If I have bought HP products, then yes, some of my money will be in their pockets.

Quality SHOULD matter, but either a) it does not for some reason, or b) consumers in general don't believe HP's quality is low enough to not buy their products.

Another fine "short essay" [HP's unstoppable decline]

*Message #27 Posted by **Karl Schneider** on 17 Feb 2006, 12:19 a.m.,*
in response to message #23 by Valentin Albillo

Valentin --

Author! Author!

The link to your latest short essay (among many others) will be placed in my "Bookmarks" (using the original Netscape/Mosaic[?] terminology, rather than Windows IE's inane "Favorites"), once it goes to Archives.

Regards,

-- KS

Re: Another fine "short essay" [HP's unstoppable decline]

*Message #28 Posted by **Valentin Albillo** on 17 Feb 2006, 4:26 a.m.,*
in response to message #27 by Karl Schneider

Hi, Karl:

Why, thank you for your kind compliments but matter of fact these posts of mine are not 'essays', meaning that I write them in the heat of the moment, at full speed, without time to rethink them or polish them a little.

The one you mention, for instance, has at least three or four typos I noticed after the fact, which the utterly inconvenient ruling currently in effect at MoHP prevents me from correcting as I should.

Shame for me, that my 'essays' go into the archives, for posterity, with such demeaning typos ... being a perfectionist at heart, I can barely stand the fact ...

Best regards from V.

Note: Edited to correct a typo which, thanks to the utterly inconvenient ruling currently in effect at MoHP, I could only do because I detected it fast enough that there were no replies yet.

Edited: 17 Feb 2006, 4:40 a.m.

Measured by what? Not Quality

*Message #29 Posted by **Joe Edwards** on 16 Feb 2006, 10:47 a.m.,*
in response to message #17 by Gene

Gene, I think something is wrong with a company when the products are poorly made (compared to past equipment) and the shareholders are pocketing more and more money. Shouldn't some of that profit be used to, once again, make better products instead of disposable electronics?

Joe

> Quote:
>
> Not by stock price.
>
> http://money.cnn.com/quote/quote.html?pg=qu&sid=2385&symb=HPQ&time=all&uf=0
>
> Looking at this graph, there is an obvious spike around 1999/2000, but then, the market fell a good amount in 2001-2003 for a lot of companies.
>
> The stock is still 4 times higher than it was in the mid-1980s. So since the beginning of HP's unstoppable decline, they have increased value to their shareholders by 400%. How dare they do that!
>
> That's hardly running down the hill to oblivion.

And, with revenues this year estimated at nearly $90 billion, that's a lot of sales.

HP may yet go under, but I would beware premature predictions of doom.

Gene, one of those bean-counters

Re: Measured by what? Not Quality

*Message #30 Posted by **Gene** on 16 Feb 2006, 3:26 p.m.,*
in response to message #29 by Joe Edwards

Joe wrote: "Gene, I think something is wrong with a company when the products are poorly made (compared to past equipment) and the shareholders are pocketing more and more money. Shouldn't some of that profit be used to, once again, make better products instead of disposable electronics?"

Gene: One cure for that is for customers to buy products somewhere else. If people didn't buy products they consider cheaply or poorly made, the market would be a correcting influence.

Since HP's sales will total nearly $90 billion this year, the market apparently LIKES the products HP makes in total.

Rather difficult to argue with that...it's called capitalism.

The shareholders can force a management change if they feel the company is being poorly run, but since sales are near $90 billion, apparently the shareholders who own the company feel just fine with things the way they are.

How many shareholders would want HP to make fewer, more expensive proudcts with the quality of old? Only those who don't care whether they make money on their investment.

Re: Measured by what? Not Quality

*Message #31 Posted by **Walter B** on 16 Feb 2006, 6:50 p.m.,*
in response to message #30 by Gene

Gene, having read your discussion with Valentin I think there is just one main difference between your points of view:

- You claim that the success of a company is measured in $ and nothing else.
- For Valentin there are more dimensions of sustained success, one of them being quality.

The "HP-way" as outlined in the book, and the mission statement in old HP calculator manuals emphasize this quality dimension. AFAIK the late Mr. Hewlett and Mr. Packard did not burn money, but turned into wealthy men while running HP for 50 years - and many more people shared this profit to some extent. Now we may discuss if this was BECAUSE they've put quality first or ALTHOUGH they did that. Difficult to decide because it is almost impossible to verify scientifically. So you can just BELIEVE in one or the other.

I think a big fraction, maybe the mayority of this forum believes in the first. Let's call it the "technical fraction". It doesn't feel comfortable with the kind of capitalism you explained so well (for which "bean counters" or "marketeers" are just popular labels in this forum). Don't get me wrong, I live in this world and I appreciate its benefits. But IMO something is missing, some "ideas" besides just piling up $$$. HP in earlier days transported the message to have such "ideas" - and it looked consistent. I can't see this today anymore and I miss it. And HP is no singularity - many more companies moved the same way.

The way our system works, changing requirements of customers will sooner or later generate some supplies to fulfill them. If priorities shift and the demand is big enough, it may bring and carry even expensive high quality products. Maybe we're just approaching the end of mass scrap production and the pendulum will swing back. But this is another story, turning really OT, so I'll stop here.

Just my 0,02 Euros.

Re: Measured by what? Not Quality

*Message #32 Posted by **Garth Wilson** on 17 Feb 2006, 1:30 a.m.,*
in response to message #31 by Walter B

The company I worked for from 1985 to 1992 had an owner who was out for the immediate buck. His approach includied making the product as cheaply as possible. This included not only build quality, but good ideas for improving performance were rejected if they would raise the cost of manufacture. I was instructed to set up automated testing, with the idea that somehow we were going to "test the quality into it" after cheap production. As you can imagine, that doesn't work. When the failure rate exceeded certain levels, he would lose his cool and order that the test standards be lowered; IOW, we would "fix" the testing instead of the product. Even of those units that did pass, the reliability was not good. The product's reputation was terrible-- but not to worry, we had an agressing sales team that was always able to find new, unsuspecting customers. Well actually, this could only go on for so long, and gradually it did all catch up to him. The little company went from making money hand over fist to nearly six feet under in a couple of years. Now more than ten years later, they never have recovered. They could have, if the business philosophy had changed.

Re: HP 49g+ just purchased

*Message #33 Posted by **Joe Edwards** on 16 Feb 2006, 10:42 a.m.,*
in response to message #16 by Valentin Albillo

But not for long....?????

Re: HP 49g+ just purchased

*Message #34 Posted by **Joe Edwards** on 16 Feb 2006, 10:43 a.m.,*
in response to message #16 by Valentin Albillo

What do you mean by "not for long"....?

Re: HP 49g+ just purchased

*Message #35 Posted by **Valentin Albillo** on 16 Feb 2006, 3:14 p.m.,*

in response to message #34 by Joe Edwards

Hi, Joe:

Joe posted: *"What do you mean by "not for long"....?"*

> I think that HP's days in the limelight, as a big name company, are numbered. It will fade into irrelevancy sooner than later.

Best regards from V.

HP-71B developer anecdote

*Message #36 Posted by **Karl Schneider** on 16 Feb 2006, 11:12 p.m.,*
in response to message #16 by Valentin Albillo

Hello, Valentin --

Thank you for re-posting the link to the comp.sys.hp48 post from 1992 by one of the HP-71B's developers, Steven Abell.

Those who read the entire thread will find a truly puzzling statement by a Mr. VanDevender, who replied to Abell:

> Quote:
>
> It would seem, in fact, that HP's calculator division had a dry spell in the early 80s where they were surviving off the continued popularity of the HP 41 series but were not doing so well at introducing new designs.

Guess he'd never heard of the hugely successful Voyager series (HP-10C, -11C, 12C, -15C, and -16C), introduced in 1981 and 1982.

-- KS

Re: HP-71B developer anecdote

*Message #37 Posted by **Valentin Albillo** on 17 Feb 2006, 4:32 a.m.,*
in response to message #36 by Karl Schneider

Hi again, Karl:

Certainly, if nothing else, the HP-12C would be a ****HUGE**** exception.

Millions sold, still in production 25+ years later. Must be an absolute record among mass market technical, computing gadgets. Talk about *"not doing so well at introducing new designs"* ...

Best regards from V.

Re: HP 49g+ just purchased

*Message #38 Posted by **Ron** on 17 Feb 2006, 2:58 a.m.,*
in response to message #14 by Joe Edwards

Good choice if you have a little time to play with it. The User Guide is over 800 pages in a .pdf file. The Advance User Reference is somewhat smaller, and also in a .pdf file, very awkward. If you have a budget and lots of paper,, print both manuals, the AUR first and put them into about 5 inches of binders.

I personally think the hardest thing to learn is how to navigate among the various menus. The unit is almost too powerful to be efficient. The secret there is intelligent menu and subdirectory architecture to get your personal needs close to the surface.

I graduated(?) from my 48gx a little over a year ago and still sneak back to it for some jobs. The 48 averages about one-third the speed of the 49g+ but it is a lot friendlier and with hard copy documentation which I refer to for the basics of the 49 (many of the same functions, etc.)

I had catarac surgery last year and now have problems reading the finer print on the 49, even with cheater glasses.

Good luck in your new adventures/ I changed my whole focus on life, career, family,in my 52nd year and have never been happier.

Ron

Re: RPN or RPL

*Message #39 Posted by **Thomas Radtke** on 16 Feb 2006, 4:58 a.m.,*
in response to message #1 by Joe Edwards

When programs grow, I quickly get lost in the code. 'Higher level' languages can help keeping the overview. However, I dislike RPL much and recently went over to BASIC again (after so many years) on a Sharp PC-1500. One of the first programs I wrote was a Monte Carlo simulation. I could have done it on the PC in Java much quicker but I sat in the warm kitchen having breakfast and the Sharp brick came in pretty handy:). There are better languages than BASIC, thats for sure but somehow it works great for me.

Thomas

Re: RPN or RPL

*Message #40 Posted by **Joe Edwards** on 16 Feb 2006, 8:38 a.m.,*
in response to message #39 by Thomas Radtke

Thomas, I am relearning BASIC now on my HP 71b, hence the questions. I am really suprised at the level of difficulty in programming in simple BASIC versus the RPL. Not impossible, mind you, but RLP seems more arcane.

Re: RPN or RPL

*Message #41 Posted by **GE** on 20 Feb 2006, 11:36 a.m.,*
in response to message #40 by Joe Edwards

The PC1500 is a brick indeed, it is surprising that V. (you know him !) hasn't advised usage of a very small PC1262, or a thin PC1360 instead.
I recently tried again to use RPL and ran into another ***-breaking "feature" of these beasts : you just can't temporarily save a syntactically unfinished program. For example, you can't start a FOR loop without writing the NEXT, and have your program accepted for editing later - right after you have performed that small quick calculation you need (of course it's not just one FOR that was "hanging" when this happened to me).

Not to speak about the lack of early loop termination or GOTO...

And to catch another rabbit with this message, I'd say that whoever believes that success is rated by money first and foremost, cannot have children. This stuff costs LOTS !!! When I go home early (ruining my career in the process) to take them in my arms, the reward is not money. I don't regret this choice however - not one day. And after all, they will soon be new customers for cheap throwable stuff !! (possibly not if they listen to dad).
I really don't envy those who don't have the luck to see their children grow.

Re: RPN or RPL

*Message #42 Posted by **Valentin Albillo** on 20 Feb 2006, 11:49 a.m.,*
in response to message #41 by GE

Hi, GE:

GE posted:

"The PC1500 is a brick indeed, it is surprising that V. (you know him !) hasn't advised usage of a very small PC1262, or a thin PC1360 instead."

> I said nothing at all re the PC-1500, it was Thomas Radtke, not me. And I *do* use a SHARP PC-1350 all the time when I have no laptop at hand. If I do, then Emu71 is the 'calculator' I use. IIf I need absolute portability (i.e., it must fit in a shirt pocket) then an HP-15C is the calc of choice. And once in a while, just for fun, I might grab an HP42S but I quickly tire of the menus, entering programs in this thing is a real chore.

"And to catch another rabbit with this message, I'd say that whoever believes that success is rated by money first and foremost, cannot have children. This stuff costs LOTS !!!"

> You tell me !! I have only the one child, and it's costing me as much money as it took my parents to raise the four of us.

Best regards from V.

Re: RPN or RPL

*Message #43 Posted by **James M. Prange (Michigan)** on 20 Feb 2006, 11:56 p.m.,*
in response to message #41 by GE

> Quote:
>
> I recently tried again to use RPL and ran into another ***-breaking "feature" of these beasts :

Wow, I'm amazed at the "problems" you guys seem to have with RPL.

> Quote:
>
> you just can't temporarily save a syntactically unfinished program. For example, you can't start a FOR loop without writing the NEXT, and have your program accepted for editing later - right after you have performed that small quick calculation you need (of course it's not just one FOR that was "hanging" when this happened to me).

Although the command line compiler will sometimes add on an END or closing delimiters (although not always where you'd want), it won't fix the syntax for **all** program structures. When it doesn't know how to compile your source code, it gives you an "Invalid Syntax" error and highlights the "word" where it first determined that something must be wrong.

If you want to save your unfinished source code for later editing, then simply insert a " (double quotation mark) as the first character in the command line so that it will be compiled as a character string. That won't always work so well when your source code already contains " chararacters though; perhaps a better method is to insert:

```
C$ $
```

as the first line of the command line; that forces the compiler to treat the rest of the command line as a character string, even if it does already contain a " character. After you think that you've finished editing it, remove the " character or

```
C$ $
```

and try compiling it.

> Quote:
>
> Not to speak about the lack of early loop termination

Haven't we been over this one before? Maybe use a WHILE...REPEAT...END or DO...UNTIL...END loop, or force an early exit from a FOR...NEXT/STEP loop by storing a high (or low) value in the loop index local variable.

> Quote:
>
> or GOTO...

Well, GOTO and labels are fine in languages that need them, but I don't see any need for a GOTO in RPL.

Regards,
James

Re: RPN or RPL

*Message #44 Posted by **GE** on 21 Feb 2006, 6:07 a.m.,*
in response to message #43 by James M. Prange (Michigan)

You're right on the 3 points (I promise I won't talk about GOTO or loop termination - for some time). On syntax checking before execution, the theoretical reason why RPL behaves this way is obvious. However, it is a real bad thing. On other machines (BASIC included of course), I sometimes type pseudo-code like "GCD(X,Y)->A" or even "W=SOLVE(X*EXP(X)=Z)" when the GCD or SOLVE functions are not available, and then I code 'top-down' going into smaller and smaller parts of the program while keeping complexity manageable.
I want to be allowed to leave parts in an unfinished state and write a FOR while I don't already know what bounds and variable names will be appropriate. Placeholders are not desirable because I will have to determine that they are not the final, correct values.
A real BASIC (with PRINT and INPUT, $ and :) on current graphing calculators is an excellent option (HP71 emulators come to mind). I had this experience with a Sharp organizer of the 8000 series, Sharp made an add-in card that would allow one to program in BASIC with

128K of RAM. The 8000 has one of the largest screen and the best keyboard there is for an organizer, and by adding the card you wold have one of the best, fastest BASIC computers on the market at the time.
Sorry, Olde Phartte mode was on again.

Re: RPN or RPL

*Message #45 Posted by **James M. Prange (Michigan)** on 21 Feb 2006, 10:14 p.m.,*
in response to message #1 by Joe Edwards

> Quote:
>
> I realize most folks here are probably more comfortable with RPN versus RPL (am I wrong?).

Apparently, most people here are indeed more comfortable with "Classic RPN". Since it's a "Museum" forum, that perhaps shouldn't seem too surprising. For a different viewpoint, browse the comp.sys.hp48 usenet group (http://groups.google.com/group/comp.sys.hp48, if you don't have it in your newsreader).

> Quote:
>
> RPN seems so simple and the programming style for the 41/42 models seems rather easy to use - not to mention the 32 models and the voyager models as well.
>
> RPL seems so much more, well MORE powerful, but at the same time has a much larger learning curve. I assume (incorrectly?) that RPL can do much more (my programming skills are very much at the novice level) than RPN.

Personally, I see RPL as an "enhanced" RPN. I find it pretty simple and very intuitive. If the fine manuals aren't enough for you, see the excellent books by William C. Wickes, available on the Museum CD set / DVD (http://www.hpmuseum.org/cd/cddesc.htm). Also see http://www.hpcalc.org/

I'd think that anyone who can learn to program well in Classic RPN would find RPL easy, but some seem to have some sort of "block" when it come to learning RPL.

> Quote:
>
> My question is this: what niche does the RPL programming language fit, especially nowadays with the 49g+. With so many more powerful handheld devices, is the RPL in the 49 series just a left-over concept that just works well to power the 49g?

Huh? The "niche" for UserRPL is that it's the built-in "fool-proof" language for "ordinary" users of the 28, 48, and 49 series. Well, "fool-proof" in the sense that it's pretty difficult to accidentally get a TTRM ("Try To Recover Memory?") in UserRPL.

Far from being just a "left-over", I see it as being an excellent language for using calculators.

In the case of the 49g+ and 48gII with their ARM processors, I suppose that one could argue that a better RPL could be designed for the particular processor instead of using an emulated (simulated?) Saturn processor with relatively minor changes to the legacy RPL, but that would take time, developers, and money, which HP doesn't seem to be willing (able?) to invest these days.

SysRPL doesn't include the argument checking and dispatching to protect the user from his mistakes, but that makes it faster, and, perhaps even more importantly, it also has a much larger command set. SysRPL is the

underlying language used for developing UserRPL, as well as for various non-RPL models. The 49 series has a built-in compiler for SysRPL, but for other models, you'd need an add-on or a PC application. In general, a well-written SysRPL program is smaller and faster than a UserRPL program to accomplish the same thing, but requires more time and care in development.

Actually. RPL doesn't always seem to work out so well for me on the 49 series. Sometimes the new CAS (Computer Algebra System) seems to get in the way, perhaps due to not knowing what effect the added system flags will have. I often get the feeling that the new development team for the 49 series didn't quite understand the 48 series RPL as a whole, so their "improvements" don't always seem to be very well-integrated.

Being able to upgrade the flash "ROM" on the 49G and 49g+ should be an advantage, but the downside of it is that "beta" quality code can be released as "good enough", with the expectation that bugs can be fixed as needed.

Additionally, the RPL calculators can be programmed in assembly language, and the Classic RPN aficionados could even get to use their beloved GOTOs that way. Like SysRPL tools, assembly language tools are built in to the 49 series, but not the 28 and 48 series. Programs written in assembly language are generally much faster, but larger, and of course require specialized knowledge. Ultimately, SysRPL commands end up using code written in assembly language; I doubt that much (any?) SysRPL code was written in actual "machine language".

The 49g+ and 48gII don't actually have a physical Saturn processor, instead emulating it (plus additional assembly instructions) in code running on the underlying ARM processor. For these models, you could use hpgcc (see: http://hpgcc.org/) to do some programming in C language.

> Quote:
>
> Overall, I just don't see much of a use when compared to a simple RPN calculator. I assume I am not seeing the forest due to all the trees!

Well, I suppose that it depends on what you want to use your calculator for. For many purposes, Classic RPN indeed suffices. To me, the RPL models, although certainly primarily "calculators", often seem rather like simple "computers". Assuming that you have an RPL model, give it a real try and see whether it can do useful things for you.

> Quote:
>
> Anyone care to enlighten a simple "grasshopper"???

"grasshopper"???

Regards.
James

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HP42 Listings to HP48 via IR?

*Message #1 Posted by **Mar x Pio** on 15 Feb 2006, 9:19 p.m.*

Hi folks,

I did a program for HP41Cv that was ported do HP42S for calculating bending moments and reaction of a multispan beam and I would like to know if it is possible to ir-beam the entire listing or binary code to HP48 just like I do to print the program code.

Is that possible?

Thanks in advance.

Pio

Re: HP42 Listings to HP48 via IR?

*Message #2 Posted by **Vieira, L. C. (Brazil)** on 15 Feb 2006, 11:41 p.m.,*
in response to message #1 by Mar x Pio

E aí, Marx?

You´ll need yuor HP48 to run inprt, an original HP program that came with the communication pack since the first HP48SX. There is a newer version, inprt.gx.

Links @ hpcalc.org:
Original HP inprt
Newer inprt Library A for both S and G series

Try this link to read more.

Hope this helps.

Luiz (Brazil)

Edited: 15 Feb 2006, 11:45 p.m.

Re: HP42 Listings to HP48 via IR?

*Message #3 Posted by **Pio** on 16 Feb 2006, 3:03 p.m.,*
in response to message #2 by Vieira, L. C. (Brazil)

Meu Brother vc é 10!

Brigadão mesmo cara

I'm gonna test that.

Valeu mesmo

Pio

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HP110/ 110+ / 110 "Glow Worm"

*Message #1 Posted by **Richard M. (Monaco)** on 15 Feb 2006, 8:28 p.m.*

Any other owners/users of the 110 series of HP computers?

Rick

Re: HP110/ 110+ / 110 "Glow Worm"

*Message #2 Posted by **Howard Owen** on 15 Feb 2006, 10:19 p.m.,*
in response to message #1 by Richard M. (Monaco)

Very soon. I should have three waiting for me when I return from this road trip. 8)

Regards,
Howard

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Bi-Amped & Co-Processed

*Message #1 Posted by **Richard M. (Monaco)** on 15 Feb 2006, 8:24 p.m.*

What does bi-amping & co-processing mean as it relates to hp41XX calculators?

Thanks,

Rick

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Chinese 12c versus older models?

*Message #1 Posted by **joe locket** on 15 Feb 2006, 5:36 p.m.*

Is there any difference between the current version of the 12C made in China versus the older versions? The only change I've noticed is that the Chinese 12C uses one button battery, versus the three required by older models. When did the 12C switch to a single battery? Thanks!

Re: Chinese 12c versus older models?

*Message #2 Posted by **bill platt** on 15 Feb 2006, 6:20 p.m.,*
in response to message #1 by joe locket

Internally, many differences. There are some archived discussions, perhaps in the most recent one. ROM is the same.

Mechanical tolerances also changed.

Re: Chinese 12c versus older models?

*Message #3 Posted by **Arne Helme** on 15 Feb 2006, 6:35 p.m.,*
in response to message #1 by joe locket

Quality wise there's a huge difference between the Chinese 12C and the older models. The newer ones are simly not as solid as the older models --- mainly due to the use of poor materials.

Arne

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HP 49g+ just purchased

*Message #1 Posted by **Joe Edwards** on 15 Feb 2006, 1:43 p.m.*

Hey, I just picked up the most current version of the 49g+, figuring I could just return it if it wasn't worth it. It took a LONG time to decide to buy another one after trying the introductory models in 2003. Overall, I must say that I am very impressed. Sure, it isn't a 48gx, but WOW, everything is so much better on it.

1. No creaking with quite a bit of torque applied to the case. 2. No (with ROM update) missed keys. 3. The keys are SO MUCH quieter than the initial issue.

After some thought, I have decided to "get over" my vintage HP hangup and start using this and the 33s on a daily basis. The 33s was returned earlier due to my dislike of the cluttered keyboard, but after playing with the 49g+, it wasn't that hard to get used to it.

Hey Les, I finally got the Subject marker straightened out. Very odd indeed. Now if only HP would drop the 48gII and expand the line-up to include the oh-so-needed HP 43s...sigh.

Edited: 15 Feb 2006, 1:44 p.m.

Re: HP 49g+ just purchased

*Message #2 Posted by **Cesar Pasillas** on 15 Feb 2006, 2:07 p.m.,*
in response to message #1 by Joe Edwards

Hi Joe,

What's the serial number of your new 49g+? I'm thinking about buying one too.

Re:getting manual for HP48GX/

*Message #3 Posted by **Chester** on 15 Feb 2006, 4:54 p.m.,*
in response to message #2 by Cesar Pasillas

I'm looking for a manual for the HP48GX or someone with know how to opperate it. My son lost the manual and needs help in understanding the calculator. HELP please. Anyone in the lower main land with the know how please give us a shout.

Thank-you in advance.

Re:getting manual for HP48GX/

*Message #4 Posted by **Tim Wessman** on 15 Feb 2006, 5:03 p.m.,*
in response to message #3 by Chester

http://www.hpcalc.org/details.php?id=3937 http://www.hpcalc.org/details.php?id=6036

TW

Re: HP 49g+ just purchased

*Message #5 Posted by **Joe Edwards** on 15 Feb 2006, 8:42 p.m.,*
in response to message #2 by Cesar Pasillas

> Quote:
>
> Hi Joe,
>
> What's the serial number of your new 49g+? I'm thinking about buying one too.

My SN is CNA 52301514

Joe

Re: HP 49g+ just purchased

*Message #6 Posted by **Stephen Easterling** on 15 Feb 2006, 3:03 p.m.,*
in response to message #1 by Joe Edwards

It was also my intention to use only the 33S and 49G+ on a daily basis, but once I got bitten by the vintage HP bug, I'm having a hard time not using them. Right now I'm starting to fall in love with my 41CX here at work. I've gotten used to the segmentation of the LCD display (I prefer that of the Voyagers!) and I'm reading my user's manuals for the 41CX and loving it. I also love my 55 and many others, so for now, I'm going to keep using my vintage models. Some didn't cost that much to acquire, but others costed me about $300 each due to mint or new condition at time of purchase. So there has been that temptation to sell them all and recoupe some money and stick with just the 33S and 49G+, but I've decided not to do that. Enjoy your two non-vintage HPs. Long live the HP RPN calculator!

Re: HP 49g+ just purchased

*Message #7 Posted by **Ed Look** on 15 Feb 2006, 4:14 p.m.,*
in response to message #6 by Stephen Easterling

> Quote:
>
> ... Long live the HP RPN calculator!

Let that be for each physical unit in our hands, too! ;)

Re: HP 49g+ just purchased

*Message #8 Posted by **LUIS ACOSTA** on 15 Feb 2006, 4:42 p.m.,*
in response to message #1 by Joe Edwards

I purchased a CNA 41208388 Series number HP 49G+ in may 2005 in Venezuela (my native country so please excuse my English). Then in December it began to present problems with the black numbers' keyboard most of them went loose and almost like coming out of its place. I received this week a CNA 53400181 Series number as a guaranty replacement. I would like to Know your calculator series number and your opinion on this detail, I mean, this "five" first number series is better than the older ones?

Thanks for your atention

Re: HP 49g+ just purchased

*Message #9 Posted by **Matt Kernal (US)** on 15 Feb 2006, 5:05 p.m.,*
in response to message #8 by LUIS ACOSTA

> I received this week a CNA 53400181.

That's the newest serial number I've seen or heard of.

"534" means the 34th. week of 2005. That would've been around the middle of June.

It should be a good one. Just update the ROM firmware with the latest revision. Hpcalc.org has the newest (which is newer than than HP's website).

hth, Matt

Re: HP 49g+ just purchased

*Message #10 Posted by **gene** on 15 Feb 2006, 5:47 p.m.,*
in response to message #9 by Matt Kernal (US)

Yep, my latest 49g+ S/N is CNA 53401497. Came with V 2.0 of the ROM installed. Anyone have a later S/N yet?

Re: <Can it be better? I did mine ;)>HP 49g+ just purchased

*Message #11 Posted by **Marx Pio** on 15 Feb 2006, 8:53 p.m.,*
in response to message #10 by gene

Mine is CN42502717 updated to Version HP49-B Version #2.05-4

Hp49G+ is probably the most powerful calculator ever made, even if you compare to Voyage200 or T89.

It's hard to imagine how to make it better but I have some suggestions:

QVGA Resolution Color backlight display External or detachebla keyboard(Ir or cable) Touch screen

for sketchs of this dream see:

http://marxpio.multiply.com/photos/album/6

Don't ask me how does it works... ;^)

Pio

A minor problem

*Message #12 Posted by **Joe Edwards** on 15 Feb 2006, 10:14 p.m.,*
in response to message #11 by Marx Pio

I like the form factor. Reminds me of a gameboy advance. The problem with the folding calculator is that the flexible cable can, over time, weaken and break. Maybe with better technology we can avoid this. I am just thinking very long term.

I do agree that a better resolution screen at least as good as the TI89, and preferably as nice as

the Voyage 200 (that would be be rather large).

Would HP or TI ever consider a color screen? I just don't think so, but it would be gorgeous!

> Quote:
>
> Mine is CN42502717 updated to Version HP49-B Version #2.05-4
>
> Hp49G+ is probably the most powerful calculator ever made, even if you compare to Voyage200 or T89.
>
> It's hard to imagine how to make it better but I have some suggestions:
>
> QVGA Resolution Color backlight display External or detachebla keyboard(Ir or cable) Touch screen
>
> for sketchs of this dream see:
>
> http://marxpio.multiply.com/photos/album/6
>
> Don't ask me how does it works... ;^)
>
> Pio

Re: A minor problem

*Message #13 Posted by **John Limpert** on 16 Feb 2006, 1:42 a.m.,*
in response to message #12 by Joe Edwards

Casio has some models with color screens. I'm not impressed by their display quality. I don't know if it is possible to make a high-quality color display that doesn't eat batteries.

Re: <Can it be better? I did mine ;)>HP 49g+ just purchased

*Message #14 Posted by **Tim Wessman** on 15 Feb 2006, 10:51 p.m.,*
in response to message #11 by Marx Pio

Well, I would be incredibly happy if the screen resolution were doubled from what it is now. Actually, I would be plenty happier if the screen resolution were oh, say 240x160 pixels, which interestingly enough is the same resolution as the Game Boy Advance. . . ;-)

Seriously though, it would be extreemly easy for HP to double the resolution of the calculator. Simply drop in a higher res LCD and then define the screen controler to appear to the calc OS that it was the same as before. So each "pixel" would be represented by 4 pixels on the new screen. Then using HPGCC you could control the smaller pixels for use with cool programs.

In addition, I bet the demand for the calculator would increase 400% overnight once students discovered they could install game boy roms on their calculator. . . ;-)

TW

Re: <Can it be better? I did mine ;)>HP 49g+ just purchased

*Message #15 Posted by **.** on 16 Feb 2006, 8:59 a.m.,*

in response to message #14 by Tim Wessman

Nice idea Tim, but who is going to write these wonderful new programs? The programming community is just about dead. The poor quality seems to have driven everyone away.

Re: <Can it be better? I did mine ;)>HP 49g+ just purchased

*Message #16 Posted by **Guest** on 17 Feb 2006, 10:26 p.m.,*
in response to message #15 by .

Seriously, if a new calc were released with 4x the resolution of the current ones, more than 1MB ram, and the same processor, how long do you think it would take to get a slashdot article about the first graphing calc that can run linux?

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TI versus HP

*Message #1 Posted by **Dirk Richter** on 15 Feb 2006, 12:23 p.m.*

Hello:

I used a TI59 (and still do) back at Yale and used to go head-to-head with the HP41 guys all the time. It seemed the TI trumped the HP every time on quality of build, power, convenience and even panache.

Can you tell me what the attraction of the HP line is? It just seems that TI beat them every time esp. in the high end handhelds.

Dirk in Beverly Hills

Re: TI versus HP

*Message #2 Posted by **bill platt** on 15 Feb 2006, 1:07 p.m.,*
in response to message #1 by Dirk Richter

http://www.ti59.com/

Re: TI versus HP

*Message #3 Posted by **e.young** on 15 Feb 2006, 1:07 p.m.,*
in response to message #1 by Dirk Richter

I can't speak for the high end calculators, but I will talk about the non-graphing scientifics. The reason that these are so superior to TI is because of RPN. RPN is vastly superior to the various forms of algebraic entry. RPN is more powerful, quicker, easier, and therefore more reliable.

Before switching to HP, every TI that I ever had lasted at best a couple of years. The numbers wore off the keys, the keys had a lousy tactile response, etc. My first HP is now 19 years old, and still works perfectly. The numbers will never wear off the keys because the numbers are molded in. The tactile response is as good today as when I first purchased it. It's ability to perform long chains of calculations without having to resort to parenthesis or manually storing temporary results is unmatched. The HP is a serious tool in the hands of an engineer, while the TI is more of a toy or a machine for grade school students. In college, it was always the HP that was highly prized by the engineers, not the TI.

Ultimately, this comes down to a matter of opinion as to which is superior. Those who contend that TI is better are welcome to their opinon, but those who frequent this forum are partisans for HP, especially the older ones rather than the newer debased offerings. Are you looking for a dialogue, or just trying to start a flame war?

HP 48gx construction quality question

*Message #4 Posted by **Joe Edwards** on 15 Feb 2006, 1:26 p.m.,*
in response to message #3 by e.young

Why even ask if someone is trying to start a flame war? That question in itself is inflammatory. Just

answer the guy's question and if he responds with a reasonable answer, or not at all, you have the answer to your question.

> Quote:
>
> I can't speak for the high end calculators, but I will talk about the non-graphing scientifics. The reason that these are so superior to TI is because of RPN. RPN is vastly superior to the various forms of algebraic entry. RPN is more powerful, quicker, easier, and therefore more reliable.
>
> Before switching to HP, every TI that I ever had lasted at best a couple of years. The numbers wore off the keys, the keys had a lousy tactile response, etc. My first HP is now 19 years old, and still works perfectly. The numbers will never wear off the keys because the numbers are molded in. The tactile response is as good today as when I first purchased it. It's ability to perform long chains of calculations without having to resort to parenthesis or manually storing temporary results is unmatched. The HP is a serious tool in the hands of an engineer, while the TI is more of a toy or a machine for grade school students. In college, it was always the HP that was highly prized by the engineers, not the TI.
>
> Ultimately, this comes down to a matter of opinion as to which is superior. Those who contend that TI is better are welcome to their opinon, but those who frequent this forum are partisans for HP, especially the older ones rather than the newer debased offerings. Are you looking for a dialogue, or just trying to start a flame war?

Re: HP 48gx construction quality question

*Message #5 Posted by **Ron Ross** on 15 Feb 2006, 2:14 p.m.,*
in response to message #4 by Joe Edwards

No, I think it was flame bait. Why? because I own both and there is no way anyone can say with a straight face that the Ti is well built.

Ti's were the cheap calculator solution. You need a CHEAP solution, you buy Ti. The Ti-59 did have lots of horsepower, more so than any LED Hp. But the Hp's were well built and well designed for daily use.

Shortly thereafter Hp released the Hp41c and a bit after that the Hp11c. The Hp41c was so superior to the Ti-59 in EVERY respect. But even the LED Hp's had good to great keyboards, compared with poor to functional for the 1975-83 line of Ti's (nearly a decade of poor keyboards).

On horsepower

*Message #6 Posted by **Palmer O. Hanson, Jr.** on 15 Feb 2006, 10:55 p.m.,*
in response to message #5 by Ron Ross

Back in January 1981 a complimentary article "The HP-41C: A Literate Calculator" appeared in BYTE. The author did comment "... The most fundamental defect in the architecture of the HP-41C, inadequate numerical precision, is a serious flaw indeed. ..."

It still is.

Re: On horsepower

*Message #7 Posted by **gene** on 20 Feb 2006, 5:18 p.m.,*

in response to message #6 by Palmer O. Hanson, Jr.

I agree Palmer. While the HP41c was superior in quite a few respects over the TI59, it was not superior in terms of numeric precision.

A few matrix test routines show that pretty well.

Gene

Re: On horsepower

*Message #8 Posted by **Rodger Rosenbaum** on 21 Feb 2006, 9:51 a.m.,*
in response to message #6 by Palmer O. Hanson, Jr.

Palmer says:
Back in January 1981 a complimentary article "The HP-41C: A Literate Calculator" appeared in BYTE. The author did comment "... The most fundamental defect in the architecture of the HP-41C, inadequate numerical precision, is a serious flaw indeed. ..."

It still is.

I dug out this old article and re-read it. I found the paragraph where the author makes the quoted comment. He makes another comment that betrays a common misunderstanding about the behavior of calculators.

Imagine that we type the following 10-digit number into an HP41:

1.414213562

Now press the x^2 key. The exact result is a 19 digit number:

1.999999998944727844

But the HP41 can only store and display a 10-digit mantissa, so we would hope it would display the correctly rounded 10-digit result:

1.999999999

which it does. Isn't this what we would want our 10-digit calculator to do? When given a number whose exact square comprises more than 10 digits, wouldn't we want the calculator to return a result correctly rounded to 10 digits?

Now suppose that the number we started with, 1.414213562, wasn't something we typed in, but resulted from typing in the integer 2 and then pressing the SQRT key. This number is, in fact, the correctly rounded 10-digit version of the square root of 2. When we subsequently square it, should we expect to get back exactly 2? If we did, the HP41 would have made an error in its multiplication followed by rounding, even though it might have made us feel better to get a result of exactly 2.

Should the calculator have remembered whether it got the original 1.414213562 as a result of taking the square root of 2, or if it was just typed in? This would be the only way it could return exactly 2 if it was starting from a calculated square root of two, but 1.999999999 if the starting number had been typed in. The calculator would have to have some way of distinguishing the two cases.

We don't want the calculator to return a result in error just to make us feel good, do we? If a

10-digit calculator returns a result of exactly 2 when starting with 2 and pressing SQRT and then x^2, it has made an error. The only way it can happen without an error having been made is if it's really a calculator with more than 10 digits for calculation results, but only displays 10 digits. Or, it is really a 10 digit calculator that has had its display set to display fewer than 10 digits, which the HP41 can do, of course.

One of the other criticisms of the HP41 the author of the Byte magazine article offers is that the HP41 returned 1.999999999 when 2 was entered and then SQRT and x^2 were pressed. This is a misguided complaint, and shows that the author didn't understand what a HP41 calculator should do (or any other 10-digit calculator with a full 10-digit display and no hidden guard digits).

He also says that the HP41 doesn't have any guard digits. The HP41 does in fact have 3 guard digits. Its internal calculations are done with 13 digits and the result rounded to 10 digits. That's how the HP41 guarantees that the result of +, -, / and * are correct to 10 digits. Its just that these extra guard digits are not accessible once the calculation is done, unlike the TI machines, for example.

He complains that after some calculations, the HP41 might lose as many as 2 or 3 digits in its result. He doesn't give a specific example of what he means, so its not possible to give a comment to a particular result. But, it's well known that catastrophic cancellation can occur with subtraction; ANY calculator is subject to this phenomenon, and more digits can certainly help this problem.

As to whether it's a "serious flaw" for a calculator to have only 10 digits, that topic has been beat to death here and elsewhere. 10 digits is WAYYYY more that the slide rules that preceeded it, and more than even 7-place log tables which were the thing you used if you needed a result with lots of significant digits in the days of slide rules.

But, some of this author's comments are just not correct.

Re: On horsepower and guard digits

*Message #9 Posted by **gene** on 21 Feb 2006, 10:31 a.m.,*
in response to message #8 by Rodger Rosenbaum

Rodger wrote: "He also says that the HP41 doesn't have any guard digits. The HP41 does in fact have 3 guard digits. Its internal calculations are done with 13 digits and the result rounded to 10 digits. That's how the HP41 guarantees that the result of +, -, / and * are correct to 10 digits. Its just that these extra guard digits are not accessible once the calculation is done, unlike the TI machines, for example"

Gene: And that's probably the rub. On the TI, you have the extra digits hanging around with the number displayed to 10 digits, while on the HP41, those digits are used internally but the result is rounded to 10 digits and those guard digits disappear, which can lead to the results shown when a displayed answer is used as the input for a sequential calculation.

The argument raged for quite some time, IIRC, about the advantages of 10 good rounded digits vs. 13 digits displayed as 10.

IMO, I think the TI method w/guard digits tends to more accurately present a 10 digit result than the HP41 method. The TI method almost always took longer for the result to deteriorate than the HP41 method.

Gene

Re: On horsepower and guard digits

*Message #10 Posted by **Dave Shaffer** on 21 Feb 2006, 2:23 p.m.,*
in response to message #9 by gene

If you really need to worry (for, say, science or engineering in the real world) about whether your 10 digits are correct or not, you should think a lot about how those 10 digits were derived!

What real-world cases need this accuracy?

ABout the only thing I can think of are timing and frequency, and associated measurements of length, based on timing and the speed of light.

The speed of light is defined as 299 792 458 meters per second (EXACTLY). A second is defined as some number of cycles (I don't remember it and I don't have a handy reference to look it up) produced by a certain energy level transition in a cesium atom (you even have to use the corret isotope), with comparable precision.

The best atomic time standards (hydrogen masers and other masers) have stabilities that can be measured at the parts in 1e14 or 1e15 level - so here you really can worry about the digits produced by your calculator.

The NASA program I used to help support measures the distances between parts of the world at levels of a few mm out of 10000 km, so we needed high precision calculations, too. This was all based on very precise timing measurements.

Re: On horsepower and guard digits

*Message #11 Posted by **Gene** on 21 Feb 2006, 4:30 p.m.,*
in response to message #10 by Dave Shaffer

The situations in which that much accuracy is needed is an entirely different matter!

Although, sometimes in monetary problems dealing with billions of $$, the rounding can add up.

I just meant to say that IF someone needed such accuracy, IMO the TI59 style guard digits seem to have preserved accuracy longer than the HP41 approach.

Re: On horsepower and guard digits

*Message #12 Posted by **Valentin Albillo** on 22 Feb 2006, 4:39 a.m.,*
in response to message #10 by Dave Shaffer

Hi, Dave:

Dave posted:

"The speed of light is defined as 299 792 458 meters per second (EXACTLY)"

EXACTLY ? ... Exactly the other way around:

```
light           The meter is the length of the path travelled by
                in vacuum during a time interval of 1/299 792 458
```

```
                of a second.
```

The meter is defined from the speed of light, which is a fundamental constant, and a time unit, not the other way around.

You don't 'define' the speed of light, it's just what it is, a universal constant in the broadest sense, and then, arbitrarily, you define the meter from it in any way which suits you best.

In this particular case, and for obvious practical reasons, it's been defined so as to closely agree with the previous definition (the length between two marks on a platinum-iridium rod kept at some place at this or that temperature, etc).

Best regards from V.

Re: On horsepower and guard digits

*Message #13 Posted by **Dave Shaffer** on 22 Feb 2006, 12:35 p.m.,*
in response to message #12 by Valentin Albillo

Valentin,

I'll stick with my original statement about the speed of light being "defined." (Maybe "defined" is too strong - maybe "assigned" is a better term.)

Of course, as you note, it has whatever speed it has, but we then need to assign some value to it.

I defer to the US National Institute of Standards (NIST), at which you can find (http://physics.nist.gov/cgi-bin/cuu/Value?c|search_for=universal_in!) under "Fundamental Physical Constants" that the speed of light has the value I gave and is stated as being "exact."

As you also note, the meter is then defined from that definition plus the value of the second.

Dave

PS Every time I read one of your posts, I tend to say your name mentally, but I'm not sure if the "n" at the end is pronounced or not (i.e. is it nasalized like most final French consonants?).

Re: On horsepower and guard digits

*Message #14 Posted by **Valentin Albillo** on 23 Feb 2006, 5:38 a.m.,*
in response to message #13 by Dave Shaffer

Hi, Dave:

Dave posted:

"I'll stick with my original statement about the speed of light being "defined." (Maybe "defined" is too strong - maybe "assigned" is a better term.)"

> You can do whatever you like, but it's the meter that is defined from the speed of light, not the other way around, as you can easily google out if

you care. And, of course, stating that the speed of light is "defined" as a certain value in meters when the meter itself is defined as the speed of light divided by some value, is what's called a circular reference.

"Of course, as you note, it has whatever speed it has, but we then need to assign some value to it."

Assigning some value to a physical magnitude isn't called "defining" but "measuring". For instance, that your height is, say, 1.80 meters doesn't mean that we're *defining* your height to be that value, but that we've *measured* your height and it comes to that. Similarly, you can *measure* the speed of light in meter per second, but you can't *define* it as a certain number of meters per second.

That the meter's definition has been chosen in such a way that it gives a neat integer value for the speed of light which comes pretty close to the former definition, is nothing but an arbitrary, convenient choice, a "definition". But once that unit (the meter) has been *defined*, the speed of light is just *measured* in terms of these previously defined units.

"I defer to the US National Institute of Standards (NIST), at which you can find (http://physics.nist.gov/cgi-bin/cuu/Value?c|search_for=universal_in!) under "Fundamental Physical Constants" that the speed of light has the value I gave and is stated as being "exact."

I've made the point clear enough by now. By the way, your reference doesn't mention the word "define" or "definition", did you notice ? As stated, that the value is exact is a consequence of the particular definition chosen for the meter.

"PS Every time I read one of your posts, I tend to say your name mentally, but I'm not sure if the "n" at the end is pronounced or not."

Yes it is. In its original Spanish, "Valentin" is pronounced as "va (as in "bar") - len (as in "length") - TIN (as in "tinkle"), with the emphasis on the final syllable.

Best regards from V.

Re: On horsepower

Message #15 Posted by ***Palmer O. Hanson, Jr.*** *on 24 Feb 2006, 11:37 p.m.,*
in response to message #8 by Rodger Rosenbaum

My recollection of the article is that the reviewer didn't seem to understand that while the taking of the square root of two followed by squaring sequence yielded a 2 in the TI-59 display that did not mean that the value in the display register was exactly two. He also did not seem to understand that a similar effect can be obtained with the HP-41 by simply operating in fix 8 mode.

The reviewer's square root of two test was modified by others. In one modification one starts with 2 and repeats the square root square sequence and sees that the HP-41 alternates between 1.999999999 and 1.414213562, while on the TI-59 the sequence the display alternates between 2 and 1.414213562 but the values in the display register are gradually decreasing. Some HP folks suggest that the HP result is preferred but they fail to note how

many iterations would be needed (something like 200 or so as I recall) before the TI-59 errors are as large as the HP-41 errors.

A second modification starts with a small integer in the display and takes five square roots followed by five squares. In this test the end results with the TI-59 is always smaller than the starting values (due to truncation, I think) while the end results for the HP-41 are sometimes smaller and sometimes larger (due to rounding, I think). But the the TI-59 error is always much smaller than that with the HP-41.

If you try to do this test on a Casio fx-7000 or a TI-81 which doesn't have AOS but EOS you need to use parentheses carefully or the machine will essentially remember that you did a square root followed by a square and properly get exactly two. That's sort of akin to the old high school algebra technique of waiting to evaluate until the end of the problem until you can take any cancellations which may be available.

As to what number of digits are needed in the mantissa that clearly depends on the application. I admit that some applications are working with only a few digits. In inertial navigation we were working with at least seven digits as in accelerometer measurements good to a micro-g over a range from a micro-g to ten g's, etc. Slide rules were never good enough for processing that kind of data. In the early sixties we used Friden's a lot. If my memory is right we had eight or ten digits available with the Friden's.

Re: On horsepower

*Message #16 Posted by **Rodger Rosenbaum** on 25 Feb 2006, 2:23 p.m.,*
in response to message #15 by Palmer O. Hanson, Jr.

Palmer said: **My recollection of the article is that the reviewer didn't seem to understand that while the taking of the square root of two followed by squaring sequence yielded a 2 in the TI-59 display that did not mean that the value in the display register was exactly two. He also did not seem to understand that a similar effect can be obtained with the HP-41 by simply operating in fix 8 mode.**

He never mentioned TI calculators in the entire article except to mention that TI used the same size magnetic cards with some of its calculators as the HP41 used. Let me quote from page 136 of the article:

The most fundamental defect in the architecture of the HP-41C, inadequate numerical precision, is a serious flaw indeed. Numbers are represented, both internally and in the display, with 10 decimal digits; there are no guard digits. As a result, inaccuracies are quite often introduced into the least-significant digit. For example, SQRT(2)^2 is evaluated by the calculator as 1.999999999. For operations on some data, the corruption goes still deeper and 2 or 3 digits become suspect. There is something absurd about the world's fanciest calculator not being able to give results accurate to more than seven or eight decimal places.

I already pointed out that he misunderstood some things. In the next paragraph, he says;

Actually, a subsidiary problem is more serious than that. Conditional tests on data are carried out on the full 10-digit representation. Consequently, a test that effectively asks "Is SQRT(2)^2 equal to 2?" will give a false result, wihch can lead a program astray.

Didn't he realize that this sort of problem, due to finite register size, occurs with every calculator that does floating point arithmetic? It is to be expected, and the calculator user must deal with it.

The author of that article wasn't comparing HP calcs to TI calcs specifically.

Palmer says: **As to what number of digits are needed in the mantissa that clearly depends on the application. I admit that some applications are working with only a few digits. In inertial navigation we were working with at least seven digits as in accelerometer measurements good to a micro-g over a range from a micro-g to ten g's, etc. Slide rules were never good enough for processing that kind of data. In the early sixties we used Friden's a lot. If my memory is right we had eight or ten digits available with the Friden's.**

In an earlier post, Ron Ross said:

The Hp41c was so superior to the Ti-59 in EVERY respect.

And you responded:

Back in January 1981 a complimentary article "The HP-41C: A Literate Calculator" appeared in BYTE. The author did comment "... The most fundamental defect in the architecture of the HP-41C, inadequate numerical precision, is a serious flaw indeed. ..."

My aim is to point out that the author of that article had a number of misunderstandings, and to suggest that the phrase "serious flaw indeed" is perhaps overstated. Are we to believe that having only 10 digits is a serious flaw, but that 3 more turn a serious flaw into a non-problem?

The nature of ill-conditioned problems is that you lose a certain number of digits, whether your calc has 10, 12, 13 or 14 digits. Any problem that loses 3 digits of accuracy on the HP-41 will almost certainly lose 3 digits on a TI calc too. Losing 3 digits out of 10, which would happen only rarely, still leaves 7 correct. That's enough for almost all practical problems. Hundreds of thousands of engineers and scientists found the 10 digits of the HP41 more than adequate.

I've said before that, all else being equal, having more digits is a good thing; sometimes, though, all else isn't equal. However, I've noticed that the recent TI calculators have gotten MUCH better with their math.

But comparing the HP41 with the TI59, or comparing the HP49 with the TI86 is like putting a welterweight in the ring with a heavyweight. It's just not fair in some respects and the outcome in those respects is just what you might expect. The TI86, which I own, can give a 14-digit square root; the HP48 can only give a 12-digit result. Just as we would expect. That's why I want to evaluate calculators on another basis--do they do what they should do? I plan to post more on this topic.

Re: On horsepower

*Message #17 Posted by **Werner** on 25 Feb 2006, 4:05 p.m.,*
in response to message #16 by Rodger Rosenbaum

```
I used to have a TI-58 (functionally the same as the '59, but with
only half the memory and no cardreader)
I seem to remember that SIN(45°) was NOT equal to COS(45°).
Now, that is a fundamental flaw - that HP neatly
avoided by rounding the result to 10 digits.
```

```
BTW this exact same 'error' would show on today's 49 calcs, if
they would show their results with the internally used 15 digits:
SIN(45.) = 7.0710678118656E-1
COS(45.) = 7.07106781186545E-1


Cheers, Werner
```

Re: On horsepower

*Message #18 Posted by **Palmer O. Hanson, Jr.** on 26 Feb 2006, 11:09 p.m.,*
in response to message #17 by Werner

Page C-1 of the Persoal Programming manual for the TI-58, TI-58C and TI-59 addresses the problem of sin 45 not equal to cos 45 and states that when doing t register comparisons precautions should be taken to prevent improper evaluation due to the guard digit differences. It notes that the displayed values are equal in FIX 9 mode and suggests the use of the EE-INV-EE sequence to leave only the displayed value for further use. That will work for the 45 degree case. It will not work for the case where the displayed value of sin 39 is 0.6293203910 and the cos 51 is 0.6293203911 . You might think that we can solve the problem by operating in FIX 8 mode but with a little work you can find that the displayed values for sin 32.9999999989 and cos 57.0000000011 will be equal in FIX 9 but not equal in FIX 8.

Re: On horsepower

*Message #19 Posted by **Garth Wilson** on 27 Feb 2006, 12:27 a.m.,*
in response to message #18 by Palmer O. Hanson, Jr.

Common programming sense says that in making equality comparisons of this type, you see if the difference is less than some tolerable amount. Otherwise the critics won't be happy with even a 1000-digit calculator.

Re: On horsepower

*Message #20 Posted by **Palmer O. Hanson, Jr.** on 25 Feb 2006, 9:42 p.m.,*
in response to message #16 by Rodger Rosenbaum

I have no problem with the idea that some applications are less demanding than others. I suppose that is why some people use Casio's, some use Sharp's, some use HP's and some use TI's. I suspect that most don't really look hard before they buy -- certainly not as hard as we looked at the computational capbility of airborne computers before selecting them for navigation and guidance applications.

Some use certain devices because of input and pressures from others whether their professors, their high school teachers, their colleagues, or whatever. These days most high school students use TI graphical calculators, not so much because they are better which they are, but almost certainly because back in the mid 80's someone at TI had an idea about the use of graphic calculators, committed to the idea, marketed the idea to the high school community and delivered the necessary support.

I expect to publish some more results on the Albillo problem and your modifications to it in the near future. The winner to date for machines in my inventory is the RREF routine on the HP-49 which is typically an order of magnitude better than the B/A method.

"exactitude" & the HP-30S (+ HP-16C)

*Message #21 Posted by **Karl Schneider** on 26 Feb 2006, 6:14 p.m.,*
in response to message #16 by Rodger Rosenbaum

Rodger --

Good, thoughtful post on the philosophy of "guard digits" and number of digits maintained.

The topic being discussed is that of $[\text{sqrt}(2)]^2$ equaling 1.999999999 on the HP-41 (and other pre-Saturn calc's,) and 1.99999999999 on Saturn-based calc's.

In an archived post from last month, you also described the performance of the HP-30S for the trigonometric-based "forensic function" that helps reveal roundoff errors in algorithms. You showed some insightful evidence that results of trig calculations on the HP-30S are slightly rounded off to a very-close integer in certain cases.

I would suspect that the philosophy behind these methods are to provide reassurance to novice users that the calc is performing inverse operations correctly. We expect to see exactly 2 as the result of $[\text{sqrt}(2)]^2$; we expect to see exactly 3 as the result of $\cos^{-1}(\cos(3^o))$. "If a result is extremely close to an integer, it probably *should* be that integer, in most cases." Rounding, and the use of many decimal digits, is facilitated by the use of high-precision floating-point representations in the HP-30S.

In Appendix D of the HP-16C Owner's Handbook, there are several programs for converting floating-point values between the calc's native 56-bit binary-coded decimal representation and a hexidecimal display of the IEEE 32-bit single-precision floating-point standard proposed at the time (1981-82).

According to the Wikipedia entry, it seems that the proposed format was adopted as ANSI/IEEE Std 754-1985 (IEC 60559:1989) without further modification.

The format allows integers up to +/- 16,777,216 (2^{24}) to be represented exactly. This is verifiable by running the HP-16C programs (or the converter programs linked in the Wikipedia entry). The IEEE 64-bit double-precision floating-point format can exactly represent integers up to +/- 2^{53} (~= $9.00719925474 \times 10^{15}$).

Regards,

-- KS

Edited: 26 Feb 2006, 11:48 p.m.

Re: HP 48gx construction quality question

*Message #22 Posted by **e.young** on 15 Feb 2006, 5:09 p.m.,*
in response to message #4 by Joe Edwards

[quote] Why even ask if someone is trying to start a flame war? That question in itself is inflammatory. Just answer the guy's question and if he responds with a reasonable answer, or not at all, you have the answer to your question.

Thanks for your suggestion. I'll be sure to take it under advisement.

Re: TI versus HP

*Message #23 Posted by **Howard Owen** on 15 Feb 2006, 2:37 p.m.,*
in response to message #1 by Dirk Richter

Who's that walking on my bridge?

Re: TI versus HP

*Message #24 Posted by **Garth Wilson** on 15 Feb 2006, 2:39 p.m.,*
in response to message #1 by Dirk Richter

I have both. I started with the TI-58c because it gave the most for my $100 budget at the time. Next I stepped up to the TI-59 along with the printer and additional modules. I got a lot of use out of those before getting my HP-41cx. The TI-59 did have more digits, and I understand the original HP-41's had quite an inaccuracy in a couple of the trig functions. Those inaccuracies got corrected early on though. To say the TI-59 was better than the HP-41 is like saying that the DC-3 airplane is better than a modern Airbus because the DC-3 gave window seats to a higher percentage of passengers. If you really want a list of things the HP-41 can do that the TI can't, we can put that together for you, but it will be a very long list. There are also issues of speed, battery life, and build quality.

Re: TI versus HP

*Message #25 Posted by **Chan Tran (USA)** on 15 Feb 2006, 2:56 p.m.,*
in response to message #24 by Garth Wilson

When I bought my first calculator I didn't know anything about them. I heard of RPN and stuff but I didn't really know why it's better. In 1976 I was deciding between the TI-52 and the HP-25, I chose the HP-25 only because the material, the craftmanship and the look of the 25 was much better than the TI-52. I didn't know squat about what each could do. To say that the TI was better in build quality is beyond me.

Re: TI versus HP

*Message #26 Posted by **Les Bell** on 15 Feb 2006, 4:05 p.m.,*
in response to message #1 by Dirk Richter

> Quote:
>
> Can you tell me what the attraction of the HP line is? It just seems that TI beat them every time esp. in the high end handhelds.

Sorry, I really don't know where you got that idea. I had both an HP-67 and a TI-59 around the 1978-79 time frame, and they were like chalk and cheese. The TI-59 died prematurely - it had much lower build quality than the HP-67. The keys didn't feel as positive as the HP's, some required much greater pressure than others, and several went dead within a couple of years.

Don't get me wrong - TI tried hard and did a mostly OK job with the '59. But in build quality, programming model, documentation and design they were obviously trailing HP.

Best,

--- Les
[http://www.lesbell.com.au]

Re: TI versus HP

*Message #27 Posted by **Walter B** on 15 Feb 2006, 6:38 p.m.,*
in response to message #1 by Dirk Richter

My first calc in 75 was a TI SR50. Wealthier students of physics at my university came with programmables soon (TI or HP) - I borrowed them sometimes, so I've experienced both sides. Of course, TI was easier for me to handle - and featurewise, HP and TI were almost equal. Nevertheless, the superior design (logical consistency, keyboard layout) of HP made me to turn to RPN.

In 77, I could pay for a repaired HP25C, and I used this for 5 years and sold it then to buy an HP11C, which disappeared with my bag 9 years later. Both calcs were fully functional when they left me and were looking almost mint (ebay grade ;-)) then. In the same time, I've seen quite some TI calcs worn down or semifunctional. Don't get me wrong, that's just my memory.

You may call this a difference in reliability, i.e. quality. This personal experience is my reason for holding high the flag of (old) HP. However, meanwhile things may have changed.

Re: TI versus HP

*Message #28 Posted by **Hal** on 16 Feb 2006, 1:21 a.m.,*
in response to message #27 by Walter B

> Quote:
>
> I used a TI59 (and still do) back at Yale and used to go head-to-head with the HP41 guys all the time. It seemed the TI trumped the HP every time on quality of build, power, convenience and even panache.

I know this is a recurrant theme in these replies, but it bears repeating in this instance...It's the keyboard.

When I was in school in the 70's, my friend had a TI-52. The keyboard was horrible!! There were two or three keys that he had to stand on to get to register...there was even one key that took about ten seconds to ooze back up after it was pressed. Even the keys that worked normally (for TI) had bad tactile feel because of the floating, non hinged design.

And don't even get me started on panache...My 29c with it's compact, beige colored case, *(as opposed to the boxy black case of the TI)*, wonderful RPN entry *(as opposed to the TI's clumsy algebraic entry (oops, lost count of the parenthisis...I'll have to start over))*, color coded double shifted logical keyboard, with large enter key and slanted keyfaces *(as opposed to the confusing 2nd and INV keys on the TI, with nothing but monotonous square keys)*, had major panache...and still does to this day. And when the guy who sat two seats behind me got out his HP67, the envy was almost palpable... Hal:)

Re: TI versus HP

*Message #29 Posted by **Vassilis Prevelakis** on 16 Feb 2006, 3:15 a.m.,*
in response to message #1 by Dirk Richter

Well with a TI you got what you paid for. The TI-58 was sold for $125 and the TI-59 for $300. Compare this with the $450 that the HP-67 went for or the $750 for the HP-97.

The only calculator that cost less than the TI-58 was the HP-21 ($80) but that one was brain dead (not even LASTx for crying out loud!)

The comparison would be as follows:

TI-59 ($300) vs HP-67 ($450)

TI-58 ($125) vs HP-25 ($125), or HP-29C ($195).

Also, even at a price 1.5 that of the equivalent TI, the HP products had less memory and no ROM packs.

E.g. the HP-29C has 98 steps and 30 registers while the TI-58 had 240 steps with 30 registers.

Similarly the HP-67 had 224 steps and 26 registers versus 720 steps and 30 registers for the TI-59.

Note, of course that the HP machines had merged instructions (e.g. STO 0 was one step vs two steps for the TI-58/59). But even so the larger memory allowed more complex programs to be developed.

In addition, on the TIs being able to jump straight into any ROM program, allowed ROM code to be used as an extension to user programs saving precious program memory.

From the usability perspective, apart from the RPN vs AOS issue (I won't go into this one :-), the TIs design was horrible. Apart from the 2nd and INV constructs that took a while to get used to (e.g. RTN is INV SBR, obvious once you know it, but I remember searching for the RTN key and cursing), there is that OP thing.

It appears that once TI run out of keys they placed all the remaining commands in the OP nn category (which includes printer commands, statistics, memory partitioning, register operations etc.). All in all a nightmare making the quick reference guide a must.

The HP-67 is exquisitely designed with functions selected with a minimum of keystrokes (remember the A-E keys having function shortcuts if no program is loaded) etc.

The quality is also excellent. Just holding an HP-67 in your hand gives you a feel of the quality and solid built of the device.

**vp

Re: TI versus HP

*Message #30 Posted by **Jan** on 16 Feb 2006, 3:30 p.m.,*
in response to message #1 by Dirk Richter

All I say is this. My 1st calculator was a TI 35 (one of the oldest versions). The keyboard lasted about a year, then the bouncing carnaval started. I already knew HP calculators (my dad used them) so I bought one of the last HP 34C's available. It served me well during the last years of highschool (a tough period for a calculator in those days) and through a major part of my studies at university. I still have it, and more important: it still works the same way as it did when I had just bought it. OK, I had to repair it once (broken battery contact) but at least it could be repaired. I would say the old HP's were much better constructed than the early 80 TI's. I know the TI 59, it is I guess quite robust (a colleague of mine used one for a long time) but it has not the solid feel of the HP 67 that my dad used. In addition, the advantage in memory size the TI59 had was over in 1980 when the HP's 41CV came out.

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Off-Topic: Postcards needed (especially International)

*Message #1 Posted by **Mike** on 15 Feb 2006, 11:55 a.m.*

Sorry to post this off-topic post but I have a favor to ask. I hope the moderators don't mind this.

I said "especially international" but would like postcards from U.S. as well.

A friend has a 7 year old son who's class has a project to collect postcards (postmarks), from around the world (U.S. and International). If you have the time and with to help out, please send a post card to the address below. I'm sure Zach would appreciated it.

Ms. Clutts 1st grade class (attn: Zach) Hollister Elementary School 1798 St HWY BB Hollister MO 65672 U.S.A.

I have found many great friends from around the world on the HP Museum site. I hope you don't mind helping out.

Thanks for your help,

Mike Davis

PS: Drop me an email, if you have sent one.

Edited: 15 Feb 2006, 12:00 p.m.

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HP 12cp improved in Europe?

*Message #1 Posted by **Gour** on 15 Feb 2006, 11:36 a.m.*

Hi!

I'm an 'old' HP calc user who gave many years ago his HP 15C to his brother. Later I bought HP28s and some time ago a new HP 49g+.

However, soon I'm going to travel and 49g+ is too big to carry around.

I've made a deal with my older brother: he will give me back 15C and I will buy for him a new HP 12C (he anyway needs more business functions, while I need trig/-->HMS etc.)

Luckily I discovered that HP improved HP 12c by adding parentheses, undo & backspace.

I checked with some local dealer, but they still have the old model.

Anyone knows if the new model already hit the European market?

Any url (Austria, Italy...) ?

Sincerely, Gour

Re: HP 12cp improved in Europe?

*Message #2 Posted by **Peter A. Gebhardt** on 15 Feb 2006, 6:19 p.m.,*
in response to message #1 by Gour

http://www.calcsandmore.com/partners.php3?PLANG=1&rec=7

Eventually double posting, because first response hasn't registered.

Best, Peter G.

Re: HP 12cp improved in Europe?

*Message #3 Posted by **Gour** on 16 Feb 2006, 12:37 a.m.,*
in response to message #2 by Peter A. Gebhardt

> Quote:
>
> http://www.calcsandmore.com/partners.php3?PLANG=1&rec=7
>
> Eventually double posting, because first response hasn't registered.
>
> Best, Peter G.

I took a look, but still how can one be sure they are not handling with the 'old' (without parentheses, backspace & undo) model?

I hope you are aware of recently improved version of the calc?

Sincerely, Gour

Re: HP 12cp improved in Europe?

*Message #4 Posted by **Peter A. Gebhardt** on 16 Feb 2006, 6:53 p.m.,*
in response to message #3 by Gour

Because they've could be trusted in shipping me the newest HP49G+ when I've asked for it.

Besides this, if you are an Austrian citizen, you - as we here in Germany - can clearly specify (with accompanying picture) the order and urge your supplier to deliver as specified.

Pls. send PM if you need further help.

Best, Peter G.

Re: HP 12cp improved in Europe?

*Message #5 Posted by **Gour** on 17 Feb 2006, 1:16 a.m.,*
in response to message #4 by Peter A. Gebhardt

> Quote:
>
> Because they've could be trusted in shipping me the newest HP49G+ when I've asked for it.

Ohh...really?

I have bad experience with ordering overseas HP49G+ and had to return it :-(

> Quote:
>
> Besides this, if you are an Austrian citizen, you - as we here in Germany - can clearly specify (with accompanying picture) the order and urge your supplier to deliver as specified.

Well, I'm from Croatia and contacted main distributor for Croatia yesterday - they have old model and won't have a new one :-(

> Quote:
>
> Pls. send PM if you need further help.

Thank you. I'll investigate situation in e.g. Graz first (where I have friend who can bring one to me)

Sincerely,
Gour

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HP-41 Printer commands

*Message #1 Posted by **Ian Johnson** on 15 Feb 2006, 7:33 a.m.*

I'm amazed to find that after 10 years in a drawer, my printer still works. I've lost the manual and need to list some long programs. I've forgotten how do do it ! Please tell me how to print a program listing of about 500 lines, in single line or compressed form. Cheers.

Re: HP-41 Printer commands

*Message #2 Posted by **Thomas Okken** on 15 Feb 2006, 10:28 a.m.,*
in response to message #1 by Ian Johnson

To print in compressed form, switch the printer to TRACE before executing the PRP command. Also, make sure flag 12 is clear.

- Thomas

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HP "Titan"

*Message #1 Posted by **John Kercheval** on 15 Feb 2006, 6:53 a.m.*

Does anyone know about this? Was "titan" the code name for the 71B?

JK in DC

Yes

*Message #2 Posted by **Valentin Albillo** on 15 Feb 2006, 7:03 a.m.,*
in response to message #1 by John Kercheval

Best regards from V.

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HP41CX DoubleNut Plus

*Message #1 Posted by **John Kercheval** on 15 Feb 2006, 6:52 a.m.*

Does anyone have one of these rare 41s? I don't I just heard about them and I'm unsure what the difference is other than a memory boost and a slightly different display.

John K. in DC

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Clonix-41 and MLDL200 availability...

*Message #1 Posted by **Andreas Terzis** on 15 Feb 2006, 6:30 a.m.*

Hi there, Does anyone have any info on how and where I can get a Clonix-41 and/or an MLDL200 modules for the HP-41? Thanks, Andreas

Re: Clonix-41 and MLDL200 availability...

*Message #2 Posted by **Meindert Kuipers** on 15 Feb 2006, 7:02 a.m.,*
in response to message #1 by Andreas Terzis

MLDL2000 info is available at www.kuipers.to/hp41. This includes ordering information. Be aware that there is some backlog (due to the fact that I have recently moved to another house) and that I need to check if there are enough parts available for new orders.

Regards,

Meindert Kuipers

Re: Clonix-41 and MLDL200 availability...

*Message #3 Posted by **Diego Diaz** on 15 Feb 2006, 11:57 a.m.,*
in response to message #1 by Andreas Terzis

And Clonix, NoVRAM & NoV-32 are also available... just mail me for details.

Thanks for your interest and kind regards.

Diego.

Re: Clonix-41 and MLDL200 availability...

*Message #4 Posted by **Andreas Terzis** on 17 Feb 2006, 1:32 a.m.,*
in response to message #3 by Diego Diaz

Gentlemen, I'll respond to your posts individually. Thanks a lot for your contributions to our HP-41 market. People like you make this world a better place. Andreas

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HP42S ROM Dump...

*Message #1 Posted by **Andreas Terzis** on 15 Feb 2006, 5:39 a.m.*

Hi there, In J-F Garnier's article 'HP-42S: New Facts', an HP-48 is needed to do a ROM dump. Is there any way to use an HP-200LX or an HP-41C? I'd appreciate your input. Thanks, Andreas

Re: HP42S ROM Dump...

*Message #2 Posted by **Chiu Yiu Wai** on 15 Feb 2006, 8:32 a.m.,*
in response to message #1 by Andreas Terzis

If any receiver can recive the Infa of 42S,that you can dump the rom to this receiver,because Hp48 can receive Infa of 42s,so dump 42s'rom need Hp48.

Re: HP42S ROM Dump...

*Message #3 Posted by **Raymond Del Tondo** on 15 Feb 2006, 10:33 a.m.,*
in response to message #1 by Andreas Terzis

Hi,

please take a look at www.hp42s.com ...

HTH

Raymond

Re: HP42S ROM Dump...

*Message #4 Posted by **Howard Owen** on 15 Feb 2006, 11:55 a.m.,*
in response to message #1 by Andreas Terzis

You need an HP48, but there's a better toolset available at Christoph Giesselink's EMU42 site. It still uses the same basic approach as JF's, with an HP48 receiving the ROM over IR from the 42S. But Christoph's package includes a better server for the HP-48 side, which allows you to download the ROM in one go. That's much better than doing it in small chunks as called for in JF's description.

Regards,
Howard.

Re: HP42S ROM Dump...

*Message #5 Posted by **Andreas Terzis** on 17 Feb 2006, 5:39 a.m.,*
in response to message #4 by Howard Owen

Thanks a lot guys. Very informative.

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HP 32SII

*Message #1 Posted by **Luis** on 15 Feb 2006, 5:38 a.m.*

Hi, I'm new around here and was surprised by the going prices of the 32SII... Well in the range of much more advanced technologically similar devices, like Portable PCs and Palm devices. Is this simply a "collector appeal" issue ??

The 32SII is the calculator I have and eventually use, simply because it's more practical than the 25C I was using before (which I also keep).

What makes these things so valuable and why are some versions apparently more valuable than the others ??
Thanks in advance for your time.

Re: HP 32SII

*Message #2 Posted by **Thomas Radtke** on 15 Feb 2006, 6:29 a.m.,*
in response to message #1 by Luis

> Quote:
>
> Is this simply a "collector appeal" issue ??

I don't think so. There are lots of HP calculators which are more interesting to the collector but go for less. I often quote the 18C, it offered a unique case, lots of firsts, and is quite rare but you can get one in good condition for under 30 EUR. Or have a look at the 35. This is the absolute must have calc and I would think that collectors buy several of them for replacement parts so prices should go up all the time. Nope, I can easily pick one up for 30-40EUR, with a little patience, that is (I'm rigth now looking for one just out of curiosity, condition doesn't matter really:).

> Quote:
>
> The 32SII is the calculator I have and eventually use, simply because it's more practical than the 25C I was using before (which I also keep).

I think you got it. The 32sii is one of very few nearly perfect pocket calculators. I tried to find a replacement for mine but there are simply no competitive models around (I've looked at Casio, Sharp and TI). YMMV but my hypothesis is supported not only by ebay prices but also by the success of the 33S, despite the fact that the keyboard design should distract everyone from buying it as much as several more serious hardware flaws and software bugs.

Thomas

Re: HP 32SII

*Message #3 Posted by **e.young** on 15 Feb 2006, 11:55 a.m.,*
in response to message #2 by Thomas Radtke

I agree. The prices are high because a lot of people want one for daily use. If you don't need a lot of programing or advanced features, the 32SII is ideal. I needed to replace my original 32SII after it started showing signs of wear. Stacks of books had fallen on it, I carelessly dropped it off drafting tables several times, and once it got speared by an aluminum stick file. Some of the keys got loose, it's gouged and bent, but it still works fine-it's like a tank. I paid a serious amount of money on ebay to get a replacement, because I didn't want to rely on my old one anymore for daily calcs with loose keys. The 33s isn't bad either (assuming you get one with the revised display and keyboard), except cosmetically it is deeply flawed. The old bronze 32SII looked and acted like a serious tool, but the 33s looks like a toy, even if it is useful now.

Re: HP 32SII

*Message #4 Posted by **Ed Look** on 15 Feb 2006, 11:57 a.m.,*
in response to message #2 by Thomas Radtke

Well, I think there is *SOME* collector-aimed markup in the prices. If it wasn't so popular for practical use, it's price would still be high, but just not THIS high. I mean, it originally retailed for $70 USD when it was new. What some people ask for now is upwards of FIVE times that!

Re: HP 32SII

*Message #5 Posted by **Thomas Radtke** on 16 Feb 2006, 4:07 a.m.,*
in response to message #4 by Ed Look

> Quote:
>
> Well, I think there is *SOME* collector-aimed markup in the prices. If it wasn't so popular for practical use, it's price would still be high, but just not THIS high.

I agree that there is a 'price offset' for all HP calcs but it is probably insignificant in this case. If the 32SII would not be as useful as it is, it would go for less than a 28C since it is a very common model. Another aspect: A 32SII with the fraction bug is by at least a magnitude more rare than the other models so it should be a collectible. I've never heard that people request one of these faulty calcs. The opposite is true, often new contributors come along this forum and ask for the 'best' 32SII model.

Thomas

Re: HP 32SII

*Message #6 Posted by **Ed Look** on 17 Feb 2006, 9:57 p.m.,*
in response to message #5 by Thomas Radtke

Good points.

It it heartening, then, to see hardheaded thinking with respect to machines intended for hardheaded use.

Now, I hope prices on some vintage models decline enough so that I might be able to afford replacing some aging ones or obtain some legendary unit!

Re: HP 32SII

*Message #7 Posted by **Jim Creybohm** on 15 Feb 2006, 2:25 p.m.,*
in response to message #1 by Luis

I have a pocket PC and find using an RPN (or any other kind) of calculator emulator to be cumbersome. Although the idea is great in theory - that is I have pocket Excel, and more horsepower in my palm than I ever DREAMED of in university - it still falls short for me.

There is too much "stuff" in the way - missed/double digits, itty-bitty keys, etc. I would rather use a calculator to resolve an issue (even if it was a kinpo) than my pocket pc. The tactile feedback serves to reinforce the logic steps for the work I am trying to do. Conversely, my 41 is a lousy text machine for anything other than basic info. (plus the font is, I think, exceptionally ugly). However now my 41 is way too valuable to carry around in the field or leave in the office.

Now if only I could make my 41 play mp3's....

Re: HP 32SII

*Message #8 Posted by **Chan Tran (USA)** on 15 Feb 2006, 4:36 p.m.,*
in response to message #7 by Jim Creybohm

If your 41 could play MP3 it would be worth much less. I don't think collectors value things that play MP3.

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William "Billy" Wickes

*Message #1 Posted by **John Kercheval** on 14 Feb 2006, 8:37 p.m.*

Anybody know what ever happened the the HP Calculator DemiGod William "Billy" Wickes?

John K. in DC

Re: William "Billy" Wickes

*Message #2 Posted by **Eric Smith** on 15 Feb 2006, 5:17 p.m.,*
in response to message #1 by John Kercheval

Last I heard, he lived happily ever after, working on things other than calculators.

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Another crazy item?

*Message #1 Posted by **Han** on 14 Feb 2006, 8:35 p.m.*

HP48 SMI RAM card on eBay

This went for $350.00 -- which seems reasonable for a retail 2MB RAM card...

...until you realize that there is no way to change the card's battery. Weren't these cards' batteries designed for 10 years? What happens when the batteries die. Will SMI replace them for you? Or are you up the creek without a paddle?

HP 48gx construction quality question

*Message #2 Posted by **Joe Edwards** on 14 Feb 2006, 10:26 p.m.,*
in response to message #1 by Han

I was bidding on it and was suprised to see how much it went for. Of course a nice 15c just went for $610.00 tonight. Of course there were many Zero Feedback folks bidding. Makes you wonder what people are thinking. I hope the seller doesn't get taken.

I thought the battery on thess cards just slid out the top of the card....

Joe

> Quote:
>
> HP48 SMI RAM card on eBay
>
> This went for $350.00 -- which seems reasonable for a retail 2MB RAM card...
>
> ...until you realize that there is no way to change the card's battery. Weren't these cards' batteries designed for 10 years? What happens when the batteries die. Will SMI replace them for you? Or are you up the creek without a paddle?

Re: HP 48gx construction quality question

*Message #3 Posted by **Les Bell** on 14 Feb 2006, 11:20 p.m.,*
in response to message #2 by Joe Edwards

Joe, did you realise that every post you make has a subject line of "HP 48gx construction quality question"? I don't know why this is happening, but it's a bit distracting

Best,

--- Les

[http://www.lesbell.com.au]

Re: HP 48gx construction quality question

*Message #4 Posted by **Tim Wessman** on 15 Feb 2006, 7:47 a.m.,*
in response to message #3 by Les Bell

That happened to me a while ago. My browser had prompted me to save the password on a post, and it also saved the subject line apparently.

TW

SMI 2 MB RAM card

*Message #5 Posted by **Han** on 15 Feb 2006, 1:03 a.m.,*
in response to message #2 by Joe Edwards

As far as the Hewlett Packard cards, and a few other non-HP brand cards are concerned, the battery DOES slide out from the top. However, SMI did not design their 2MB card to have such a feature. There is a battery, but without access to it, it will eventually die out.

You can read more about it via this comp.sys.hp48 post.

> Quote:
>
> I was bidding on it and was suprised to see how much it went for. Of course a nice 15c just went for $610.00 tonight. Of course there were many Zero Feedback folks bidding. Makes you wonder what people are thinking. I hope the seller doesn't get taken.
>
> I thought the battery on thess cards just slid out the top of the card....
>
> Joe

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Decimal floating point

*Message #1 Posted by **Thomas Okken** on 14 Feb 2006, 5:52 p.m.*

I just started work on adding support for decimal floating point to Free42. I'm getting close to the point where I can hook an actual decimal library into the code, and I'm now on the lookout for the best code to use.

Hugh Steers kindly gave me a copy of the decimal code he wrote for OpenRPN, and I may decide to use that code eventually - it has an unrestrictive license and it's fast, but because of its encoding scheme it is not very memory-efficient, and at present it still lacks a few functions I need (hyperbolics, gamma, ln(1+x), exp(x)-1).

So, does anyone know of any other options? The IBM decNumber code has licensing restrictions I'm not sure I'm prepared to live with... Something that implements IEEE-754R (including "extended", preferably) and comes under a nice BSD-ish license would be perfect, but I guess that may be a bit much to hope for...

(One cute benefit of the Free42 code restructuring is that I'm going to support the use of extra-wide numbers internally (for complex and matrix computations), so on platforms where "long double" really is longer than plain "double", you'll get some pretty decent accuracy when stress testing INVRT with Hilbert matrices and such... Something to keep fans of binary happy. If they're using Linux, anyway -- VC++ 6.0 does not support "long double" so unless I switch to different development software, the 80-bit capability of your PC's FPU will continue to sit idle. And PalmOS (or rather, MathLib) won't do long double, period. Oh, well, enough rambling.)

- Thomas

Edited: 14 Feb 2006, 6:26 p.m.

re: Decimal floating point

*Message #2 Posted by **hugh steers** on 16 Feb 2006, 9:06 a.m.,*
in response to message #1 by Thomas Okken

hi thomas,

for your long doubles, take a look at this: http://www.voidware.com/index.php?option=com_wrapper&page=http://www.voidware.com/dp.htm

its a handy template i wrote that turns your doubles into double-doubles. and you can re-apply it, to turn your double-doubles into double-double-doubles and so on!

you can recompile my BCD library with any N precision. i think, originally i set N to use 24 decimal digits. this was to be pretty confident of 20 digit accurate results. it should be good for sqrt too, but all the trigs are designed to be 20 digit accurate, although in most you could simply increase the number of terms used in the calculations.

a while back i looked at the IBM library, however the license isnt very clear. the thing i did acertain is that it isnt BCD in the usual sense. it works with large binary integers which it converts to decimal on IO. this has the advantage of a smaller representation, but you do need a double sized accumulator eg. for multiply.

incidently, i'm working on a new BCD float library for my "exact" calculator which is variable precision. the fun part is writing the arbrary precision implementations of functions. eg here's the gamma function i've only recently coded:

```
exact -acc 50
Exact! engine (experimental) V1.03
Usage: exact [-max <max-digits>] [-acc <accurate-digits>]
enter expression to evaluate. variables, x=<expr>
`ans' is last result. `clear' erases all variables
`i' is sqrt(-1). blank line to quit. (min accuracy 50, working accuracy 60)
> gamma(20+17i)
= -1.450684303304718374411294862513395039489976225240E14-
4.962621878053675637190965935916024241118840676752 9E13i_
```

best regards,

Edited: 17 Feb 2006, 9:09 a.m.

Re: re: Decimal floating point

*Message #3 Posted by **Thomas Okken** on 17 Feb 2006, 11:31 a.m.,*
in response to message #2 by hugh steers

Hi Hugh,

I've more or less decided to use your code -- nice license, and if I use 12 bytes, I'll get an effective 17 digits, which is good enough for a 42S simulator (and in binary mode, I can use "long double" without changing the memory footprint, and that ought to make fans of ill-conditioned linear systems happy).
I'm still going to need hyperbolics, gamma, log1p, and expm1, but that, at least, is not a show-stopper as these are not too hard to fake.
BTW, do you know of any nice binary<->string routines? The code I wrote for Free42 works fine with "double", but it uses a look-up table that becomes a bit large when using "long double". For the Unix and Windows versions, I'll get around that by using sprintf and sscanf instead, but on PalmOS, that is not an option...

Thanks,

- Thomas

Re: re: Decimal floating point

*Message #4 Posted by **Rodger Rosenbaum** on 17 Feb 2006, 4:10 p.m.,*
in response to message #2 by hugh steers

Hugh says:

**> gamma(20+17i) = -1.450684303304718374411294862513395039489976225240E14-
4.962621878053675637190965935916024241118840676752 9E13i_**

Both Mathematica and Maple say that gamma(20+17i) is about:

-6.65309788E13 + 1.381348614E14 i

You've got a lot of digits, but they all seem to be wrong. Any idea why?

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HP41CV Turbo Version- Modified Calcs

*Message #1 Posted by **John Kercheval** on 14 Feb 2006, 2:02 p.m.*

Hello:

While I rarely use it, I did in fact do the double speed modification to my college issue HP41CV. I did not, in point of fact insert an actual turbocharger or intercooler to achieve this.

Anyone else do this?

Anyne else perform non-stock modifications to ANY hp machines?

All stories welcome!

John Kercheval Georgetown University

Re: HP41CV Turbo Version- Modified Calcs

*Message #2 Posted by **Eric G** on 14 Feb 2006, 7:16 p.m.,*
in response to message #1 by John Kercheval

I have a HP 48GX with the 'Digitalis' speedup modification. It supposedly increases the speed of the GX from 4Mhz to 6Mhz.

You can turn the 'turbo' on by keeping the ON key pressed in for 2 seconds when turning it on. Otherwise it acts as a normal GX.

Unfortunately, the speedup also messes up the clock settings because 1 second isn't 1 second anymore!!

Eric

Re: HP41CV Turbo Version- Modified Calcs

*Message #3 Posted by **John Kercheval** on 14 Feb 2006, 7:28 p.m.,*
in response to message #2 by Eric G

Really? Is that true? How can I test that?

After you turn it off, does it slow down again? In other words, do you need to hold down the ON key for 2 seconds EVERY time you start it up?

John

HP-48 Turbo: [Was: Re: HP41CV Turbo Version- Modified Calcs]

*Message #4 Posted by **Raymond Del Tondo** on 15 Feb 2006, 2:52 a.m.,*
in response to message #3 by John Kercheval

At least on my 48G+ with speedup,
you have to hold the ON key for about a second
to signal the calc to switch to turbo mode.
For normal usage, just press the ON key as usual.
When turning off the calc, it will revert to
normal mode automatically.

There are easy ways to determine if turbo mode is active or not:
Just press an empty menu key, or press SWAP (right arrow)
while there's only one or no object on the stack.
The resulting beep will have a much higher frequency
than normal if the calc is in turbo mode.

Most of the time normal mode will be sufficient,
at least for me, since I made my own software speedup,
which also accelerates input forms and choose boxes;-)

HTH

Raymond

Re: HP-48 Turbo: [Was: Re: HP41CV Turbo Version- Modified Calcs]

*Message #5 Posted by **John Kercheval** on 17 Feb 2006, 1:20 p.m.,*
in response to message #4 by Raymond Del Tondo

I tried this with my 48GX (lux version) and I get no speed improvement. Does it not work on this model?

JK in DC

Re: HP41CV Turbo Version- Modified Calcs

*Message #6 Posted by **Klaus** on 15 Feb 2006, 4:23 a.m.,*
in response to message #1 by John Kercheval

I modified one of my 41Cs. I somehow managed it to use the old capacitor, and using a switch to enable another capacitor. The switch sits where the charger plugs in. Unfortunately the switch gets sometimes set when pulling the calc out of its pouch. You can switch back when the calc is on (but idle), but when I switch back during a calculation, I got MEMORY LOST!

The switch selects normal speed or 1.4*normal

Overclocking comes in handy when keying in alpha data and runing programs, and I would recommend overclocking moderately without the possibility of switching to normal speed - as the CPU is mostly sleeping during calculations, the battery life will not be greatly shortened!

Long live the 41C!

Re: HP41CV Turbo Version- Modified Calcs

*Message #7 Posted by **Garth Wilson** on 15 Feb 2006, 4:47 a.m.,*
in response to message #6 by Klaus

Instead of switching another capacitor in or out during operation, it would be better to switch another

resistor in or out of the "R" part of the RC so you don't get the capacitor-charging glitches in the clock circuit. I did this in a product we marketed in the late 1980's. The clock normally ran at 200kHz to save battery power; but if there was a long set of calculations to do, the processor turned on a transistor that was in series with the resistor so the frequency would be bumped up to 1MHz to keep the customer from waiting. When the calculations were done, the transistor was turned off again, so the capacitor took longer to charge and discharge, resulting in a lower frequency. I don't know what's accessible in the 41, but I expect something like this could be done.

Re: HP41CV Turbo Version- Modified Calcs

*Message #8 Posted by **Klaus** on 15 Feb 2006, 6:32 a.m.,*
in response to message #7 by Garth Wilson

You are right, a resistor is definitely a better solution. The logic board of the Fullnut 41Cs offers enough room for a resistor. But since opening and closing the Case breaks out the screwholes, I will leave it as it is. By the way, I have read some old issues of the PPC journal, and at that time, most people were complaining about the build-quality of the 41C and the software bugs. Somehow reminds me of the 33S today.....

Re: HP41CV Turbo Version- Modified Calcs

*Message #9 Posted by **Andreas Terzis** on 17 Feb 2006, 7:44 p.m.,*
in response to message #7 by Garth Wilson

Garth, Can you provide any info on those products? Can anyone provide any more info on the different versions of the HP-41 machines along with their speed? Thanks a lot, Andreas

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HP-16C index register

*Message #1 Posted by **Adam_s** on 14 Feb 2006, 9:02 a.m.*

I remember reading speculations about the wordsize of the index register (68 bits) and what this bits are used for. Since there seem to be firmware emulators available for free, did someone check?

Re: HP-16C index register

*Message #2 Posted by **Anders Persson** on 14 Feb 2006, 5:31 p.m.,*
in response to message #1 by Adam_s

At least Hewlett Packard list it as being 56 bits in the manual. But you are perhaps referring to undocumented extra bits?

Anders

Re: HP-16C index register

*Message #3 Posted by **Vieira, L.C. (Brazil)** on 14 Feb 2006, 7:18 p.m.,*
in response to message #2 by Anders Persson

Hi, Anders;

in the other two Voyagers with index register (HP11C and HP15C), it is described as a 56-bit register. The HP16C also has an index register, but it is described as a fixed-size, 68-bit wide register, and it does not depend on current word size. I wonder if there is a way to check for this fact... Maybe, with WS=64d, perform [0][NOT] [STO][I] and then perform [ISZ] in a running program and see if [I] goes to zero (ISZ returns true) or if it goes to 0100000000000000h (ISZ returns false). Has anyone tried something?

The 68-bit wide Index register in the HP16C is clearly stated in the HP16c Owner´s Manual.

Cheers.

Luiz (Brazil)

Edited: 14 Feb 2006, 7:24 p.m.

Re: HP-16C index register

*Message #4 Posted by **Klaus** on 15 Feb 2006, 9:51 a.m.,*
in response to message #3 by Vieira, L.C. (Brazil)

Hi!

I read something about this at http://www.finseth.com/hpdata/hp16c.html

But since Nonpareil is available, why not dump the memory and find out? (I must admit I have an old

version installed without voyager support).

Re: HP-16C index register

*Message #5 Posted by **Vieira, L.C. (Brazil)** on 15 Feb 2006, 1:52 p.m.,*
in response to message #4 by Klaus

HI, Klaus;

I´ll try this myself and let you all know here. I own two HP16C units, one is earlier and the other is newer, meaning internals are different. I think the test is simple, but I´d rather have it done in the calculator.

About dumping the ROM contents, it seems to me that it has already been done. I remember that sometime ago I read that one HP16C had one of its IC´s terminal broken after such dumping procedure. Too bad, though! Maybe someone else knowqs more about this.

Hrast has a Voyager emulator for the HP48/49 series, maybe the HP16C code is also available somewhere else.

Cheers.

Luiz (Brazil)

Re: HP-16C index register

*Message #6 Posted by **Massimo Gnerucci (Italy)** on 15 Feb 2006, 3:03 p.m.,*
in response to message #5 by Vieira, L.C. (Brazil)

> Quote:
>
> Hrast has a Voyager emulator for the HP48/49 series, maybe the HP16C code is also available somewhere else.

See (6) all way down the page

Greetings,
Massimo

HP-16C index register: definitely not 64 bits wide.

*Message #7 Posted by **Vieira, L.C. (Brazil)** on 16 Feb 2006, 12:30 a.m.,*
in response to message #5 by Vieira, L.C. (Brazil)

Hi, all;

I wrote the following small routines in the HP16C:

```
LBL E
1
DSZ
R/S
CLx
R/S
LBL F
1
ISZ
```

```
R/S
CLx
R/S
```

The basic idea is somehow simple: if I-register contents crosses zero while executing any of the routines, 0 is return. Otherwise, 1 is return. I set the calculator to unsigned mode, HEX base, and WordSize = 64d.

First I tested with the following:

```
keystroke   display
0 [STO][I]   [       0  h ]
[GSB][F]     [       1  h ] as expected;
[GSB][E]     [       0  h ] also expected;
[GSB][E]     [       1  h ]
[RCL][I]     [FFFFFFFF .h ]
[f][WINDOW]1 [FFFFFFFF  h.]
[GSB][F]     [       0  h ] It seems fine... so far.
0 [NOT]      [FFFFFFFF .h ]
[STO][I]     [FFFFFFFF .h ]
[GSB][F]     [       1  h ]
```

Oops! If I is 64-bit long, a zero is expected here.

```
[RCL][I]     [       0  h ]
```

The actual [I] contents are 0100000000000000h, and not 0000000000000000h, so the routine returns '1' instead of '0'.

```
[GSB][F]     [       1  h ]
[RCL][I]     [       1  h ]
[GSB][E]     [       1  h ]
[RCL][I]     [       0  h ]
```

Oops! Again, [I] contents are now 0100000000000000h, so the routine returns '1' instead of '0'.

Do you, guys, agree with the test and conclusions? Any comments?

Cheers.

Luiz (Brazil)

Edited: 16 Feb 2006, 1:32 a.m.

Re: HP-16C index register: definitely not 64 bits wide.

*Message #8 Posted by **Klaus** on 16 Feb 2006, 10:11 a.m.,*
in response to message #7 by Vieira, L.C. (Brazil)

Hi Luiz,

Very nice test program. Unfortunately I can't see a real application where the extra bits can be used.

By the way, is it true that the GSB(i) routines exist?

Greetings! Klaus

Re: HP-16C index register: definitely not 64 bits wide.

*Message #9 Posted by **Valentin Albillo** on 16 Feb 2006, 10:48 a.m.,*
in response to message #8 by Klaus

Hi, Klaus:

Klaus posted:

"By the way, is it true that the GSB(i) routines exist?"

> Yes, and it is perfectly *documented* in the manual. The correct names are:
>
> ```
> GTO I
> GSB I
> ```
>
> and work as expected. Indeed, I did use GTO I in my recent **"Long Live the HP-16C!"** Datafile article.

Best regards from V.

Re: HP-16C index register: definitely not 64 bits wide.

*Message #10 Posted by **Vieira, L.C. (Brazil)** on 16 Feb 2006, 1:31 p.m.,*
in response to message #8 by Klaus

Hi, Klaus;

you are right in your concerns, I think I understand. Anyway, I guess that the main fact here is to be aware of these facts and the consequences of using the index register in some applications where its contents might cross 'zero' and they actually don't. If you write a program where it's expected that the [I] register has its contents crossing zero for a given number of bits, mainly the current word size, and you use ISZ or DSZ to detect such occurrence, it is a good idea to check if this is actually going to happen with the full extent of the [I] register.

If you have a device with an internal 32-bit register acting ass a counter and, at a certain point, its contents are FFFFFFFFh and you add one to it, its contents will be 00000000h and, if provided, a carry bit is set. If this register has its contents compared to zero at this point, test returns true. If you simulate the same circumstance in the HP16C and you decide to use the [I] register to do so, ISZ will cause the [I] register to go from FFFFFFFFh to 100000000h, so it returns false and the next step is missed. The same will happen if you are working with any other word size, no matter what.

So, ISZ and DSZ may be tricky in a few circumstances in the HP16C. I am not sure reading about such facts before, so maybe this is too rare to be considered a problem.

Hey, Valentim; thanks for your additional info. BTW, where can we download these masterpiecs of yours from? I remember trying some times when you announced they were available, but I got some error messages and did not succeed downloading. Now that I lost many important documents (every moment I remember something...), I am collecting good material again. Thanks.

Best regards.

Luiz (Brazil)

Edited: 16 Feb 2006, 1:37 p.m.

Re: HP-16C index register: definitely not 64 bits wide.

*Message #11 Posted by **Klaus** on 17 Feb 2006, 8:27 a.m.,*
in response to message #10 by Vieira, L.C. (Brazil)

I tried it yesterday, and apparently GSB(I) exists.

1 STO I GSB (I)

Unfortunately my calculator already has some programs with labels in it, so I couldn't write a test program. Maybe we are talking here again about a feature that has no practical value?

Re: HP-16C index register: definitely not 64 bits wide.

*Message #12 Posted by **Vieira, L. C.** on 17 Feb 2006, 11:24 a.m.,*
in response to message #11 by Klaus

Hi, Klaus;

I think that indexed subroutine call (GSB I) has its particular use when different handling is necessary depending on data value/range. I used this feature in claculators with larger memory, namely the HP41 and the HP15C, but I used it neither in the HP16C nor in the HP11C, although both share the GSB I feature. In the HP15C I remember writting a program (back in the mid 80's) to compute fluid flow in different tubbing, diferent diameter and shape. For each case a number (tubbing type code) was keyed in and the program stored it in [I] register. Then the corresponding subroutine was called with GSB I to adjust an specific index according to tubbing characteristics.

Cheers.

Luiz (Brazil)

Re: HP-16C index register: definitely not 64 bits wide.

*Message #13 Posted by **Klaus** on 17 Feb 2006, 12:30 p.m.,*
in response to message #12 by Vieira, L. C.

Hi Luiz,

I agree that you can do useful things with this indirection (like Polymorphism in C++ or function pointers in C), but I see no chance I will ever use it on the 16C. In fact I have great difficulties programming the voyagers without a manual, as the looping (DSZ,...) won't get into my head. Much less can I remember which value of I does what action (like branching backwards on the 67, referring to the Label "A","B",...)

While most functions on HPs are intuitive, I use hardly more than a fixed set of functions.

Without a manual, I am completely lost on topics like creating bitmasks with the 16C!

Re: HP-16C index register

*Message #14 Posted by **Eric Smith** on 15 Feb 2006, 5:30 p.m.,*

in response to message #1 by Adam_s

I don't know that the high four bits of the 68-bit I register are used for anything whatsoever. It may have simply been easier to implement a 12-bit extension of the native 56-bit word than an 8-bit extenion, and not judged to be worth the trouble of masking off the extra four bits.

The high twelve bits of I are stored in nybbles 3 through 5 of RAM location 0xfe. I don't know if any of the other nybbles of that location are used; I've only observed zeros there. The low 56 bits of I are stored in RAM location 0xfd.

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Hp will release a new calculator 43s??

*Message #1 Posted by **Chiu Yiu Wai** on 14 Feb 2006, 8:51 a.m.*

My friend ask me Hp will release new calculator 43s , but I can't find any news or information to prove it is right or not , do anyone can tell me.

Re: Hp will release a new calculator 43s??

*Message #2 Posted by **E.YOUNG** on 14 Feb 2006, 9:30 a.m.,*
in response to message #1 by Chiu Yiu Wai

I know that there's a lot of hoping and praying for that to come true, but I haven't heard any news of it.

Re: Hp will release a new calculator 43s??

*Message #3 Posted by **S. Heddle** on 14 Feb 2006, 1:00 p.m.,*
in response to message #2 by E.YOUNG

Does your friend have any connection to HP?

Re: Hp will release a new calculator 43s??

*Message #4 Posted by **bill platt** on 14 Feb 2006, 1:36 p.m.,*
in response to message #1 by Chiu Yiu Wai

words words words, put them in a rumor-mill and out comes, rumors!

Re: Hp will release a new calculator 43s??

*Message #5 Posted by **Namir** on 14 Feb 2006, 2:18 p.m.,*
in response to message #1 by Chiu Yiu Wai

HP's resources dedicated to calculators are low, perhaps the lowest since HP launched the HP-35 in the 70s. It seems that HP has been focusing on improving the last set of calculators they launched over a year. In a way, that is good, because HP needs to restore some consumer confidence before launching any new calculators.

I would NOT hold my breath for a new calculator to come out very soon.

Namir

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HP41C/CV/CX Self Test

*Message #1 Posted by **Mike T.** on 14 Feb 2006, 7:45 a.m.*

I suspect that the answer is no but I'm going to ask anyway as there are a lot of heads out there that are much wiser than mine.

I'm considering buying an HP41C/CV or maybe CX - I would like one in a nice clean condition and of course it has to work. Earlier SPICE series machines had a self test, and the later Voyager series had both a self test and a keyboard test. Is there a similar way of testing that an HP41C/CV/CX is working properly...?

Thanks

Mike T.

Re: HP41C/CV/CX Self Test

*Message #2 Posted by **Raymond Del Tondo** on 14 Feb 2006, 8:42 a.m.,*
in response to message #1 by Mike T.

Hi,

the HP-41 doesn't have a similar self-test built-in,
but you can check the most important things very easily.

I'd reset the machine first, clearing it's memory:
While the unit is off, press and hold the backspace key,
then press the ON key, then release both.
The unit should show 'MEMORY LOST'.

Press the bar keys, from left to right.
The first bar key turns the calc on,
the second switches to USER mode,
the third to PRGM mode, and the 4th to ALPHA mode.
If these modes are shown by the associated
annunciators in the display, these keys work.

Then switch back to 'normal' mode by pressing PRGM again.
Press [XEQ] [ALPHA] S I Z E [ALPHA] 0 0 0 , then press [PRGM] again.
On an empty CV or CX unit, the display will show '00 REG 319' .

This way you'll see that the RAM chips are there,
and are likely to work.

To ckeck if the display works, press [ALPHA],
then ABCDEFGHIJKLMNOPQRSTUVWX .
If you hear a beep when entering the X,
you have entered 24 characters. This is ok;-)

Now turn off ALPHA by pressing [ALPHA],
then press [ALPHA] again.

The display should show the string shifting to the left in short intervals.

You can also check if all keys have the same tactile feedback
by pressing them one after the other,
and check basic functionality by doing some calculations.

If nothing unxpected happened so far,
the unit is likely to work.

Of course there are always chances for hidden defects,
like broken screw posts or corrosion,
but this will be visible from the outside;-)

In my experience the above key sequences
show at least that the basic machine works.

There exist some Diagnostic ROM modules for the HP-41,
which had real self-test functions built-in,
but these weren't available to the public,
and thus are next impossible to get.

HTH

Raymond

Edited: 14 Feb 2006, 8:47 a.m.

Re: HP41C/CV/CX Self Test

*Message #3 Posted by **Mike T.** on 16 Feb 2006, 5:19 a.m.,*
in response to message #2 by Raymond Del Tondo

Thanks - Unfortunatly I was out bid again...

One day.

Mike T.

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HP to set up separate portable device business

*Message #1 Posted by **Greg Harris, Sydney Australia** on 14 Feb 2006, 12:42 a.m.*

Interesting news... HP to set up separate portable device business

Re: HP to set up separate portable device business

*Message #2 Posted by **Paul Brogger** on 14 Feb 2006, 8:45 a.m.,*
in response to message #1 by Greg Harris, Sydney Australia

At the risk of stating the obvious, I'll bet that calculators won't be included. They don't share the new product line's essential feature. (That is, a market segment growing 60% per year.)

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Can't Set flag 72

*Message #1 Posted by **Pio** on 13 Feb 2006, 8:35 p.m.*

I'm trying to set flag 72 inside a User-Rpl program.

<<...blabla 72 SF blabla...>>

There is a reason for it. What reason?

Thanks in advance

Pio

Re: Can't Set flag 72

*Message #2 Posted by **James M. Prange (Michigan)** on 13 Feb 2006, 8:45 p.m.,*
in response to message #1 by Pio

> Quote:
>
> I'm trying to set flag 72 inside a User-Rpl program.
>
> <<...blabla 72 SF blabla...>>
>
> There is a reason for it. What reason?
>
> Thanks in advance
>
> Pio

That would set user flag 72. Assuming that you want to set the system flag, use a negative number, for example:

```
<<...blabla  -72 SF  blabla...>>
```

Regards,
James

Re: Can't Set flag 72

*Message #3 Posted by **Syntax** on 13 Feb 2006, 8:47 p.m.,*
in response to message #1 by Pio

Syntax is -72 SF

Re: <Thanks!>Can't Set flag 72

*Message #4 Posted by **Pio** on 13 Feb 2006, 9:47 p.m.,*
in response to message #3 by Syntax

Thank you a lot...

Pio

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HP71B- Main Machine

*Message #1 Posted by **John Kercheval** on 13 Feb 2006, 2:16 p.m.*

Hello:

Like many of you, I own numerous high end HPs.

After all of these years, my "service revolver" is still the 71B with CMT massive RAM chip, HP41 Translator Pac, Finance Pac, and Statistics Pac.

Any other 71B users out there?

Is CMT still around?

John K. in DC

Re: HP71B- Main Machine

*Message #2 Posted by **Garth Wilson** on 13 Feb 2006, 3:41 p.m.,*
in response to message #1 by John Kercheval

I called CMT a couple of years ago to ask about the lithium batteries in my 71's 96KB card-reader port RAM and 64KB front-port RAM. It seemed like there was nobody left there who even knew what an HP-71 was.

Re: HP71B- Main Machine

*Message #3 Posted by **John Kercheval** on 14 Feb 2006, 10:39 a.m.,*
in response to message #2 by Garth Wilson

Wow. I have a 32KB card reader port memory module and did not even know it had a battery. Does it?

Considering I've had it since 1984 and never replaced a battery I think it is due!

However, I've never lost memory. What does the battery do?

VERY interested in your response.

John Kercheval Georgetown University Washington, DC

Re: HP71B- Main Machine

*Message #4 Posted by **Valentin Albillo** on 14 Feb 2006, 11:36 a.m.,*
in response to message #3 by John Kercheval

Hi, John:

John posted:

"However, I've never lost memory. What does the battery do?"

> If I'm not wrong, it keeps the contents undisturbed when the module is *unplugged*. As long as it remains plugged in, the HP-71B batteries keep its contents nice and tidy.
>
> This same concept was extensively used in RAM cards for SHARP handhelds as well, and it allowed their owners to send complicated programs to and fro by simply exchanging cards. It was also useful for backup purposes, of an important application, say.
>
> If you're that interested in the HP-71B and you haven't seen them yet, may I suggest you have a look at my HP-71B related articles/programs for this wonderful machine, available on-line as PDF documents from my web site.

Best regards from V.

Re: HP71B- Main Machine

*Message #5 Posted by **John Kercheval** on 14 Feb 2006, 1:22 p.m.,*
in response to message #4 by Valentin Albillo

Will do. I thought that's what the battery did. Where is it? How do you replace the battery.

I'll check out your website.

John K.

DC

Re: HP71B- Main Machine

*Message #6 Posted by **Garth Wilson** on 14 Feb 2006, 2:06 p.m.,*
in response to message #5 by John Kercheval

You can get to the CMT card reader port RAM battery by removing the port cover, and removing a couple of screws holding the back of the RAM unit on. The battery is soldered in. You don't have to remove the RAM from the computer to access the battery.

CMT made these card reader port RAMs up to 160K. There was someone who would hard-wire 256K into the computer for a hefty fee so that you'd still have all your ports available.

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HP71B- Main Machine

*Message #1 Posted by **John Kercheval** on 13 Feb 2006, 2:12 p.m.*

Hello:

Like many of you, I own numerous high end HPs.

After all of these years, my "service revolver" is still the 71B with CMT massive RAM chip, HP41 Translator Pac, Finance Pac, and Statistics Pac.

Any other 71B users out there?

Is CMT still around?

John K. in DC

HP 48gx construction quality question

*Message #2 Posted by **Joe Edwards** on 13 Feb 2006, 2:14 p.m.,*
in response to message #1 by John Kercheval

I am just getting into the 71B. Currently I am looking for a Math, Stat, and 41/71 traslator ROMs. A memory ROM would be nice too. As I said, just getting into it. I guess 20 years isn't too late?

Re: HP71B- Main Machine

*Message #3 Posted by **Namir** on 13 Feb 2006, 5:19 p.m.,*
in response to message #1 by John Kercheval

Hi,

I enjoy using the HP-71B with the Math ROm and the Curve Ft ROM. I have posted some HP-71B program on my website (click here). You can use the EMU71 to run these programs. So even if you have no phsyical HP-71B you can still use these programs.

Namir

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HP 41 battery charger and card reader

*Message #1 Posted by **Jan** on 13 Feb 2006, 11:15 a.m.*

Well, I am glad as a little child that just got a new toy. Today my recently purchased mint-state HP 41CV arrived via the mail, including a card reader with cards and a rechargeable battery-pac with a recharger. The calc I always wanted but which I never could afford when it was still in production. All that for 110 Euros. The calculator naturally works fine, even on the rechargeable pack. However, the card reader works as well (motor runs) but seems to suffer from a problem common to the 65 and 67 models. There is a greasy substance on the card after passing and sometimes the card gets even stuck in the card reader. I think it is just one of those damn rubber wheels again, I have the same problem with a 67 that I recently obtained. Could anybody confirm my diagnosis? Then there is something odd about the battery-charger. It is an 82066B, a so called "eurocharger" (that is what can be read on the case). The info on the outer case of the charger also mentions a voltage output of 8VAC. However, when I measure the output voltage directly with an AC voltage meter it gives a voltage of about 14 V (the voltage meter is ok, I did a double check with another meter which also showed the mentioned 14VAC). It seems somewhat strange to me, since it is not plausible that the charger is defect: both calc and accessories were hardly used since the former (1st) owner could not handle the beast very well and soon switched to a Casio. I read in the archives a little about a similar issue. As I understood it can have something to do with the state of the pack and the pack being insufficiently charged. Besides being also an AC/DC transformer, the pac also acts as a voltage regulator in some versions it was said. Does anybody know some more about this? I would not like to blow up the calcs circuits the first day I have it.

thanks in advance

Re: HP 41 battery charger and card reader

*Message #2 Posted by **Klaus_at_work** on 13 Feb 2006, 11:34 a.m.,*
in response to message #1 by Jan

Yes, the problem is the rubber wheel. You have to change it (more about that in the articles forum). Do not use the reader until you have a new wheel, otherwise the dirt from the wheel spreads in the reader and you have to clean everything. The charger output without a load might well be about 14 VAC, I will check this at home!

Greetings, Klaus

Re: HP 41 battery charger and card reader

*Message #3 Posted by **Klaus** on 13 Feb 2006, 1:24 p.m.,*
in response to message #2 by Klaus_at_work

11,7 V says my Voltmeter, depending on the inner Resistance of the Voltmeter, I would say 14 V are OK!

Greetings, Klaus

Re: HP 41 battery charger and card reader

*Message #4 Posted by **Jan** on 13 Feb 2006, 2:08 p.m.,*
in response to message #3 by Klaus

Thanks for your response. Is 14V safe to use though, or are there still some risks?

Regards Jan

Re: HP 41 battery charger and card reader

*Message #5 Posted by **Garth Wilson** on 13 Feb 2006, 3:46 p.m.,*
in response to message #4 by Jan

I don't have a rechargeable pack for my 41, but chargers' voltages are commonly much higher than stated if they're not loaded. I suspect you measured the voltage with no load on it.

Re: HP 41 battery charger and card reader

*Message #6 Posted by **Klaus** on 14 Feb 2006, 1:09 p.m.,*
in response to message #5 by Garth Wilson

14V is safe. An article on TOS about rebuilding the battery pac mentions 14V as output from the charger.

Re: HP 41 battery charger and card reader

*Message #7 Posted by **Jan** on 15 Feb 2006, 7:35 a.m.,*
in response to message #6 by Klaus

Thanks for the information

best regards Jan

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hp11c programable calculator

*Message #1 Posted by **Frank** on 12 Feb 2006, 8:41 a.m.*

Is it possible to repair an hp11c. I had two very fine and small springs that came out as I was trying to clean a dust speck from the display window (on the inside). This thing worked fine before and passed all tests and is without scratches. Since the springs came out, the display is not compete when it shows numbers. Does any one have some usefull tips. Or is anyone specialized in repairing the hp11c. Thanks, Frank

Edited: 12 Feb 2006, 9:22 a.m.

HP 48gx construction quality question

*Message #2 Posted by **Joe Edwards** on 12 Feb 2006, 9:57 a.m.,*
in response to message #1 by Frank

> Quote:
>
> Is it possible to repair an hp11c. I had two very fine and small springs that came out as I was trying to clean a dust speck from the display window (on the inside). This thing worked fine before and passed all tests and is without scratches. Since the springs came out, the display is not compete when it shows numbers. Does any one have some usefull tips. Or is anyone specialized in repairing the hp11c. Thanks, Frank

You can contact the person that runs www.fixthatcalc.com. I believe his name is Randy.

Joe

Re: hp11c programable calculator

*Message #3 Posted by **Randy** on 12 Feb 2006, 9:58 a.m.,*
in response to message #1 by Frank

The springs have *nothing* to do with your display problem as they are there to connect the front aluminum bezel and rear ledgend plate together to protect the device from electrostatic discharge.

You most likely disturbed the LCD connections to the logic board by bending or otherwise moving the the elastomeric strips or the LCD itself.

Which version of 11C to you have - the early unit with the removable logic module and LCD or is everything mounted to a single PC board which is heat staked in place?

Anti-static springs on Voyagers

*Message #4 Posted by **Karl Schneider** on 12 Feb 2006, 3:11 p.m.,*
in response to message #3 by Randy

Hi, Randy --

You posted,

> Quote:
>
> The springs have *nothing* to do with your display problem as they are there to connect the front aluminum bezel and rear ledgend plate together to protect the device from electrostatic discharge.

I have a 1985 HP-11C that has a rectangular piece of the legend-bearing back plate missing, on the right side, between both rubber feet. This part of the plate covers one of those "spring holes", so one of those spring connectors is missing.

Does that spring provide anything more than redundancy -- i.e., a second, parallel connection between the "front metal" and the "back metal"?

Thanks,

-- KS

Re: Anti-static springs on Voyagers

*Message #5 Posted by **Randy** on 12 Feb 2006, 7:41 p.m.,*
in response to message #4 by Karl Schneider

They are not redundant, the spring nearest the battery connects the brushed finish bezel to the back, the spring nearest the ON button connects the keyboard surround plate to the back.

FWIW, Over the years I've seen at least a dozen beat to death Voyagers with no rear plate and no springs... not a one a with problem other than lots of internal keyboard dirt or broken LCD's. All the chips I've ever replaced were in units with intact plates and springs. Your mileage may of course vary :)

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41cx long continuous memory

*Message #1 Posted by **Hal** on 12 Feb 2006, 3:17 a.m.*

Just FYI, I had the battery pack out of my 41CX for several hours this evening, and when i put it back in and powered it up, I still had all the programs and data. Pretty impressive...how big is that capacitor anyway? Hal

Re: 41cx long continuous memory

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 12 Feb 2006, 4:53 a.m.,*
in response to message #1 by Hal

Once I let the batteries out for at least two weeks, while on holidays, and when I put them in again everything was still there...

A well deserved **C** in its name!

Greetings,
Massimo

Edited: 12 Feb 2006, 4:54 a.m.

Re: 41cx long continuous memory

*Message #3 Posted by **Randy** on 12 Feb 2006, 10:00 a.m.,*
in response to message #1 by Hal

470uf

Re: 41cx long continuous memory

*Message #4 Posted by **David Smith** on 12 Feb 2006, 11:51 a.m.,*
in response to message #3 by Randy

It is typical for these machines to last at last two weeks without batteries. I have seen them go well over a month. The CX's tend to hold up longer than the CV and C.

I wonder what they would do with a 1F supercap in them (probably never get it charged, and self discharge would not last much longer than the stock cap... but it would be worth trying).

Re: 41cx long continuous memory

*Message #5 Posted by **S. Heddle** on 13 Feb 2006, 1:22 p.m.,*
in response to message #4 by David Smith

In my 41CV, I have seen strange things with battery life from both ends of the spectrum. I have seen it last for more than a few days, but have seen the memory wiped during a conventional battery change.

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HP 48gx construction quality question

*Message #1 Posted by **Joe Edwards** on 11 Feb 2006, 9:19 p.m.*

Folks, Last question for the night. How's everyones' knowledge regarding the construction qualitiy of the various HP 48gx models? I have a model made in Singapore and also a model made in Indonesia, with the black LCD. Should I expect any difference in the two calcs' construction...long term wise? Thanks

Joe

Yes Virgina, there is a difference.

*Message #2 Posted by **Randy** on 12 Feb 2006, 10:13 a.m.,*
in response to message #1 by Joe Edwards

The major difference is a Singapore has double shot molded keys, the Indonesian, printed keys.

IMO keyboard tactile feel in the Singapores is better as well. The same applies to Pioneers since they were manufactured in the same facility. A Singapore 32Sii is head and shoulders above a Indonesian 32Sii for keyboard feel. Indonesian Pioneer keyboards have a nasty habit of making snapping and popping noises when the keys are pressed or released, for some reason the 48's don't have this trait.

We beat this topic to death a couple of years ago when the 32Sii was discontinued, there's thread after thread in the archives.

Re: Yes Virgina, there is a difference.

*Message #3 Posted by **Thomas Radtke** on 12 Feb 2006, 11:39 a.m.,*
in response to message #2 by Randy

> Quote:
>
> Indonesian Pioneer keyboards have a nasty habit of making snapping and popping noises when the keys are pressed or released, for some reason the 48's don't have this trait.

You haven't heard my Indonesian 48G yet. Impossible to pass the library security with this calc;). The fact the the housing is half empty amplifies the pop and click noise a lot, I believe.

Thomas

Re: HP 48gx construction quality question

*Message #4 Posted by **Han** on 12 Feb 2006, 4:22 p.m.,*
in response to message #1 by Joe Edwards

Hi Joe,

There are structural differences, in my opinion. Having taken apart a few, I can say that the rivets in the older

models are much better heat-fused to the contact points. In the newer models, the rivets can easily be pried from their contact point with the upper half of the calculator (i.e. the keyboard and LCD section).

As others have already pointed out, the keyboards are also much nicer in the older models.

As for the internals, the older models have a zener diode that helps prevent electrostatic discharges. This component was later removed from the newer models. My guess is that it they did this to prevent the diode from becoming a battery drain. Some owners have reversed the polarity of the batteries as a way of "resetting" their HP48s. Of course, in the older models, the zener diode would prevent this. Unfortunately the diode often becomes resistive, so that when batteries are installed correctly later on, they get drained by the diode.

And lastly, the LCD in the older models had a protective piece of plastic that protected the backside of the LCD. I think this helped prevent the LCD from being bent even slightly.

> Quote:
>
> Folks, Last question for the night. How's everyones' knowledge regarding the construction qualitiy of the various HP 48gx models? I have a model made in Singapore and also a model made in Indonesia, with the black LCD. Should I expect any difference in the two calcs' construction...long term wise? Thanks
>
> Joe

Re: HP 48gx construction quality question

*Message #5 Posted by **Randy** on 12 Feb 2006, 8:08 p.m.,*
in response to message #4 by Han

> Quote:
>
> And lastly, the LCD in the older models had a protective piece of plastic that protected the backside of the LCD. I think this helped prevent the LCD from being bent even slightly.

The early 48's (both G and S models) up to mid 1994 **did not** have the reinforced LCD. HP had too many warranty claims on broken screens so they added that piece of black plastic stuck to the backside of the LCD to help decrease the breakage rate. Those S and very early G non-reinforced LCD models also tended to be the lower contrast blue which was updated to a darker blue about the same time as the LCD plate was added.

> Quote:
>
> As for the internals, the older models have a zener diode that helps prevent electrostatic discharges

It wasn't there for electrostatic discharge... it was there in case you installed your batteries backwards, in which case the diode was forward biased and clamped the reverse voltage. Only problem was it was too small to handle the current and usually shorted. Since "installing the batteries backwards" trick was one of those urban ledgends that spread like all things bad, it was easier to eliminate the diode. HP did test and found reversed voltage wasn't much of a hazard as originally evisioned and was a better risk than battery eating, shorted zeners. So it was bye-bye zener. They dropped out by early 1996.

Re: HP 48gx construction quality question

*Message #6 Posted by **Han** on 12 Feb 2006, 8:44 p.m.,*
in response to message #5 by Randy

Randy,

Thanks for clearing those two bits up. I do have one related question:

How often is it that when an HP48G no longer powers up, the cause is black electrolytic capacitor (next to the ROM chip) being defunct?

I have an older HP48G that no longer powers up, and cannot seem to diagnose the cause of the problem. Do you have any tips on diagnosing the cause of a working calculator simply going kaput?

Re: HP 48gx construction quality question

*Message #7 Posted by **Randy** on 13 Feb 2006, 8:21 a.m.,*
in response to message #6 by Han

> Quote:
>
> How often is it that when an HP48G no longer powers up, the cause is black electrolytic capacitor (next to the ROM chip) being defunct?

<1%

Have you tested the logic board on a known good keyboard? On older used units it's most likely not the logic board but a shorted key.

HP 48gx construction quality question

*Message #8 Posted by **Joe Edwards** on 12 Feb 2006, 6:16 p.m.,*
in response to message #1 by Joe Edwards

Okay, thanks for the info. I figured the Indo models might be of lesser build quality after comparing my two calcs. Yes, the Singapore model is very quiet while the Indo model is almost as loud as a 49g+!!!

Joe

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HP 48gx Advanced User Reference AUR

*Message #1 Posted by **Joe Edwards** on 11 Feb 2006, 8:23 p.m.*

Hey folks, I am looking everywhre for the 48gx AUR. It seems I can download the quick start and User's manual from several locations, but I cannot find the AUR anywhere...and it doesn't seem to be on the MoHPC DVD either. Any advice?

Joe

Re: HP 48gx Advanced User Reference AUR

*Message #2 Posted by **SLSeto** on 11 Feb 2006, 8:45 p.m.,*
in response to message #1 by Joe Edwards

Joe: ...You can purchase the AUR from www.CalcPro.com. $30.

Re: HP 48gx Advanced User Reference AUR

*Message #3 Posted by **Joe Edwards** on 11 Feb 2006, 9:17 p.m.,*
in response to message #2 by SLSeto

> Quote:
>
> Joe: ...You can purchase the AUR from www.CalcPro.com. $30.

Ah found it. The search didn't locate the manual, but some sifting through the website was all it took.

I will probably pick up a couple of other books as well.

Thanks all.

Cheers

Re: HP 48gx Advanced User Reference AUR

*Message #4 Posted by **Howard Owen** on 11 Feb 2006, 8:57 p.m.,*
in response to message #1 by Joe Edwards

Yes, that's what I did.

I was surprised to find I have no PDF version lying around. That probably means that there isn't one in general circulation. There's a user written dictionary of all the keywords in the User RPL vocabulary of the HP48G. That's the bulk of what the AUR is, but the tutorial isn't included. Ibiblio seems to be having a problem at the moment, so hpcalc.org is down. Once it comes back, you can download the reference from the HP48 documentation section, under programming, I believe.

Regards,

Howard

Re: HP 48gx Advanced User Reference AUR

*Message #5 Posted by **Les Bell** on 11 Feb 2006, 9:08 p.m.,*
in response to message #4 by Howard Owen

> Quote:
>
> I was surprised to find I have no PDF version lying around. That probably means that there isn't one in general circulation.

I think it must be - I have one here. The file is called hp48gaur2.zip (but I might have named it that to avoid a name clash with the hp48gaur.zip which contains an HTML reference someone created). Where I got it from, I have no idea - but it can't be hard to find, or I would never have found it.

I know I got the PDF's of the User's Guide from the official HP site.

Best,

--- Les
[http://www.lesbell.com.au]

Re: HP 48gx Advanced User Reference AUR

*Message #6 Posted by **Howard Owen** on 11 Feb 2006, 9:29 p.m.,*
in response to message #5 by Les Bell

Google is *so* cool. A search for "hp48gaur -andrew" Gave me lots of hits. (andrew.cmu.edu is the home site for the HTML reference written by a user.) One was from here that pointed to http://www.hpcalc.org/hp48/docs/programming/hp48gaur.zip. I followed that link to find that a) it's the HTML user doc file, and b) it works even though ibiblio's mysql is hosed, so the index documents on hpcalc.org aren't working. The first Google hit was to just such an index page, which I had skipped. But then I remembered the Google cache! Clicking on the cache link for that first hit got me this link to the file you are looking for: http://www.hpcalc.org/hp48/docs/misc/hp48gaur.zip

And it works just fine. Hee hee! 8)

Edited: 11 Feb 2006, 9:32 p.m.

Re: HP 48gx Advanced User Reference AUR

*Message #7 Posted by **Bill (Smithville, NJ)** on 11 Feb 2006, 9:46 p.m.,*
in response to message #6 by Howard Owen

Hi Howard,

I just knew it had to be at the HPcalc.org site, but for some reason when I go it it I get a whole page of following error messages:

Warning: mysql_query(): .....

Not sure why I'm getting that. Maybe I got something turned off or on in my browser? Oh - just re-read your message and you comment on index being messed up - so I'm guessing it's a problem with HPCALC.

Anyway, Joe should now be busy reading the AUG :)

Bill

(Waiting for the snow to start)

Re: HP 48gx Advanced User Reference AUR

*Message #8 Posted by **Howard Owen** on 11 Feb 2006, 10:20 p.m.,*
in response to message #7 by Bill (Smithville, NJ)

> Quote:
>
> Warning: mysql_query(): .....

It's the company that hosts hpcalc.org - Ibiblio. The reason I know is that groklaw.org is also down, and also hosted by Ibiblio. Specifically, it's the MySQL database that is hosed, as the above error shows.

> Quote:
>
> Bill
>
> (Waiting for the snow to start)

For reasons of work, I find myself flying tomorrow from the San Francisco Bay Area, where we have been enjoying an early spring, to Pittsburgh, to join the East Coast folks who are getting treated to a late winter. Swell, just swell. 8)

Re: HP 48gx Advanced User Reference AUR

*Message #9 Posted by **Vassilis Prevelakis** on 12 Feb 2006, 10:59 p.m.,*
in response to message #8 by Howard Owen

```
Howard Owen wrote:
> For reasons of work, I find myself flying tomorrow from the San
> Francisco Bay Area, where we have been enjoying an early spring,
> to Pittsburgh, to join the East Coast folks who are getting
> treated to a late winter. Swell, just swell. 8)
```

So did you manage to fly in? Philadelphia International was closed all day today

**vp

Re: HP 48gx Advanced User Reference AUR

*Message #10 Posted by **Howard Owen** on 12 Feb 2006, 11:13 p.m.,*
in response to message #9 by Vassilis Prevelakis

My flight arrived at 5:30 and there was no problem by then. The connecting flight to Pittsburgh was delayed by half an hour - no big deal.

I lucked out in the air, but on the ground, I got lost looking for the shortcut to I-79 that the guy at the Enterprise counter kindly directed me to. So I saw a little bit of snow-

covered Pittsburgh suburb around Moon in the dark. I don't know what all the fuss is about driving in the snow. Piece of cake. 8) But I made it in OK, for all that.

Regards,
Howard

Re: HP 48gx Advanced User Reference AUR

*Message #11 Posted by **Les Bell** on 11 Feb 2006, 9:55 p.m.,*
in response to message #6 by Howard Owen

If that's the zip that I have, it's rather curious; the zip file is 36 MB in size, WinZip reports that the file it contains is 40 MB in size, but when unzipped, it's only a 5 MB PDF!

Bizarre.

Best,

--- Les
[http://www.lesbell.com.au]

Re: HP 48gx Advanced User Reference AUR

*Message #12 Posted by **Les Bell** on 11 Feb 2006, 10:06 p.m.,*
in response to message #11 by Les Bell

> Quote:
>
> If that's the zip that I have, it's rather curious; the zip file is 36 MB in size, WinZip reports that the file it contains is 40 MB in size, but when unzipped, it's only a 5 MB PDF!

Scratch that - KDE's Konqueror was mis-reporting it, for some reason. It's really around 38 Mibibytes. ;)

Best,

--- Les
[http://www.lesbell.com.au]

Re: HP 48gx Advanced User Reference AUR

*Message #13 Posted by **Bill (Smithville, NJ)** on 11 Feb 2006, 9:21 p.m.,*
in response to message #1 by Joe Edwards

Hi Joe,

I just spent 5 minutes using Google seach for

hp-48gx aur

and second page of searches turned up following link

http://hpcalc.kn.vutbr.cz/hp.php

which has a pdf of the 764 page HP-48G AUR Manual. The picture on the cover is the HP-48GX, so I think this manual covers both 48G and 48GX.

It's about a third of the way down the page and is listed as

HP 48G Series Advanced User's Reference Manual

Link directly to the PDF file is

hp48gaur.zip

Enjoy your reading.

Bill

HP 48gx construction quality question

*Message #14 Posted by **Joe Edwards** on 11 Feb 2006, 10:05 p.m.,*
in response to message #13 by Bill (Smithville, NJ)

I guess you were able to bend Google to your will better than I.

Thanks. Joe

> Quote:
>
> Hi Joe,
>
> I just spent 5 minutes using Google seach for
>
> hp-48gx aur
>
> and second page of searches turned up following link
>
> http://hpcalc.kn.vutbr.cz/hp.php
>
> which has a pdf of the 764 page HP-48G AUR Manual. The picture on the cover is the HP-48GX, so I think this manual covers both 48G and 48GX.
>
> It's about a third of the way down the page and is listed as
>
> HP 48G Series Advanced User's Reference Manual
>
> Link directly to the PDF file is
>
> hp48gaur.zip
>
> Enjoy your reading.
>
> Bill

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Reading HP-67 cards...

*Message #1 Posted by **gr8patra** on 11 Feb 2006, 8:18 p.m.*

Hi there, I just purchased an HP-67 and I cannot get it read any cards. It looks like its card reader might not be calibrated correctly. I am not too familiar with the whole process so I would appreciate any input. I set the calculator to RUN mode and slide the card. The card goes through and I don't see 'Crd' on the display so I don't pass the second track through. The display shows '0.00'. I then press any of the top keys 'A'-'E' and the display shows 'Error'. I try the above procedure a few times, and after I also do a 'CL PRGM', but without any luck. I also went in to W/PRGM mode and deleted all '84' instructions from the calculator's memory manually (total newbie??? - sorry). Any thoughts on what might be wrong? Thanks, Gr8Patra

Re: Reading HP-67 cards...

*Message #2 Posted by **Vassilis Prevelakis** on 12 Feb 2006, 1:55 a.m.,*
in response to message #1 by gr8patra

1) get the HP-67 manual, its available on the MoHPC DVD collection

2) your card reader may need repair unless the person you bought it from has already fixed an age related problem. See this link http://www.rskey.org/hp67reader.htm

**vp

Re: Reading HP-67 cards...

*Message #3 Posted by **David Smith** on 12 Feb 2006, 11:54 a.m.,*
in response to message #1 by gr8patra

Do you know what program is on the card? Sounds like the reader may be working properly and you are not giving the program the input that it wants.

Re: Reading HP-67 cards...

*Message #4 Posted by **David Ramsey** on 12 Feb 2006, 1:38 p.m.,*
in response to message #1 by gr8patra

As another reply noted, it sounds as if your card reader might be working fine, and you're just using a blank card or a card with a program you don't understand on it.

Try this: enter a small program, record it to the card, then turn the calculator off and on and try to read the program back in. Here's how:

1. Turn calculator off, then on.
2. Slide upper right switch to "W/PGRM" position.
3. Type [f] SST A (that's the yellow "f" key, the key labelled "SST", then the key labelled "A")
4. Type ENTER 2 X R/S (4 keys total).
5. Slide the switch back to "RUN", enter any number, and press the "A" key.

If you've entered the program correctly, pressing the A key will double the number.

Now slide the switch back to "W/PRGM" and feed the card through. This will overwrite any program on the card, by the way!

If no error occurs, turn the calculator off, then back on. Enter a number and press the "A" key and notice that you now get the reciprocal of the number-- this is the default function.

Insert the card into the reader. When it's done, enter a number and press "A". If the number on the display is doubled, congratulation! Your card reader works perfectly.

Re: Reading HP-67 cards...

*Message #5 Posted by **Vassilis Prevelakis** on 12 Feb 2006, 8:06 p.m.,*
in response to message #4 by David Ramsey

```
David Ramsey wrote:


> it sounds as if your card reader might be working fine, and you're just
> using a blank card or a card with a program you don't understand on it.
```

If the card was blank, he'd get an Error. But more importantly if Gr8Patra cannot understand the meaning of the R/S instructions, telling him to "enter a program" is not exactly helpful.

This is why I told him to read the manual. At least this will prevent him for destroying things out of ignorance (e.g. reading a card while in W/PGRM mode and erasing it).

Please this is not intended as a critique on what David said. I just believe that while the HP-67 is a great machine, **but you have to read the manual** if you want to use it.

Its as simple as that.

Now the card reader repair site I added in my earlier posting is also giving info (and pictures) on how to determine if your card reader needs repair. Again this is something important as you can do even more damage to the machine and cards if you try to use a card reader with a degraded roller.

This is all part of the fun of using an antique.

**vp

Re: Reading HP-67 cards...

*Message #6 Posted by **gr8patra** on 13 Feb 2006, 8:39 p.m.,*
in response to message #5 by Vassilis Prevelakis

Vassili, This is a good suggestion. I think I'll get Dave's DVD with the manuals. This HP was from an auction I won on eBay and no manual came with it. Unfortunately, I wish I had posted the message earlier. It would have saved me from erasing a few cards in W/PRGM mode!!! But I still get the 'Error' message in RUN mode. It looks like the cards have lost their magnetic charge as they are so old. They are HP cards from official solution pacs but who know where the previous owner had them and how he took care of them. Oh well, that's what happens when one buys HP stuff on eBay. Live and learn. Thanks for your input, Patra

Re: Reading HP-67 cards...

*Message #7 Posted by **Klaus_at_work** on 14 Feb 2006, 2:55 a.m.,*
in response to message #6 by gr8patra

Suerte! The cards from the solution Pacs have the corners removed, therefore they are write-protected. A Card reader with all switches working cannot overwrite those cards! So there is still hope....

Re: Reading HP-67 cards...

*Message #8 Posted by **David Smith** on 14 Feb 2006, 10:52 a.m.,*
in response to message #6 by gr8patra

The cards will NOT erase themselves over time. If they did, all the appliction packs would be bad by now... and they are not.

Re: Reading HP-67 cards...

*Message #9 Posted by **jan** on 12 Feb 2006, 3:17 p.m.,*
in response to message #1 by gr8patra

Hi, The '84' instruction is in fact an R/S instruction which 'occupies' the program steps by default. If you switch on the calculator, put it in W/PRGM mode and press SST repeatedly you see 84 in every (numbered) program line: it simply has no meaning and is not part of some program whatsoever. It is also overwritten automatically when a program is loaded, either via the card reader or via the keyboard. Your problem sounds more like a card problem. Magnetic storage media do not maintain the information stored on them indefinitely. Sooner or later information is lost. Exposure to temperatures higher than room-temperature speeds up this data loss process, (unintended) exposure to magnetic fields (transformers, permanent magnets etc) is sometimes instantly fatal. This has nothing to do (that means not necessarely) with a degradation of the card's materials but rather with a change of the magnetic structure of the actual storage material: the card is probably still writable and (of course) after rewriting also readible. It is possibly just the case that a program-code written on the card in "19 who nows when" has degraded below a level the 67 can handle.

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Minifont Flag #?

*Message #1 Posted by **Pio** on 11 Feb 2006, 5:49 p.m.*

Does anyone knows how to change to minifont in a rpl program just setting a flag?

Thanks in advance

Pio

Re: Minifont Flag #?

*Message #2 Posted by **Marcus Aurelius** on 11 Feb 2006, 8:23 p.m.,*
in response to message #1 by Pio

Minifont Flags:

-72 SF for Stack Display

-73 SF for Edit

-80 SF for EQW

-82 SF for EQW Edit

-90 SF for CHOOSE boxes

-74 SF for Left Stack Display which is nicer for big equations

Re: Minifont Flag #?

*Message #3 Posted by **Marx Pio** on 12 Feb 2006, 11:09 a.m.,*
in response to message #2 by Marcus Aurelius

Thanks a lot Marcus for the help!

Pio

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HP48, Battery Drain

*Message #1 Posted by **John Kercheval** on 11 Feb 2006, 8:25 a.m.*

Hello:

I have an hp 48GX with the HP 1MB memory card and the Bringslid Finance Pacx. It SEEMS to be going through batteries pretty quickly. The battery in the 1MB card is fresh, brand new.

Any ideas/comments?

On a related note, had anyone tried using the new AAA Lithium batteries in this thing?

Regards,

John K.

Re: HP48, Battery Drain

*Message #2 Posted by **Raymond Del Tondo** on 11 Feb 2006, 2:09 p.m.,*
in response to message #1 by John Kercheval

Hi,

what do mean with 'quickly' ,
a week, a month, or half a year?
Have you checked if the calc
can be used much longer w/o battery change
if the cards aren't installed?

Another thought:
Do you heavily use software
or data from the RAM card?
Accessing 'covered' ports means
more work for the machine,
and more work means more battery drain;-)

Or do you simply use the calc heavily?

I have a Sparcom 512K GX RAM card in port 2,
and sometimes either an HP 128K card
or an 128K EPROM card in port 1,
and the batteries last for months.

Regards

Raymond

Re: HP48, Battery Drain

*Message #3 Posted by **John Kercheval** on 12 Feb 2006, 4:37 p.m.,*
in response to message #2 by Raymond Del Tondo

Hard to tell. I would estimate I get the Low Batt error about every six weeks. But I don't use it that much. Is there an "automatic timeout" switch in there? Maybe it comes on in the case and stays on?

John K.

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MoHPC *The Museum of HP Calculators*

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HP48GX, Commas

*Message #1 Posted by **John Kercheval** on 11 Feb 2006, 8:23 a.m.*

Hello:

Can somebody tell me how to adjust the HP48 so that it automatically adds commas when I type in numbers >1,000?

Thanks!

John K.

Re: HP48GX, Commas

*Message #2 Posted by **Marcus von Cube, Germany** on 11 Feb 2006, 10:51 a.m.,*
in response to message #1 by John Kercheval

To add commas automatically you will need to set the display mode to FIX instead of STD.

Marcus

Re: HP48GX, Commas

*Message #3 Posted by **Raymond Del Tondo** on 11 Feb 2006, 2:12 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Not to be confused with the thousand's separator,
which isn't supported on the HP-48,
at least not out of the box;-)

Raymond

Re: HP48GX, Commas

*Message #4 Posted by **Marcus von Cube, Germany** on 12 Feb 2006, 8:07 a.m.,*
in response to message #3 by Raymond Del Tondo

> Quote:
>
> Not to be confused with the thousand's separator, which isn't supported on the HP-48, at least not out of the box;-)

I'm afraid you're wrong. A soon as you set FIX mode, the thousands are seperated by "," or "." depending on the definition of the decimal point. This is at least true for my 48S. The 28S does not display thousands seperators.

Marcus

Re: HP48GX, Commas

*Message #5 Posted by **Raymond Del Tondo** on 12 Feb 2006, 9:04 a.m.,*
in response to message #4 by Marcus von Cube, Germany

Hi Marcus,

I stand corrected;-)

I just checked on my GX,
and actually it displays the thousand's separators...

Regards

Raymond

Re: HP48GX, Commas

*Message #6 Posted by **John Kercheval** on 12 Feb 2006, 4:35 p.m.,*
in response to message #4 by Marcus von Cube, Germany

Gentlemen:

Thanks.

That worked.

John K.

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HP 12CP Clarified

*Message #1 Posted by **C. F. Howlett** on 11 Feb 2006, 2:20 a.m.*

First, I bow my head in humility at the speed and clarity of your responses to my query just a few short hours ago. Tony (nz) nailed the problem and taught me about programming the new 12CP. I will have to spend a little more time reviewing the protocols. Thanks to everyone who wrote back.

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HP 12CP program discrepancy

*Message #1 Posted by **C. F. Howlett** on 10 Feb 2006, 9:55 p.m.*

Greetings All:

I'm using the HP 12C Real Estate Applications Handbook and attempted to program the Mortgage Equity Analysis on page 48. This program doesn't directly address any registers, but it does use the STO and RCL functions. Anyway, punched it in and the output numbers wouldn't match up. Repunched with same output. Punched the same program into my 12C and no problem. What's happening here?

Re: HP 12CP program discrepancy

*Message #2 Posted by **Thomas Cox** on 10 Feb 2006, 10:12 p.m.,*
in response to message #1 by C. F. Howlett

Have you confirmed that you are in RPN mode?

12345 to delete

Re: HP 12CP program discrepancy

*Message #3 Posted by **C. F. Howlett** on 11 Feb 2006, 1:43 a.m.,*
in response to message #2 by Thomas Cox

I did confirm the RPN mode.

Re: HP 12CP program discrepancy

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 10 Feb 2006, 11:28 p.m.,*
in response to message #1 by C. F. Howlett

Hi, Howlett;

would that be possible to digitize (scan) the program listings and at least one example so I could test it? I tried the MoHPC DVD and did not succeed finding this book there. I also look at the 'HP37E & HP38E/C Real Estate Applications', volumes I and II, and did not find an equivalent example.

If you agree with, please send the images to:

lcvieira (at) quantica (dot) com (dot) br

The (at) and (dot) are @ and . respectively, just a way to avoid scam.

Thanks.

Luiz (Brazil)

Re: HP 12CP program discrepancy

*Message #5 Posted by **tony(nz)** on 11 Feb 2006, 12:50 a.m.,*
in response to message #1 by C. F. Howlett

That prog needs 4 extra lines to run on the newest HP12c platinum. You need RDN after each of:

the FV at line 20, the n at line 22, and the i at line 24.

The PMT at line 25 needs repeating.

The reason is that this prog calculates "p" at line 17 and multiplies it by PMT at line 26 (here PMT is -1/sn).

On the old 12C this "p" is preserved in the Y register while FV and n are updated. The new 12cp does not disable stack lift after values are entered in financial registers, so we need the RDNs above. Or, the program could be re-written in other ways of course.

Hope this helps.

Cheers, Tony

Re: HP 12CP program discrepancy

*Message #6 Posted by **C. F. Howlett** on 11 Feb 2006, 1:55 a.m.,*
in response to message #5 by tony(nz)

Thank you Tony! I mistakenly assumed the only programming adjustment required was to add an extra 0 when directly addressing program line #'s. I'll try your method and update later.

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Story on yahoo finance about the 25th anniversary of HP12c

*Message #1 Posted by **gene** on 10 Feb 2006, 2:58 p.m.*

Note the link explaining RPN...and how HP represents it...way to go HP!

http://biz.yahoo.com/bw/060210/20060210005163.html?.v=1

Re: Story on yahoo finance about the 25th anniversary of HP12c

*Message #2 Posted by **Howard Owen** on 10 Feb 2006, 3:19 p.m.,*
in response to message #1 by gene

The PDF history of the 12C on the HP site linked to in the article above is interesting. Reading it, you would never know that the 12C was part of a series of calculators. Was it the first of the Voyager models? The production dates on the museum pages for the various Voyager models show that the 15C and 16C were introduced in 1982, followed by the 10C, also in 1982, but that the 11C and 12C began life in 1981. Which came first, the 11C or the 12C?

Regards,
Howard

Edited: 10 Feb 2006, 3:19 p.m.

Re: Story on yahoo finance about the 25th anniversary of HP12c

*Message #3 Posted by **WalterB** on 11 Feb 2006, 4:17 p.m.,*
in response to message #2 by Howard Owen

1. 11c, 2. 12c

Contest Entries Should Lie Like This, for Example?

*Message #4 Posted by **Howard Owen** on 11 Feb 2006, 4:36 p.m.,*
in response to message #3 by WalterB

> Quote:
>
> 1. 11c, 2. 12c

Hum. In that case, can someone familiar with marketing and The Truth tell me how this PDF can square the two concepts?

I can understand (but resent) that they don't want to mention the less successful bretheren of the 12C on a site devoted to its extraordinary success, but the narrative in the above PDF leaves out any mention of the 11C, even though it came first!? I don't see how they could have gotten away without lying directly, as opposed to indirectly, which is what most marketing material from large companies does. 8(

Regards,
Howard

Re: Contest Entries Should Lie Like This, for Example?

*Message #5 Posted by **WalterB** on 11 Feb 2006, 5:26 p.m.,*
in response to message #4 by Howard Owen

Howard, the sequence I posted above was based on the museum's "next calculator made" function. Meanwhile, I crosschecked and found BOTH calcs were introduced on September 1st, 1981. So, probably both models were developed in parallel, one for the business guys, one for the tech guys. Besides some minor points (e.g. HP80 as direct predecessor of HP12C), the article may tell the truth nevertheless, but then of an Iowa farm boy with a very selective memory - well, after 25 years... ;-)

Edited: 11 Feb 2006, 5:52 p.m.

Re: Contest Entries Should Lie Like This, for Example?

*Message #6 Posted by **Howard Owen** on 11 Feb 2006, 6:16 p.m.,*
in response to message #5 by WalterB

Rereading the PDF just now, the only way I can square it with the idea that there was a scientific calculator released at the same time, and sharing enough design features with the 12C that they are called part of the same model line, is if most of the decisions mentioned were made on behalf of both calculators, and not just the 12C. Perhaps Dennis Harms lead a team responsible for both calculators, instead of being ".. the project manager for the 12C .." as described in the article. Retaining RPN on a business calculator might have been a decision that " .. would cause today's marketing people .. to gasp," but surely not those working for HP then. Every business calculator HP had produced up to then used RPN, as had every other calculator except the HP-01 wristwatch! The decision to add a third battery must have been taken for both machines. My 11C has three batteries, and exactly the same sloping profile as my vintage 12C.

Expurgated histories may be easier for target markets to swallow, but to me they are distinctly unsatisfying - and less interesting. And they just tend to confirm my impression that marketing is the art of half-truth in service of commerce. No, I didn't just discover that. 8(

Project and Product Management

*Message #7 Posted by **WalterB** on 12 Feb 2006, 10:28 a.m.,*
in response to message #6 by Howard Owen

Elsewhere in industry, when you start something like a new product line (let's call it "Voyager" for this post), you begin with elaborating a design to cover everything this line shall include. Suppose HP worked this way, they had all 5 models in mind (11c, 12c, 15c, 16c, 10c) in this early project phase already. These models may have been outlined in a rather coarse, blurred way with not every feature pinned down exactly, but with sufficient data to be sure all will fit into a common "Voyager" frame defined. So, I expect one project manager for "Voyager" (and maybe some deputy managers for the individual models, since many people have "manager" printed on their business cards in USA). Let's assume Dennis was the one (real) mgr. of "Voyager".

The project team started with the 11c and 12c to verify the market demand (some marketing guys may or may not have claimed this demand earlier). They produced the other calcs later.

Maybe not every model was on their project list in the beginning, but the architecture was flexible enough to cover all 5. The last was just the lowest in performance, so no problem with the 10c.

This "history" is just based on published production dates, and derived using logic and common sense - perhaps there are some folks in this forum who KNOW at least some parts of the true story.

Edited: 12 Feb 2006, 6:19 p.m.

Re: Story on yahoo finance about the 25th anniversary of HP12c

*Message #8 Posted by **Vassilis Prevelakis** on 10 Feb 2006, 11:17 p.m.,*
in response to message #1 by gene

```
from the website:


> ... a nationwide competition that asks entrants to submit their
> most incredible real-life success stories involving the HP 12c
> Calculator ...
```

I wonder whether they'll appreciate the story about the guy who used his HP-12C to display prices when haggling with Indian prostitutes in Bangalore :-)

Sorry I couldn't resist

**vp

Re: Story on yahoo finance about the 25th anniversary of HP12c

*Message #9 Posted by **Katie Wasserman** on 11 Feb 2006, 10:46 a.m.,*
in response to message #1 by gene

So I guess that there's not going to be a 25th anniversary model and that this contest is partially the outcome from those questions that Mary asked here last year. (see: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=80093#80093 and http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=77161#77161) How disappointing.

Re: Story on yahoo finance about the 25th anniversary of HP12c

*Message #10 Posted by **john** on 11 Feb 2006, 11:59 a.m.,*
in response to message #9 by Katie Wasserman

I seem to recall being very skeptical at the time.

Sadly, this is what I would expect.

it should also be a lesson to the dreamers who keep thinking HP will come out with a new version of the 15c.

Wake up, people.

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CMT EPROM Programmer?

*Message #1 Posted by **Howard Owen** on 10 Feb 2006, 1:09 p.m.*

I just bought two CMT71-32E EPROM modules. These fit the front ports of the 71, and contain one surface mounted EPROM chip apiece. One of them has '27C256(illegible)' visible on its surface. It appears from this old museum post that CMT sold a special programmer for these modules. Does anyone out there have one of these programmers, or have experience hacking one together for these modules? I so want the JPCROM on one of these. I'm willing to talk trade for the privilege of using your equipment. 8)

Regards,
Howard

Re: CMT EPROM Programmer?

*Message #2 Posted by **Rodger Rosenbaum** on 10 Feb 2006, 11:04 p.m.,*
in response to message #1 by Howard Owen

I have one of them, Howard, and I'd be glad to program a PROM for you, assuming the programmer still works!

Email me at r-o-d-g-e-r-o-s@yahoo.com (kill the hyphens)with your own email address.

Re: CMT EPROM Programmer?

*Message #3 Posted by **Jeff D** on 14 Feb 2006, 9:30 p.m.,*
in response to message #2 by Rodger Rosenbaum

Can you also program the HP-75 EPROMS?

Re: CMT EPROM Programmer?

*Message #4 Posted by **Forrest Switzer** on 14 Feb 2006, 11:37 p.m.,*
in response to message #3 by Jeff D

Jeff,

The HP-71B EPROM programmer is specifically for the HP-71B EPROM, and will not accept others. The EPROM being programmed plugs into a contact set that duplicates the front port on the 71.

Forrest

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Kitchen computer, true or false?

*Message #1 Posted by **Tom (UK)** on 10 Feb 2006, 9:14 a.m.*

While looking at the following good web site I found:

http://www.old-computers.com/museum/computer.asp?st=1&c=927

Am I being taken in? This can't be true??? I have my doubts (2.5MHz is fast for late 60's and very few details - love the picture and inbuilt chopping board!).

As a spoof it's quite funny, and possibly true - there were some wackey ideas in the 60's - and who knew where computers were going to end up!

Re: Kitchen computer, true or false?

*Message #2 Posted by **Bill (Smithville, NJ)** on 10 Feb 2006, 9:26 a.m.,*
in response to message #1 by Tom (UK)

Hi Tom,

Well - it's apparaently genuine. I just did a search on Honeywell's web site and found following:

Link

At $10,000 each, I wonder if they sold any.

Bill

Re: Kitchen computer, true or false?

*Message #3 Posted by **Maximilian Hohmann** on 10 Feb 2006, 9:34 a.m.,*
in response to message #2 by Bill (Smithville, NJ)

Hi!

> Quote:
>
> At $10,000 each, I wonder if they sold any.

In your Honeywell link, it says: "Not surprisingly, no Kitchen Computers were sold."

But if you do a Google or Wikipedia search, you will find endless references to it

Greetings, Max

Re: Kitchen computer, true or false?

*Message #4 Posted by **Tom (UK)** on 10 Feb 2006, 10:04 a.m.,*
in response to message #3 by Maximilian Hohmann

I clicked on the 'read more' button and there are a few more details including being promoted as a kitchen computer to get free publicity. So not intended for a chopping board! or the kitchen! But not sure of the real intended market.

Re: Kitchen computer, true or false?

*Message #5 Posted by **Eric Smith** on 10 Feb 2006, 12:43 p.m.,*
in response to message #1 by Tom (UK)

It exists. There's one on display at the Computer History Museum in Mountain View, CA. It's believed that only a single unit was actually manufactured.

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RPL programing

*Message #1 Posted by **Joe Edwards** on 9 Feb 2006, 8:50 p.m.*

Hey folks, Where would be a good start to try my hand a BEGINNER's level programming on the 48 series calcs - or basic BASIC (heh) programming on the 71b? Also, has anyone here used a HP 28 model? I see they are cheap on ebay...is this due to poor construction? I kind of wonder about the clamshell kinking/damaging the wiring between the two sides.

Joe

Re: RPL programing

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 9 Feb 2006, 9:31 p.m.,*
in response to message #1 by Joe Edwards

Hi, Joe;

my suggestioin would be theearlier HP48G Advanced User's Reference Guide + HP48G User's Manual. They are concise, well written and specially the AURG explains RPL-based program structures very well.

About the HP28: there are two models, the earlier HP28C (4KBytes RAM) and the later HP28S (32KBytes RAM). I consider the HP28S as having a better interface, with better structured menus.

About the clamshell: there is no wires between them, just a single-piece, multi-layer flex-circuit assy. When the calculator has its case open and 'lined up', as if placed in a plane table, the flex circuit is not bent. When it is closed or tottaly folded, back-to-back fashion, the flex circuit has each half part (one on each shell) 45 degrees twisted in relation the 'hinge' part of the flex circuit. I was never told that this flex circuit has been broken or had a broken track.

Cheers.

Luiz (Brazil)

Re: RPL programing

*Message #3 Posted by **Thomas Okken** on 9 Feb 2006, 10:40 p.m.,*
in response to message #1 by Joe Edwards

I've heard bad things about clamshells in terms of repairability. I'm not sure if the wiring between the two halves is a liability, but from the information I gleaned from the many threads re: repair on this forum, once they do start to get problems in the areas of wiring or bad keys, they're almost impossible to fix.
I bought a 28S when it first came out, and it is an extremely cool machine, but I found the clamshell design to be awkward. As long as it's lying on a flat surface, it's OK, but as a hand-held, it sucks. I can't say anything about how reliable or durable it is, because I only had it for about a year... I sold it once the novelty of RPL and symbolic algebra wore off (and I realized that anything I can't do on the 42S, I'd much rather do on a computer).
If you like RPL, I'd say get a 48G instead. They come a lot cheaper than the 48GX, apparently because surveyors and other power users can't live with the 48G's lack of expandability -- but if you like the 28S, chances are you'll like the 48G even more. Keep in mind that the 28S only has a one-way IR interface, while the 48G has a two-way IR interface *and* a serial port.

- Thomas

Re: RPL programing

*Message #4 Posted by **Thomas Radtke** on 10 Feb 2006, 3:58 a.m.,*
in response to message #1 by Joe Edwards

I have an 18C, which I use once a week. No problems thus far but the keyboard sucks. The equals key has a notable different feel than the other keys due to it being the key used most (is this still english grammar?;). I guess this is a result from HP being experimenting with cheap plastic domes for the first time AFAIK. However, I have no such problems with pioneer keyboards.

Thomas

Re: BASIC programing

*Message #5 Posted by **Valentin Albillo** on 10 Feb 2006, 4:31 a.m.,*
in response to message #1 by Joe Edwards

Hi, Joe:

Joe posted: *"Where would be a good start to try my hand a [...] basic BASIC (heh) programming on the 71b?"*

> For learning (and coming to appreciate) BASIC on the HP-71B, there's nothing better than these two excellent books:
>
> **HP-71 BASIC Made Easy** by Joseph K. Horn
>
> **The Basic HP-71** by Richard Harvey .
>
> Both are extremely enjoyable to read, very good, funny style, full of (excellent) examples and will carry you all the way from zero to hero ... erm, I mean, right to machine language programming.
>
> After reading them, have a look at my HP-71B articles/programs. They aren't that simple, but some useful techniques are implemented and commented and will show you how some pretty tricky tasks are programmed and just how easy HP-71B BASIC makes it all.

Best regards from V.

Re: BASIC programing

*Message #6 Posted by **Joe Edwards** on 10 Feb 2006, 8:57 a.m.,*
in response to message #5 by Valentin Albillo

> Quote:
>
> Hi, Joe:
>
> Joe posted: *"Where would be a good start to try my hand a [...] basic BASIC (heh) programming on the 71b?"*
>
> > For learning (and coming to appreciate) BASIC on the HP-71B, there's nothing better than these two excellent books:
> >
> > **HP-71 BASIC Made Easy** by Joseph K. Horn
> >
> > **The Basic HP-71** by Richard Harvey .
> >
> > Both are extremely enjoyable to read, very good, funny style, full of (excellent) examples and

will carry you all the way from zero to hero ... erm, I mean, right to machine language programming.

After reading them, have a look at my HP-71B articles/programs. They aren't that simple, but some useful techniques are implemented and commented and will show you how some pretty tricky tasks are programmed and just how easy HP-71B BASIC makes it all.

Best regards from V.

V, Where would I find these out of print books? Are they on the MoHPC DVD (just ordered it)? I cannot seem to find the books on the DVD or your articles in the article section.

Joe

Edited: 10 Feb 2006, 9:00 a.m.

Re: BASIC programing

*Message #7 Posted by **Valentin Albillo** on 10 Feb 2006, 10:09 a.m.,*
in response to message #6 by Joe Edwards

Hi again, Joe:

Joe posted:

"V, Where would I find these out of print books? Are they on the MoHPC DVD (just ordered it)? I cannot seem to find the books on the DVD or your articles in the article section."

Good question ... I had assumed that they would be in the MoHP DVD but alas, they actually aren't :-(

They're probably not on sale anymore, but perhaps can be located at some store specialized in old books. The details for Mr. Horn's book are:

```
Title     :  Hp-71 Basic Made Easy
Author    :  Joseph Horn
ISBN      :  0-9612174-3-X / 096121743X
Publisher :  Educalc Pubns
Edition   :  Softcover
```

and failing that, eBay or an add in the proper section of this forum might help. Also, I you can read French, there's a French-language translation on line, namely:

```
LE HP-71, C'EST FACILE
```

that may be of some help, though it doesn't include some listings at the end of the book.

As for my articles, you can download most of them from my web page, as PDF documents, and failing that, let me know and I'll send the ones you wish to any e-mail address of yours you care to provide, also as PDF files.

The reason they aren't in the Articles' section is because I only want to distribute them in PDF format (so as to keep their exact, facsimile original form, fonts & formatting & images and all), and MoHP only hosts html or text files, it seems. I asked David if he would host them in PDF format, but he apparently wasn't interested as that would be inconvenient for people accessing the articles from some non-PDF capable portable device or such, whatever.

Thanks for your interest in the HP-71B and

Best regards from V.

Re: <Kalinowsky's Tutorials>RPL programing

*Message #8 Posted by **Pio** on 10 Feb 2006, 12:54 p.m.,*
in response to message #7 by Valentin Albillo

Try Eduardo's Rpl tutorials.

http://www.engineering.usu.edu/cee/faculty/gurro/Software_Calculators/HP48_49G_Docs/UserRPLTut.pdf

Pio

Learning HP-71 BASIC

*Message #9 Posted by **Garth Wilson** on 10 Feb 2006, 2:59 p.m.,*
in response to message #1 by Joe Edwards

I haven't tried the other books recommended above, but I personally thought HP's manuals for the 71 were great. When I got my 71, I just started at the front of the owner's manual and worked my way through, and at the end, felt like I knew the product-- without ever having gotten to "the hard part." I felt no need at all for another book to "make it easy." Later I added tons of new programming features from the users' groups (through LEX files), but by then I knew the computer they were going into, and there was no difficulty.

Edited: 10 Feb 2006, 3:02 p.m.

Re: RPL programing

*Message #10 Posted by **Stephen Easterling** on 10 Feb 2006, 9:20 p.m.,*
in response to message #1 by Joe Edwards

My first was the 28S back in '89 and I learned a lot on it (reading and applying all the manuals, etc). I kept mine in great condition and never had any problems. However, at one time I had programmed 30k out of the available 32k and let the batteries get low on me. I lost everything in memory! The battery door is not so tough to use once you get used to it, and you have about 30 sec. to swap batteries before you lose memory. It's terrible as a handheld. Back in the day if I could have afforded a 48G (or GX), I would have given my 28S an early retirement. The 48G series is a much better machine (except you have to get used to all the shifts due to fewer keys than the 28S). The 48-series AUR is great. There are also about five (at least) good books on programming the 48 for calculus / differential equations, and is well documented with minimal google searching.

Re: RPL programing

*Message #11 Posted by **John Limpert** on 11 Feb 2006, 2:31 a.m.,*
in response to message #1 by Joe Edwards

I like the 28 series calculators. They are cheap and reliable. I've never had a keyboard or clamshell interconnect problem. I've seen a few with display problems, the sort of thing that often afflicts calculators with LCD graphics displays. The weak point of the design is the battery door. They are a pain in the neck to replace after changing the batteries. They are often cracked or damaged by frustrated users. The display doesn't have the resolution or contrast of the displays on the 48 series calculators, but it is acceptable. The batteries (N cells) are a little hard to find. I've found them at Radio Shack and battery specialty stores on the Internet. The manuals are well written.

If you see one, preferably the 28S, in good condition (check battery door), with the manuals, give it a shot. I've picked them up on eBay for very reasonable prices.

I still have a 28C that I bought when it was introduced. It's never had any problems.

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Opening up a 10B (for repair hopefully)

*Message #1 Posted by **Chris** on 9 Feb 2006, 8:27 p.m.*

I gave this unit to my father a number of years ago (found it in the bargain bin at Walmart). He told me the other day the batteries needed replacing, so went out and bought some...but evidently that wasn't the problem. How would I open this thing, hopefully w/o marring it? Is it likely the problem is an easy fix? Thanks.

Re: Opening up a 10B (for repair hopefully)

*Message #2 Posted by **Karl Schneider** on 10 Feb 2006, 1:12 a.m.,*
in response to message #1 by Chris

Chris --

This is basically a FAQ. Please look for Paul Brogger's HP Articles Forum entry, **Pioneer "Observational Internals"**.

-- KS

Re: Opening up a 10B (for repair hopefully)

*Message #3 Posted by **Eric** on 10 Feb 2006, 10:09 p.m.,*
in response to message #2 by Karl Schneider

Before you crack open the case, check out www.fixthatcalc.com... From that site...

"I changed my batteries and now my calculator is dead!

Always, always - before changing batteries, back up any programs or solver equations!

The models listed above all share the same battery size and type. The three small coin cell batteries will last a minimum of a year or more, depending upon use. One common problem is after installing new batteries, the calculator appears dead and will not power up. This can be sometimes be fixed by completely resetting the calculator and completely clearing memory. Here's how:

Remove the battery cover and shake the batteries out with a few sharp smacks against the palm of your hand. Now, using a small coin (dimes and pennies work best), slip the sides of the coin between the battery spring clips so that you touch both sides of the battery clips at the same time with the coin. This discharges the internal storage and will clear memory. Now, reinstall the batteries, observing the proper polarity picture shown on the case, slip on the battery cover and turn it on. You should see a "Memory Clear", "Pr Error" or similar message and you're back to calculating."

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The world is crazy !!!!!!! :-)

*Message #1 Posted by **gileno** on 9 Feb 2006, 1:04 p.m.*

Ebay Link !!!

I don't get to understand!!! :-(

Re: The world is crazy !!!!!!! :-)

*Message #2 Posted by **Howard Owen** on 9 Feb 2006, 1:22 p.m.,*
in response to message #1 by gileno

"kahunajumpbig" indeed!

The bid history is fascinating.

Re: The world is crazy !!!!!!! :-)

*Message #3 Posted by **Gonzalo Fernandez (Spain)** on 9 Feb 2006, 1:31 p.m.,*
in response to message #2 by Howard Owen

I doubt he will pay if he wins the auction, he has negative feedback for not paying $9.99 Better for the seller to apply common sense in order to avoid sky prices and then the buyer doesn´t want to pay, for example, ending the auction early, it is only a suggestion, but perhaps the buyer thinks that the auction includes a calculator.

Re: The world is crazy !!!!!!! :-)

*Message #4 Posted by **Howard Owen** on 9 Feb 2006, 2:23 p.m.,*
in response to message #3 by Gonzalo Fernandez (Spain)

Yes, but there were *two* bidders being crazy. 8)

Edited: 9 Feb 2006, 2:24 p.m.

Re: The world is crazy !!!!!!! :-)

*Message #5 Posted by **Gerson W. Barbosa** on 10 Feb 2006, 7:33 p.m.,*
in response to message #3 by Gonzalo Fernandez (Spain)

Auction has ended: item sold for $305.00! Another battery pack is selling for $60 (starting price). Considering I can buy four N-type batteries here for $10.00 (just a 15-minute walk to the store), avoiding these auctions is cheaper and healthier :-)

Re: The world is crazy !!!!!!! :-)

*Message #6 Posted by **Garth Wilson** on 10 Feb 2006, 9:07 p.m.,*

in response to message #5 by Gerson W. Barbosa

> Considering I can buy four N-type batteries here for $10.00

I just paid $2.29/pair and I thought that was bad. (I guess I'm getting spoiled by AA's dropping to $.40/ea. Fortunately a set of N's lasts a year or two in my 41cx. So lemmee see-- $300 would take me to approximately the year 2100.

Re: The world is crazy !!!!!!! :-)

*Message #7 Posted by **Thomas Okken** on 9 Feb 2006, 2:16 p.m.,*
in response to message #2 by Howard Owen

> Quote:
>
> The bid history is fascinating.

I think kahunajumpbig just put in a ridiculously large bid initially, and then some other bidder had to try many times before he could finally get the high bid. The unsuccessful bids don't show up in the bid history, but each time kahunajumpbig's bid is automatically increased (up to his limit) to stay ahead *does* show up.

Re: The world is crazy !!!!!!! :-)

*Message #8 Posted by **Howard Owen** on 9 Feb 2006, 2:25 p.m.,*
in response to message #7 by Thomas Okken

Right, so "kahuna" made the "big jump" first. 8)

Re: The world is crazy !!!!!!! :-)

*Message #9 Posted by **Walter B** on 9 Feb 2006, 7:12 p.m.,*
in response to message #7 by Thomas Okken

> Quote:
>
> I think kahunajumpbig just put in a ridiculously large bid initially, and then some other bidder had to try many times before he could finally get the high bid. The unsuccessful bids don't show up in the bid history, but each time kahunajumpbig's bid is automatically increased (up to his limit) to stay ahead *does* show up.

According to the bid list, seantokuji (10) put in a skyrocket bid at Feb. 6th, then kahunajumpbig (63) stepped up today until he conquered. Usually such many steps are typical for unexperienced bidders.

After all, kahunajumpbig will probably be not completely satisfied with the items he will get for >300 $ -- so he may return them as offered and take the shipping costs as tuition fees. And the winner is ... USPS!

d:-)

Re: The world is crazy !!!!!!! :-)

*Message #10 Posted by **Vassilis Prevelakis** on 9 Feb 2006, 7:22 p.m.,*
in response to message #7 by Thomas Okken

Thomas Okken wrote:

> I think kahunajumpbig just put in a ridiculously large bid
> initially, and then some other bidder had to try many times before
> he could finally get the high bid. The unsuccessful bids don't
> show up in the bid history, but each time kahunajumpbig's bid is
> automatically increased (up to his limit) to stay ahead *does*
> show up.

No this is not how eBay works. Lets look at the bidding:

starting bid was $10

on Feb 5 gwbarbosa bids for $20, the "Current bid" is $10

on Feb 6 seantokuji bids $300, the "Current Bid" is changed to $21

on Feb-8 drsanfranscisco bids $38.89, the "Current bid" is changed to something close to $40 (essentially eBay uses money from seantokuji's max. bid to outbid drsanfranscisco on seantokuji's behalf)

from that moment onwards kahunajumpbig starts bidding up.

Each bid is shown in the bid history and each time the "Current bid" is updated to be a little bit more than kahunajumpbig's bid since it was less than the $300 bid placed by seantokuji.

Finally kahunajumpbig places a bid greater than $300 (prob. smth like $320) and the "Current bid" is changed to $305 with highest bidder kahunajumpbig.

So the bids shown are the actual bids placed by the bidders excpet the last one ($305) which is the lowest possible to outbid seantokuji 's bid. At this stage the bid increments are $5, so we know that kahunajumpbig's bid is >= 305. If the "Current bid" was lower than $305, (e.g. $301) than we would *know* that kahunajumpbig's bid was EQUAL to $301. This is the only case where you can tell the true amount of the highest bid.

My guess is that seantokuji is feeling very releaved at the moment. It may be that he simply put a very high bid to be sure to win without really expecting the price to go *that* high. If kahunajumpbig gave up at $289, then seantokuji would be in for a very bad surprise the next time he/she checked the bidding.

This happened to a friend who bid $100 for the manual of the HP-IL interface for the HP-71B. Someone went as high as $95 and gave up, so my friend had to shell out $100 (+ pp) for a $10 manual.

Folks, never put a very high bid well in advance. Infact never put a bid higher than what you can pay. Sooner or later you *will* regret it.

**vp

Re: The world is crazy !!!!!!! :-)

*Message #11 Posted by **Howard Owen** on 9 Feb 2006, 8:53 p.m.,*
in response to message #10 by Vassilis Prevelakis

Quote:

My guess is that seantokuji is feeling very releaved at the moment. It may be that he simply put a very high bid to be sure to win without really expecting the price to go

> *that* high. If kahunajumpbig gave up at $289, then seantokuji would be in for a very bad surprise the next time he/she checked the bidding.

This is exactly the sort of thing the eBay modified auction encourages. In addition to the dynamics of competitive bidding, which eBay shares with real auctions, there's the fact that the full impact of a high bid is deferred. You bid $300.00, and you see a current auction price of $21.00. The psychological barrier to placing an outrageously high bid is thus lowered. Then there's the fact that you can't retract your bid. This sounds like the normal practice in a real auction that doesn't allow bid retractions, but it is really quite different. There's no such thing as a "maximum" bid in a normal auction, and that's what eBay won't let you take back! Finally there's the element of time. Instead of being over within minutes, eBay auctions take place over a long time period. Since you can't retract you maximum bid, this can only work to the advantage of the seller, allowing maximum time for a silly, inebriated or otherwise impaired buyer (e. g. *me* on a bad day) to top an already outrageously high bid.

Snipe it. That's what I say.

Regards,
Howard.

Re: The world is crazy !!!!!!! :-)

*Message #12 Posted by **Thomas Okken** on 9 Feb 2006, 10:29 p.m.,*
in response to message #11 by Howard Owen

> Quote:
>
> Snipe it. That's what I say.

Couldn't agree more. You see something you like on eBay? Set an alarm to remind you five minutes before the auction ends. If you bid any time before that, you might as well go to a casino and throw your money away in an environment where you can at least watch pretty blinking lights. :-)

I hear there are even sniping services that will automate the process for you. Haven't tried them myself yet, but then again, once I got my nostalgia taken care of by scoring an HP-25 and an HP-67, I haven't really taken a serious look at eBay anyway!

Re: The world is crazy !!!!!!! :-)

*Message #13 Posted by **John Cadick** on 10 Feb 2006, 9:10 p.m.,*
in response to message #10 by Vassilis Prevelakis

Look a little closer yet. kahunajumpbig was using automated bidding software. There are only 7 to 10 seconds between his bids. He appears to be new and a lot of newbies seem to use that auto bid software.

I expect that he lost control and never imagined that it would go that high. I bet that Walter will be reposting his batteries after kahunajumpbig doesn't pay.

John

Re: The world is crazy !!!!!!! :-)

*Message #14 Posted by **WalterB** on 11 Feb 2006, 10:17 a.m.,*
in response to message #13 by John Cadick

> Quote:
>
> I bet that Walter will be reposting his batteries after kahunajumpbig doesn't pay.

??? John, did I miss anything?

Edited: 11 Feb 2006, 10:18 a.m.

Re: The world is crazy !!!!!!! :-)

*Message #15 Posted by **Gerson W. Barbosa** on 9 Feb 2006, 1:45 p.m.,*
in response to message #1 by gileno

...and I thought I'd get it for $20...

Re: The world is crazy !!!!!!! :-)

*Message #16 Posted by **Gonzalo Fernandez (Spain)** on 9 Feb 2006, 1:52 p.m.,*
in response to message #15 by Gerson W. Barbosa

A "reasonable" price for both items would be up to $50. More than this, is very expensive.

Re: <Drunken bidders>The world is crazy !!!!!!! :-)

*Message #17 Posted by **Marx Pio** on 9 Feb 2006, 4:13 p.m.,*
in response to message #16 by Gonzalo Fernandez (Spain)

Bidders were drunken and did it just for fun...<8^)

Pio

Another pricey eBay HP-20S

*Message #18 Posted by **Karl Schneider** on 10 Feb 2006, 1:44 a.m.,*
in response to message #1 by gileno

Here's another HP-20S presently going for well over US$100:

Re: Another pricey eBay HP-20S

*Message #19 Posted by **Howard Owen** on 10 Feb 2006, 2:08 a.m.,*
in response to message #18 by Karl Schneider

A trend! Gee, I have one of those. Maybe I could trade it for an Integral PC. Any takers? 8)

I know, take it to the classifieds. 8)

Re: Another pricey eBay HP-20S

*Message #20 Posted by **Chan Tran (USA)** on 10 Feb 2006, 8:31 a.m.,*
in response to message #18 by Karl Schneider

I have 20S bought brand new for $28 and I hardly ever use it. May be I can put it on ebay huh?

Re: Another pricey eBay HP-20S

*Message #21 Posted by **Joe Edwards** on 10 Feb 2006, 8:51 a.m.,*
in response to message #20 by Chan Tran (USA)

I have mint and much more useful HP 22s on ebay and it has only made it to 62 dollars. $100.00+ for a 22s? Makes no sense.

joe

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HP20S for over $100... What!?

*Message #1 Posted by **Han** on 8 Feb 2006, 5:35 p.m.*

eBay #5863056474

These normally sell for around $20-$30. Even a brand new one with all its original packaging (unopened, and with brown bezel) was recently sold for under that amount. Why is this one going for such a high price?

Re: HP20S for over $100... What!?

*Message #2 Posted by **bill platt** on 8 Feb 2006, 6:04 p.m.,*
in response to message #1 by Han

It is called ebay madness.

Get used to it. The bell cureve, I mean. :-)

Re: HP20S for over $100... What!?

*Message #3 Posted by **bill platt** on 8 Feb 2006, 6:07 p.m.,*
in response to message #2 by bill platt

The top bidder has an interest in 20 machines (already involved in three others) and Lions Club pins...

Re: HP20S for over $100... What!?

*Message #4 Posted by **Howard Owen** on 8 Feb 2006, 6:41 p.m.,*
in response to message #2 by bill platt

> Quote:
>
> It is called ebay madness.

Or "seller pinches self and chortles with joy."

This is the psychological effect of the eBay modified auction at work. Buyers are encouraged to bid high through all sorts of means, and then can't retract the bid when common sense sets in. Personally, I find it takes substantial discipline to buy on eBay without getting goaded into bidding too high. I commonly snipe auctions now, using an outside service. Regardless if I snipe or bid directly, I make my bid, and then I don't look until the auction is over. I frequently lose that way, but when I win, it's for a price I can live with.

Regards,
Howard

Re: HP20S for over $100... What!?

*Message #5 Posted by **Joe Edwards** on 8 Feb 2006, 6:56 p.m.,*
in response to message #4 by Howard Owen

I was going to say the same thing. Snipe a max bid at the end and if you bid enough it is yours without adding to the madness leading up to the end of the auction.

Joe

> Quote:
>
> Or "seller pinches self and chortles with joy."
>
> This is the psychological effect of the eBay modified auction at work. Buyers are encouraged to bid high through all sorts of means, and then can't retract the bid when common sense sets in. Personally, I find it takes substantial discipline to buy on eBay without getting goaded into bidding too high. I commonly snipe auctions now, using an outside service. Regardless if I snipe or bid directly, I make my bid, and then I don't look until the auction is over. I frequently lose that way, but when I win, it's for a price I can live with.
>
> Regards,
> Howard

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HP-41 ROM image to HP-42S "raw" converter

*Message #1 Posted by **Thomas Okken** on 8 Feb 2006, 3:50 p.m.*

I wrote a little program that reads HP-41 ROM images, extracts the user code from them, and converts it to *.raw files you can import into Free42 or Emu42 (or HP-42X, I expect, or even into any HP-41 emulator).
It converts XROMs that point to user code within the same ROM to corresponding XEQ commands; it converts strings from HP-41 to 42S encoding; it emits warnings about XROMs that point to machine code functions, and about XROMs that are not local to the ROM in question and do not match HP-42S instructions either; and finally, it warns when it finds any synthetic code (most of which won't work on the 42S, at least not the really neat stuff).
The ROM image must be in *.ROM format, meaning: each 10-bit word is encoded by a byte which has bits 9-8 in its bits 1-0, followed by a byte containing bits 7-0. A normal 4k-word ROM thus comes in an 8kbyte file. If you have only *.MOD format images, Warren Furlow has a program called MODFile on his site (TOS) that extracts the *.ROM files from a *.MOD file.
It's called rom2raw and you can download it from my web site. The download is a zip file that includes the source code and a Windows console executable. Enjoy!

- Thomas

Edited: 8 Feb 2006, 5:04 p.m.

Re: HP-41 ROM image to HP-42S "raw" converter

*Message #2 Posted by **Thomas Okken** on 9 Feb 2006, 2:19 p.m.,*
in response to message #1 by Thomas Okken

I posted an updated version, which has an additional command-line option to generate annotated listings of the extracted user code. With those listings, you can easily locate the instructions that an HP-42S would have problems with (unimplemented XROMs, synthetic functions).

Re: HP-41 ROM image to HP-42S "raw" converter

*Message #3 Posted by **Howard Owen** on 9 Feb 2006, 2:29 p.m.,*
in response to message #2 by Thomas Okken

Thanks, Thomas!

Regards
Howard

Re: HP-41 ROM image to HP-42S "raw" converter

*Message #4 Posted by **Namir** on 9 Feb 2006, 3:55 p.m.,*
in response to message #2 by Thomas Okken

Good job man! I was able to import the .rw files baed on the Stat and Games ROM. Cool work!!!

Namir

Re: HP-41 ROM image to HP-42S "raw" converter

*Message #5 Posted by **Thomas Okken** on 14 Feb 2006, 9:47 a.m.,*
in response to message #2 by Thomas Okken

I posted yet another update -- the previous version didn't handle XROM xx,00 properly: it assumed that that entry was always just a dummy used for the ROM name, while in fact there are ROMs that have user code there. This version treats XROM xx,00 like all the others, and it is smarter about recognizing "dummy" entries (it looks for machine code entry points that point right at a Return instruction).

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Expensive "C" programmable calculator

*Message #1 Posted by **Gonzalo Fernandez (Spain)** on 8 Feb 2006, 3:35 p.m.*

See http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&rd=1&item=8758324587&ssPageName=STRK:MEWA:IT Casio PB-2000C calculator, is really very expensive, I bought mine with an 32K RP-33 module for only $59 plus shipping. Personally I would never spend more than $100 on a Casio calculator.

Re: Expensive "C" programmable calculator

*Message #2 Posted by **Xavier LaRue** on 8 Feb 2006, 3:54 p.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

Euhmm.. 515 USD.. that not a little bit high :)

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Looking for pdf Hp 42S manual

*Message #1 Posted by **PeterP** on 8 Feb 2006, 2:50 p.m.*

Hi, does anyone know where to find a pdf of the 42S manual? Or maybe can be so kind to email it to me...(ppl NOSPAM world at NOSPAM yahoo NOSPAM com)

I recently got a replacement 42S model and now I'd like to learn how to use it... Thanks! Cheers Peter

Edited: 8 Feb 2006, 3:20 p.m.

Re: Looking for pdf Hp 42S manual

*Message #2 Posted by **Gerson W. Barbosa** on 8 Feb 2006, 3:43 p.m.,*
in response to message #1 by PeterP

Recently José Lauro Strapasson wrote an alternative HP-42S manual:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=76417#76417

It might be useful until you get the original manual, which incidentally can be found in the Museum's DVD.

Regards,

Gerson.

Re: Looking for pdf Hp 42S manual

*Message #3 Posted by **Howard Owen** on 8 Feb 2006, 5:44 p.m.,*
in response to message #2 by Gerson W. Barbosa

Manuals, actually.

There is the "HP-42S Owner's Handbook" as well as the "HP-42S Programming Examples & Techniques" manual. The DVD also has the HP-42S Mechanical Engineering solutions book, so that's really three manuals.

Regards,
Howard

Re: Looking for pdf Hp 42S manual

*Message #4 Posted by **Raymond Del Tondo** on 8 Feb 2006, 3:53 p.m.,*
in response to message #1 by PeterP

Hi Peter,

the 42S manual should be on the MoHPC CD/DVD;-)

Regards

Raymond

Re: Looking for pdf Hp 42S manual

*Message #5 Posted by **PeterP** on 10 Feb 2006, 9:29 a.m.,*
in response to message #4 by Raymond Del Tondo

Thanks guys!

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lew platt

*Message #1 Posted by **bill platt** on 8 Feb 2006, 12:50 p.m.*

http://blogs.linux.ie/stuff/2005/09/11/lew-platt-hps-heavy-hand-takes-the-long-walk/

Consider the source (Lew Platt blog item)

*Message #2 Posted by **Karl Schneider** on 10 Feb 2006, 12:04 a.m.,*
in response to message #1 by bill platt

Bill --

Well, that was an easy-to-read, if not particularly insightful, short blog about Lew Platt, former exec at HP and Boeing who died on 8 Sep, 2005.

The entry was dated 11 Sep 2005, making it almost five months old. The author's pseudonym(?) was "irishblogs", perhaps suggesting a non-continental Euro-centric view of things...

The blog entry contained more than a few grammatical errors, causing me some skepticism about the intellectual quality of its content. One assertion that struck me was,

> Quote:
>
> "It’s interesting that Platt died in service while at Boeing, the US aerospace giant which appears to have run out of fresh ideas and is getting it’s ass handed to it by Airbus. Just like HP it’s greatest triumphs are relics of the past...

Apparently the author hadn't heard of the new model 787, revolutionary for its composite-material airframe, as well as many other innovations in passenger ergonomics. Boeing appears also to have surpassed Airbus on new sales, according to figures released after September 2005.

As for "relics of the past", the modern and well-regarded model 777 debuted in 1995, and was the first aircraft to have been designed entirely on CAD. Maybe 11 years is ancient history, according to the blogger.

Well, enough from me about this loosely-related, but off-topic subject.

-- KS

Edited: 10 Feb 2006, 12:38 a.m.

Re: Consider the source (Lew Platt blog item)

*Message #3 Posted by **Vassilis Prevelakis** on 10 Feb 2006, 10:41 a.m.,*
in response to message #2 by Karl Schneider

I agree.

Boeing had a difficult time a couple of years ago, but they managed to get their act together, launch a brand new airplane (the 787) while maintaining their lead in the long range category with the 777-200LR.

I am a bit worried though about Boeing's move at shedding of manufacturing units (e.g. the Wichita plant sold lock-stock-and-barrel to Canada'a Onex Corp.). Boeing is also transfering a lot of technology to sub-contractors so that they can deliver complete aircraft sub-assemblies (i.e. entire sections in flight ready, fully integrated configuration). While this has obvious short term benefits, I am not sure whether this is a particularly bright long term strategy.

```
> Boeing appears also to have surpassed Airbus on new sales,
> according to figures released after September 2005
```

Actually, "*Airbus beat Boeing in the end-of-year tally of net orders, gaining 51% of the marketshare with 1055 versus 1002 aircraft and also surpassed its rival in deliveries, with 378 versus 290 aircraft*" (Aviation Week and SPace Technology, Jan. 23, 2006). I suspect though that because Boeing sold more twin-aisle planes, they may well end with higher $ sales, although this is hard to determine as many deals do not mention actual prices.

**vp

Re: Consider the source (Lew Platt blog item)

*Message #4 Posted by **gifron** on 10 Feb 2006, 5:11 p.m.,*
in response to message #3 by Vassilis Prevelakis

Though I don't remember the "actual estimates," it is widely believed that Boeing handily beat Airbus in terms of $$ - I think it was something along the lines of 60-40 in favor of Boeing. Of course, Airbus is still delivering more planes than Boeing, and that's where the money comes from.

Re: Consider the source (Lew Platt blog item)

*Message #5 Posted by **John Noble** on 11 Feb 2006, 10:46 p.m.,*
in response to message #3 by Vassilis Prevelakis

> Quote:
>
> Boeing had a difficult time a couple of years ago, but they managed to get their act together, launch a brand new airplane (the 787) while maintaining their lead in the long range category with the 777-200LR.

I would much rather cross the pond on a 1960's technology 747, thanks. 777s may be more efficient, but they are also slower than and not as inherently safe as 4-engine 747s.

Those big 777 engines are cool, but maybe they need an afterburner or something -- I don't appreciate the extra hour it takes for a 777 to get from, say, Houston to London.

Re: Consider the source (Lew Platt blog item)

*Message #6 Posted by **Vassilis Prevelakis** on 12 Feb 2006, 2:16 a.m.,*
in response to message #5 by John Noble

```
John Noble wrote:
> I don't appreciate the extra hour it takes for a 777 to get from,
> say, Houston to London.
```

Are you sure your airline is not trying to save fuel by selecting a lower cruising speed?

The 747-400 typical cruise speed is 0.85 Mach (around 567 mph), while the 777-200ER is 0.84 Mach (around 560 mph).

(all figures from the Boeing web site)

So the 777 is only 7 mph slower than the 747. This means that on a 10 hour journey you will end up only 70 miles behind. This hardly accounts for the 1 hour.

So I'd suspect the airline. I have stopped flying USAir because of this extra time. Notice though that since they pad their timetables (so that they can arrive on time even if they are delayed), you may not be able to determine this behavior until you actually fly a few trips.

**vp

If you think how bad can it get??? I assure you it can get worse, in the UK a low-cost airline Ryan-Air is charging you extra if you check in luggage (BTW you are only allowed 6Kg/13lb as carry on luggage). Needless to say I have blacklisted such loosers.

Re: Consider the source (Lew Platt blog item)

*Message #7 Posted by **Trent Moseley** on 12 Feb 2006, 10:54 p.m.,*
in response to message #6 by Vassilis Prevelakis

Off topic (sometimes this fun). As a once or twice a year flier, my favorite aircraft is the not mentioned Boeing 767.

My 2¢.

tm

Re: Consider the source (Lew Platt blog item)

*Message #8 Posted by **John Noble** on 13 Feb 2006, 3:17 a.m.,*
in response to message #6 by Vassilis Prevelakis

We are waaay off topic now. 333 to delete.

> Quote:
>
> Are you sure your airline is not trying to save fuel by selecting a lower cruising speed?

Possibly. Since fuel and overall economy is the single reason for an airline to buy 777s, I'm sure the airlines maximize both.

Still, 777s can't fly the same transoceanic routes as 747s -- they have to stick closer to airports. 777s can run ETOPS-180 (i.e. not more than 180 minutes from an airport at any time) over the North Atlantic, I think, while 747s have no such restrictions and can simply fly great circle routes.

Re: Consider the source (Lew Platt blog item)

*Message #9 Posted by **bill platt** on 14 Feb 2006, 3:23 p.m.,*
in response to message #8 by John Noble

Is this because it has two engines?

Re: Consider the source (Lew Platt blog item)

*Message #10 Posted by **John Noble** on 14 Feb 2006, 5:55 p.m.,*
in response to message #9 by bill platt

> Quote:
>
> Is this because it has two engines?

Yes. Check out this discussion for some more information. Boeing and the airlines have done a lot of arm twisting to raise ETOPS limits for 777s.

In a parallel post, you said:

> Quote:
>
> My last flight from the West coast was at 530 statute MPH according to the Capitan. It was Continental or Northwest on a 757 or something.

Going west, ground speed could be 50-100 MPH higher than airspeed, depending on jet stream conditions. I've seen ground speeds close to 600 MPH going west ... and c. 450 MPH going east, at which point I begin to wonder if (in Princess Leia's words) it would help if I got out and pushed. :-)

------- 333 to delete.

Re: Consider the source (Lew Platt blog item)

*Message #11 Posted by **Dave Shaffer** on 15 Feb 2006, 1:19 p.m.,*
in response to message #10 by John Noble

I think you've got that backwards.

In the continental United States, the prevailing winds, including the jetstream, are generally FROM west TO east.

Hence, ground speeds will generally be higher when travelling from west to east.

Re: Consider the source (Lew Platt blog item)

*Message #12 Posted by **John Noble** on 15 Feb 2006, 2:06 p.m.,*
in response to message #11 by Dave Shaffer

> Quote:
>
> I think you've got that backwards.

You are correct. I knew what I wanted to say, but it came out backward.

I was thinking in Reverse Polish Navigation.

--- 333 to delete

Edited: 15 Feb 2006, 2:07 p.m.

Re: Consider the source (Lew Platt blog item)

*Message #13 Posted by **bill platt** on 17 Feb 2006, 9:32 a.m.,*
in response to message #12 by John Noble

"Reverse Polish Navigation"

:-D

Re: Consider the source (Lew Platt blog item)

*Message #14 Posted by **bill platt** on 14 Feb 2006, 3:20 p.m.,*
in response to message #6 by Vassilis Prevelakis

My last flight from the West coast was at 530 statute MPH according to the Capitan. It was Continental or Northwest on a 757 or something.

Re: Consider the source (Lew Platt blog item)

*Message #15 Posted by **Neil** on 16 Feb 2006, 2:22 p.m.,*
in response to message #6 by Vassilis Prevelakis

I've been using Ryanair regularly for the past couple of years, and in fact I'm travelling with them tomorrow. In my experience, they are dirt cheap, punctual, clean, and you get what you pay for. By the way, the actual planes (mostly Boeing 737's) are pretty new. By that I mean they are mostly less than 5 years old.

Unless Ryanair happen to have changed their baggage allowances in the last couple of months, then your statement about having to pay for excess baggage over 6kg is not correct. You are permitted to check in up to 15 kg (33 lbs), and in addition take up to 10 kg (22 lbs) hand baggage, at no extra cost. You can check the details of the baggage allowances here: http://www.ryanair.com/site/EN/faqs.php?sect=bag&quest=baggageallowance

Re: Consider the source (Lew Platt blog item)

*Message #16 Posted by **Vassilis Prevelakis** on 17 Feb 2006, 1:35 p.m.,*
in response to message #15 by Neil

```
Neil wrote:
> You are permitted to check in up to 15 kg (33 lbs), and in addition
> take up to 10 kg (22 lbs) hand baggage, at no extra cost. You can check
> the details of the baggage allowances here:
> http://www.ryanair.com/site/EN/faqs.php?sect=bag&quest=baggageallowance
```

I stand corrected.

My statement was based on the following BBC News article of Jan 25, 2006:
http://news.bbc.co.uk/1/hi/business/4647906.stm

"Ryanair planning baggage charge,

Low-cost airline Ryanair is to begin charging passengers extra for checking in their baggage before flights"

I was wrong in thinking that this was the current policy, while as the article suggests it is not

yet in effect (it will start on March 16).

As far as the 6Kg carry-on limit, I was told by another airline (BA) that this was "mandated by EU regulations" Given Ryanair's policy, I am tempeted to believe that BA was simply interpreting EU regulations arbitrarily.

**vp

Edited: 17 Feb 2006, 1:45 p.m.

Re: lew platt

*Message #17 Posted by **Bruce Horrocks** on 14 Feb 2006, 6:52 p.m.,*
in response to message #1 by bill platt

Platt was the man who invited Dick Hackborn back to the board and tasked him with coming up with something radical. The result was the spinning off of the test and measurement division into Agilent. Hackborn relied heavily on uber-consultants McKinsey and the split was probably entirely their idea, it being the first leg of a masterplan to turn HP into a services company. Step one goes okay: Agilent spun off, only the employees thoroughly pissed-off so that's all right then. Step 2: beef up HP's consulting arm by acquiring PwC. Oh dear! Large fly in the ointment: PwC partners - being consultants - could see that it was a non-starter and they decided not to let themselves be bought.

So McKinsey then brazenly wheel out plan B: buy Compaq instead. How on earth the HP board swallowed that one beggars belief. PwC and Compaq were chalk and cheese. Such a major re-think of strategy would normally require significant analysis but HP seemed to be committed to following up in ultra-quick time so it went ahead regardless.

Which brings us to the present day, where no one is convinced that the merger worked and HP is still nowhere near to becoming a services company. Because of this fiasco, it seems inevitable that, sooner or later, HP will spin off the printer division while the rump of the company slowly declines into a small player, a la Unisys.

'Platt fell flat' seems to be his legacy.

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RPN Simulator for PocketPC

*Message #1 Posted by **John Nelson** on 8 Feb 2006, 12:48 p.m.*

Does anyone know of any good RPN (hopefully HP) simulators for the PocketPC? With using my HP all the time, a regular calculator is a bit hard for me to use and I would rather have a nice RPN calc that I can use on my PocketPC.

Thanks!

Re: RPN Simulator for PocketPC

*Message #2 Posted by **Bill (Smithville, NJ)** on 8 Feb 2006, 1:10 p.m.,*
in response to message #1 by John Nelson

Hi John,

The best for the PPC is EMU42. See following link

http://www.hp42s.com

Of course you will also need an actual HP-42S in order to download the ROM image. This is a true emulator since it uses the actual rom image.

There are some other simulators - check www.handango.com for some of the other commercially available HP simulators.

There's probally also some free HP simulatotrs out there also. Maybe someone else here know of some of them.

But EMU42 is the BEST - there's also a PC version.

Bill

Re: RPN Simulator for PocketPC

*Message #3 Posted by **Massimo Gnerucci (Italy)** on 8 Feb 2006, 1:13 p.m.,*
in response to message #1 by John Nelson

Hi John,
just some quick links:
1
2
3
4
5 (search for eV41, cannot give direct link, sorry... old story)

Greetings,

Massimo

Don't forget the 15c emulator for the PPC

*Message #4 Posted by **gene** on 9 Feb 2006, 10:58 a.m.,*
in response to message #3 by Massimo Gnerucci (Italy)

it's really good.

http://www.lygea.com/pocket15cdetail.htm

Re: Don't forget the 15c emulator for the PPC

*Message #5 Posted by **Massimo Gnerucci (Italy)** on 9 Feb 2006, 2:51 p.m.,*
in response to message #4 by gene

Hi Gene,
actually it was link #4...

Greetings,
Massimo

Re: Don't forget the 15c emulator for the PPC

*Message #6 Posted by **gene** on 9 Feb 2006, 4:59 p.m.,*
in response to message #5 by Massimo Gnerucci (Italy)

oops. ;-)

definitely not to forget here : "RAY's RPN" ...

*Message #7 Posted by **Hans Brueggemann [GER]** on 8 Feb 2006, 1:45 p.m.,*
in response to message #1 by John Nelson

... not quite that hp-ish as you might want it to be, but with a very small ram footprint and easily operated with your bare fingers. my favourite.

cheers, hans

http://www.rayandanja.com/Toys/PocketPC/Rays_RPN/RayRPN.zip

Edited: 8 Feb 2006, 2:31 p.m.

Re: definitely not to forget here : "RAY's RPN" ...

*Message #8 Posted by **John Nelson** on 9 Feb 2006, 9:15 a.m.,*
in response to message #7 by Hans Brueggemann [GER]

I have Ray's, but I just don't like it all that well.

- John

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HP-49G Vector-Matirx Multiplication

*Message #1 Posted by **William** on 8 Feb 2006, 10:25 a.m.*

Can someone please tell me why my HP-49G will not multiply a vector [nx1] times a matrix [nxn], but it will multiply a matrix [nxn] times a vector [nx1]? Vector-matrix multiplication is a perfectly valid mathematical operation, but the HP-49G gives me an "Invalid Dimension" error. I know that I can overcome this error by placing the vector in the last row of an [nxn] matrix, but I perform this operation many times for my some of my engineering courses and this process becomes cumbersome, especially during an exam.

Re: HP-49G Vector-Matrix Multiplication

*Message #2 Posted by **Marcus von Cube, Germany** on 8 Feb 2006, 10:38 a.m.,*
in response to message #1 by William

William,

you need a "horizontal" vector on the left side of a matrix. To create it, just enclose a vector in another pair of brackets.

```
2:[ [ 1 2 3 ] ]
1:[ [ 1 0 0 ]
    [ 0 1 0 ]
    [ 0 0 1 ] ]
```

This multiplies fine.

Marcus

Edited: 8 Feb 2006, 11:01 a.m.

Re: HP-49G Vector-Matirx Multiplication

*Message #3 Posted by **Namir** on 8 Feb 2006, 2:46 p.m.,*
in response to message #1 by William

When you multiple a vector and a matrix you are really multiplying a row/column matrix with a matrix. Therefore the rule regarding the matrices' dimensions must be obayed.

Namir

Re: HP-49G Vector-Matirx Multiplication

*Message #4 Posted by **Chris Dean** on 8 Feb 2006, 3:54 p.m.,*
in response to message #3 by Namir

```
You can only multiply matrices A and B if the number columns of A is the same as the
number of rows of B.


Consider C=AxB then if A is MxN and B is NxP then resultant matrix C is MxP.
```

```
Cij=sum(Aik*Bkj) where k = 1 to N
```

Re: HP-49G Vector-Matirx Multiplication

*Message #5 Posted by **Karl Schneider** on 8 Feb 2006, 9:51 p.m.,*
in response to message #1 by William

William --

As others explained previously, the result of matrix multiplication A*B includes the set of all dot products of the rows of A with the columns of B. The matrices must be dimensioned accoringly: the number of columns of A must equal the number of rows of B. A column vector is a matrix with only one column; a row vector is a matrix with only one row.

Also: In general, matrix multiplication is not commutative, even if both orders of multiplication are defined under the rules.

If one wants to left-multiply a column vector by a matrix, the column vector must usually be transposed as a row vector. The result will be dimensioned as a row vector.

There is a built-in function A^TB on the HP-15C for that purpose. In Matlab, it would be A'*B.

A useful theorem: $(A*B)^T = B^T*A^T$

Regards,

-- KS

Re: HP-49G Vector-Matirx Multiplication

*Message #6 Posted by **William** on 9 Feb 2006, 2:27 p.m.,*
in response to message #5 by Karl Schneider

Thank you all for your input. I may not have made my problem clear in my previous message. So, I will try again. This is what I am doing.

[1 2 3] <sto> A (1 row x 3 columns)

[[1 2 3] [1 2 3] [1 2 3]] <sto> B (3 rows x 3 columns)

The number of columns in A i equal to the number of rows in B. I am defining these matrices via MTRW. The operation AxB should yield...[6 12 18]...however, my HP-49G says..."Invalid Dimension". The calculator will calculate BxA = [14 14 14]; THIS operation should give me an error message. Isn't this the opposite of what I should be getting? Do I have some obscure flag un-checked?

Thank you, William

Re: HP-49G Vector-Matrix Multiplication

*Message #7 Posted by **Karl Schneider** on 10 Feb 2006, 1:05 a.m.,*
in response to message #6 by William

William --

You're in luck -- I also happen to have an HP-49G, so was able to try your example. (I should point out

that in RPL, it's {data} 'A' STO, not {data} STO 'A'...)

I follow the example -- it looks to me like a row-vector A and a square matrix B. The vector entered with a single set of brackets on one line even looks like a row vector in the Matrix Editor.

But, when multiplying them with 'A' above 'B' in the stack, I get the same dimension error. Marcus von Cube's post has the fix: Make 'A' a true row vector by enclosing it within an extra set of brackets. ("TRAN" will also transpose a matrix or vector on the 49G.) I noticed that, for whatever reason, the transpose made no difference in the vector's layout in Matrix Editor.

$[14\ 14\ 14]^T$ is the product $B*A^T$ -- i.e., the matrix times the column vector.

I struggled to get my 48G to do what I wanted in this example, also.

How counterintuitive! This deepens my appreciation for the HP-15C and HP-42S, both of which I would trust far more than any RPL model to use on an important exam.

-- KS

Re: HP-49G Vector-Matrix Multiplication

*Message #8 Posted by **Marcus von Cube, Germany** on 10 Feb 2006, 3:17 a.m.,*
in response to message #7 by Karl Schneider

```
[ 1 2 3 ]
```

is a column vector,

while

```
[[ 1 2 3 ]]
```

is a row vector.

The strange thing is that matrix editor doesn't seem to know the difference. Or does he?

Function key F2 toggles the vector mode. I checked it on the 48S, 48G and 49G+, all three have this toggle. The 49G+ uses a single **boldface** pair of brackets in stack display to denote a row vector while the older calculators keep the double pair of brackets.

I assume the RPL designers on the 28C/S wanted the more common vector type (column vector) to have the simpler notation. The matrix editor came into play much later.

Marcus

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Website Update

*Message #1 Posted by **Gerson W. Barbosa** on 8 Feb 2006, 8:30 a.m.*

Hi everybody,

My incipient website with a few calculators and a few simple programs has been updated and has moved to:

http://www.geocities.com/gwbarbosa/

Everyone is welcome!

Regards,

Gerson.

Re: Website Update

*Message #2 Posted by **Valentin Albillo** on 8 Feb 2006, 8:57 a.m.,*
in response to message #1 by Gerson W. Barbosa

Hi, Gerson:

Nice site, but if I may suggest something, if I were on your shoes I wouldn't include the whole serial number for each of your calculators.

Something like "2142A01xxx" would be preferable. The idea is to give useful information (which the "2142A" already conveys) but *not* the whole number, just in case some cretin would claim that it was his "stolen" calculator or so. For items obtained via eBay or some other non-easily traceable source, that might be difficult to disprove, and considering the price these models gather today and /or the fact that they are sought for very keenly, this might be a not-so-unlikely scenario.

Not to be paranoid, but nowadays you never know and, as the old proverb says, "better safe than sorry".

Best regards from V.

Re: Website Update

*Message #3 Posted by **Gerson W. Barbosa** on 8 Feb 2006, 9:02 a.m.,*
in response to message #2 by Valentin Albillo

Hello Valentin,

Thanks for the very good advice. Three or four of my calculators I have bought brand new myself, others were bought from allegedly first owners, but I am not sure about two or three. I had already wondered about that and you have made up my mind. Thanks again!

Best regards,

Gerson.

Update:

Done that!

There will be another change as I intend to sell the third 15C, the one with the logo almost worn out (I still need to buy some HP-41 accessories). But I will do this when I get another Voyager (a 12C or 16C) because I have now exactly 14 calculators. If I sold one I would have exactly **13** left! *Yo no creo en brujas, pero que las hay, las hay.* :-)

Edited: 8 Feb 2006, 9:29 a.m.

Re: Website Update

*Message #4 Posted by **Valentin Albillo** on 8 Feb 2006, 10:17 a.m.,*
in response to message #3 by Gerson W. Barbosa

Hi again, Gerson:

Gerson wrote:

"Thanks for the very good advice [...] Thanks again!"

> You're welcome. By the way, your site seems to be a great success, as it's now impossible to enter because the allotted bandwidth has been exceeded ...

"I still need to buy some HP-41 accessories"

> May I suggest you get:
>
> 1. A 41CX or 41CV + Time + Extended Functions + Extended Memory
> 2. Card reader
> 3. Advantage ROM
> 4. PPC ROM
> 5. book: "Solution Book: Games II"
> 6. book: "Extend your HP-41C"
> 7. book: "Synthetic Programming for the HP-41C"
> 8. book: "Tips and Tricks"
> 9. CD-R: PPC, CHHU, PPC Technical Notes, Keynotes
>
> plus manuals, mag cards, holders, etc, and you're all set up except for very, very special needs (mcode, etc).

"Yo no creo en brujas, pero que las hay, las hay. :-)"

> Excellent spanish ! :-) Wish my portuguese were as good ... The original galician (galego) proverb reads:
>
> ```
> "Eu non creo nas meigas pero haberlas hailas"
> ```
>
> and usually translates to spanish as you quoted. For the benefit of English-speaking readers, this essentially means:
>
> ```
> "I don't believe in witches but exist they do"
> ```

Best regards from V.

Re: Website Update

*Message #5 Posted by **Gerson W. Barbosa** on 8 Feb 2006, 11:21 a.m.,*
in response to message #4 by Valentin Albillo

Hello again Valentin,

> Quote:
>
> By the way, your site seems to be a great success, as it's now impossible to enter because the allotted bandwidth has been exceeded ...

Thanks, but I don't believe so. The transfer limit is 5MB/h, that's about the total size of the fourteen 800x600 pictures. Anyway, the alternative site should be working.

About your suggestions, I have already number 1, a 41CX (you cannot tell by the pictures, I think, but the caption says so) and number 3, incidentally because of your suggetion in your *Long Live the Advantage ROM* article. Number 2 may arrive in a week or so. For the while, I think number 8 and 9 will do.

> Quote:
>
> Excellent spanish ! :-) Wish my portuguese were as good ... The original galician (galego) proverb reads: "Eu non creo nas meigas pero haberlas hailas"

Well, I must confess my Spanish is not as good as you may have imagined... It just happens that this proverb is well know here and it is usually quoted in Spanish. I didn't know this was originally a galician proverb. As you know, Spanish and Portuguese look so alike (I don't know of two other major languages so mutually understandable) I never took the time to study it seriously, although I recognize I should.

Best regards,

Gerson.

Re: Website Update

*Message #6 Posted by **Tony Duell** on 9 Feb 2006, 7:37 a.m.,*
in response to message #4 by Valentin Albillo

> Quote:
>
> *"I still need to buy some HP-41 accessories"* [ul] May I suggest you get:
>
> 1. A 41CX or 41CV + Time + Extended Functions + Extended Memory
> 2. Card reader
> 3. Advantage ROM
> 4. PPC ROM
> 5. book: "Solution Book: Games II"
> 6. book: "Extend your HP-41C"
> 7. book: "Synthetic Programming for the HP-41C"
> 8. book: "Tips and Tricks"

9. CD-R: PPC, CHHU, PPC Technical Notes, Keynotes

plus manuals, mag cards, holders, etc, and you're all set up except for very, very special needs (mcode, etc).

My list of 'desirable' HP41 accessories is rather different :

1. HP41CX or extended functions module (I don't find more extended memory or time functions to be essential)
2. Card Reader (if only for the HP67 compatability functions)
3. HPIL module (HP82160)
4. Disk drive (HP9114A or B). IMHO the only reasons to have a tape drive is either because you want to collect all the HPIL peripherals or because you need to be able to read old tapes.
5. Extended I/O module
6. HPIL Devlopment module (DevIL ROM). The HPIL module is missing a lot of important functions, you need one or other of these 2 ROMs. Unfortunately, the DevIL ROM has the same XROM numbers as the Advantage ROM, so the latter is of little use to me.
7. RS232 interface (HP82164)
8. MLDL RAM box + some ROM to let you load ROM images from disk. With that you don't need a lot of the ROM modules. No, it's not so convenient, but it's probably cheaper and Mcode is interesting anyway
9. ZenROM (if you can find one).
10. MoHPC CD-ROM set
11. Book : Extend your HP41. The best user-level/synthetic reference I've seen
12. Book : PPC ROM manual. You can learn a lot from reading that.
13. Book : HP41 M-code for beginners. I dislike the title, it goes way beyond that level.

If you're a hardware hacker like me, you probably also want to add :

1. Service manuals or schematics for the HP41 and the HPIL peripherals
2. GPIO interface (HP82165 or HP82166)
3. Data acquisition unit (HP3421)
4. HPIB interface (HP82169)
5. Book : Control the world with HPIL

Re: Website Update

*Message #7 Posted by **Joe Edwards** on 9 Feb 2006, 9:11 a.m.,*
in response to message #6 by Tony Duell

Book : Extend your HP41. The best user-level/synthetic reference I've seen

Book : PPC ROM manual. You can learn a lot from reading that.

I actually have the Extend your HP 41 book. If you are interested in it, let me know.

Also, the entire PPC manual was just offered on ebay last week for $50.00 and no one bought it. Here is the auction info: Item number: 5861651593 - closed.

Joe

That PPC ROM manual has been relisted on ebay. Item number 5865423154

Edited: 10 Feb 2006, 8:49 a.m.

Re: Website Update

*Message #8 Posted by **bill platt** on 8 Feb 2006, 9:53 a.m.,*
in response to message #2 by Valentin Albillo

In the U.S., one is innocent until proven guilty. Someone can "claim" the serial number, but it would be left up to the plaintiff to prove it in a court of law.

But in other countries, perhaps it is different.

Nobody goes to court for a $300 calculator.

Just another perspective.

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buy calculators HP

*Message #1 Posted by **Giorgio-Italia** on 8 Feb 2006, 5:14 a.m.*

I buy calculators HP of whichever type. Giorgio.

Re: buy calculators HP

*Message #2 Posted by **Xavier LaRue** on 8 Feb 2006, 8:26 a.m.,*
in response to message #1 by Giorgio-Italia

You should use the classified ad section...

Xavier LaRue

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PROOT on 28c/28s

*Message #1 Posted by **hugh steers** on 8 Feb 2006, 4:52 a.m.*

Presumably the core functions of the 28C/28S and later 48 models were lifted from the 71b saturn development including the algorithms of the 71b math rom.

however, on the 28c/28s i can't find the equivalent of the 71b "PROOT" function. This is the function that returns the complete set of roots (real and complex) for any polynomial. its looks like this has been left out. why? lack of rom space maybe? this is a very powerful and useful function.

the feature is back on the 48, built in to a special polynomial solve menu - i assume this is the same logic underneath.

or is it there and i just can't find it?

Re: PROOT on 28c/28s

*Message #2 Posted by **Marcus von Cube, Germany** on 8 Feb 2006, 10:21 a.m.,*
in response to message #1 by hugh steers

Hugh,

> Quote:
>
> the feature is back on the 48, built in to a special polynomial solve menu

There is no PROOT function in the 28S and it hasn't apeared in the 48S either! PROOT seems to have surfaced in the RPL world not until the 48G.

I'm just looking into the functional differences between the 48S and the 48G and this is one of them.

Marcus

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HP 32SII double shot keys + bug questions.

*Message #1 Posted by **Ben Rimednac** on 7 Feb 2006, 11:24 p.m.*

Hi all,

I picked up a 32SII on eBay recently for a reasonable amount of money.

I have read in relation to the variants of the 32SII around and the desirable double shot type keys.

I am not entirely sure whether I have one of these models. Here are some details about it that may help identify whether this has the double shot keys or not...

1. Singapore made (CE 91) 2. Serial number: 3316S032xx 3. Brown(ish) bezel. 4. Light blue/pink colouring for shift keys. 5. The manual is 3rd Edition June 1992. 6. The ex key has an e that is larger than the x.

There does seem to be a very fine channel along some edges of the lettering for example on the R/S key the slash has a definite edge.

Can anyone shed any more light on this?

Also what are some tests I can do on it to check if it has the known bugs?

Thank you for your help. Ben

Re: HP 32SII double shot keys + bug questions.

*Message #2 Posted by **Ben Rimednac** on 8 Feb 2006, 12:29 a.m.,*
in response to message #1 by Ben Rimednac

Well a little bit of self help goes a long way.

I've determined that this was made in 1993, 16th week.

I've examined it with a loupe and find little clubbed serifs at the end of the E's and the R in the enter key. To my untrained eye this seems too regular to be paint and I suspect is double shot/moulded.

I've done the self test and it checks out.

I've also done the fraction display checks on Risneth's site and it checks out OK - ie. no bug.

All for $96 US and I had no idea about any of this when I won the auction. Great resource here. I would have been totally ignorant of all this without it.

I'm wondering whether I should use this one at all and not get another less nice one as a user?

I also have a 33S which I could use as a beater; so maybe I could just use it sparingly like I do anyhow. In any case I think the value of these is on the way down because the 33S seems to have really gained some traction in the market.

Regards.

Re: HP 32SII double shot keys + bug questions.

*Message #3 Posted by **Ed Look** on 8 Feb 2006, 12:55 a.m.,*
in response to message #2 by Ben Rimednac

> Quote:
>
> ... the 33S seems to have really gained some traction in the market.
>
> Regards.

No kidding?! That's nice to hear; let's hope it continues. Oh, and congratulations on your bargain of a good find! Use it and your 33S in good health.

In fact, that is what I do, I use my 32SII (brown bezel; I got it new back a few years for $60, at MicroCenter of all places) sparingly at home only. For work, I use my 33S. It has grown on me and might have eclipsed the 32SII except that the feel and look of the 32SII is in my opinion much better.

Re: HP 32SII double shot keys + bug questions.

*Message #4 Posted by **bill platt** on 8 Feb 2006, 2:40 p.m.,*
in response to message #3 by Ed Look

I am opposite.

I use my 32sii at work, because the display and feel are nicer.

But if I leave my 33s at home, then when I run out of memory I wish it was in the office. (Or I pull ot the 48, or the 27s, or the 11c, or the shapr pc-1250 or the hp 59gx....).

Re: HP 32SII double shot keys + bug questions.

*Message #5 Posted by **e. young** on 8 Feb 2006, 9:48 a.m.,*
in response to message #2 by Ben Rimednac

I agree, I think you have one with the double shot keys. Treasure that baby. $96 is a great deal in my opinion. Mine cost me almost $160 about a year ago.

I use a combination of my 32sII and 33s at work. I feel like it would be a shame to have such a well-built machine like a 32sII from 1993 just sitting idle and collecting dust. My 32sII doesn't leave my desk, and I often use it when I don't need to run any programs. I break out the 33s when I do need a program, or when I an calculating away from my desk. The 33s has been growing on me though, since I have a version with the improved display and keyboard. Too bad I consider it so aesthetically challenged.

Re: HP 32SII double shot keys + bug questions.

*Message #6 Posted by **Trent Moseley** on 8 Feb 2006, 1:56 p.m.,*
in response to message #5 by e. young

I have a 32sII, serial ID 9 20xxxxx. What's a double shot key?

tm

Re: HP 32SII double shot keys + bug questions.

*Message #7 Posted by **Dave Shaffer** on 8 Feb 2006, 2:03 p.m.,*
in response to message #6 by Trent Moseley

"What's a double shot key?"

The outer part of the key has been molded around the inner number part which began as a separate piece of plastic. The inner part then extends throughout the length of the entire key piece. The advantage is that the number can not wear off. As the key wears down, both the inner and outer parts wear together.

Clearly, more expensive to make, though.

You can see the same effect if you buy a tube of valentine slice and bake cookies at the super market! The red heart is surrounded by the regular dough for the entire length of the cookie tube.

Re: HP 32SII double shot keys + bug questions.

*Message #8 Posted by **R. Zajac** on 9 Feb 2006, 12:56 p.m.,*
in response to message #7 by Dave Shaffer

How do they do that with the "o" in "Cos", or the parts of some other characters that completely enclose a region?

Re: HP 32SII double shot keys + bug questions.

*Message #9 Posted by **ECL** on 8 Feb 2006, 4:00 p.m.,*
in response to message #1 by Ben Rimednac

Here's what I'd do-

Use the calculator, if you like it. Let's be realistic about the intent of these machines. They are meant to be used!

Second, if you are unsure of the keys being painted or shot, why not simply try to scrape a corner off one of the letters? I tried it with my ENTER key. Guess what? They were painted. Big deal.

Just my opinion.

ECL

Re: HP 32SII double shot keys + bug questions.

*Message #10 Posted by **Thomas Radtke** on 9 Feb 2006, 3:47 a.m.,*
in response to message #9 by ECL

> Quote:
>
> Use the calculator, if you like it. Let's be realistic about the intent of these machines. They are meant to be used!

Plus, they won't last any longer when not in use. @OP: Have fun with it while it works. The only argument not to use a calculator would be that it's a (worthy) collectible. I'd never dare to use calcs in a condition as

shown at MoHPC.

Thomas

Re: HP 32SII double shot keys + bug questions.

*Message #11 Posted by **Joe Edwards** on 9 Feb 2006, 9:17 a.m.,*
in response to message #10 by Thomas Radtke

> Quote:
>
> Plus, they won't last any longer when not in use. @OP: Have fun with it while it works.
> The only argument not to use a calculator would be that it's a (worthy) collectible. I'd never dare to use calcs in a condition as shown at MoHPC.
>
> Thomas

I guess that makes sense if you plan on selling them for a profit in the future, otherwise they can be considered collectables or just electronic junk.

I agree ECL. Use the things for their intended function. I now have a 15c, 16c, 27s, 42s and 41cx which I use almost every day.

Put them on display when they no longer work or use them for parts, but is seems odd (IMO) to just put a bunch of calculators in a glass case and just looking at them.

It would make more sense for someone to buy up 5 to 10 of their favorite machine...15c, 42s, etc. and use them for the rest of their days (if they want to spend the money).

Edited: 9 Feb 2006, 9:18 a.m.

Re: HP 32SII double shot keys + bug questions.

*Message #12 Posted by **Valentin Albillo** on 9 Feb 2006, 11:02 a.m.,*
in response to message #11 by Joe Edwards

Hi, Joe:

Joe posted: *"Put them on display when they no longer work or use them for parts, but is seems odd (IMO) to just put a bunch of calculators in a glass case and just looking at them."*

> You've never collected valuable stamps, say ? Would you consider odd to just look at them stamps in some album, instead of attaching them to a letter and mail it ? :-) What about valuable coins ? Would you consider best to spend that old silver dollar in some candy ? ;-)
>
> The point is, once you realize that vintage HP calculators are valuable collectables (look at eBay if in doubt) then it's pretty normal to handle them as such, glass-case treatment included.
>
> Also, by having them in a glass case you ensure that the visual pleasure and cozy feeling you experience when looking at an immaculate, pristine HP-15C of yours will be repeatable for many years to come, instead of looking at a progressively worn-out one. Once you begin to use it frequently, its pristine status will be lost very soon and there's no way to regain in, except to acquire another one at utterly outrageous prices and swear to yourself that this one

> will get the glass case treatment to begin with.
>
> *"It would make more sense for someone to buy up 5 to 10 of their favorite machine...15c, 42s, etc. and use them for the rest of their days (if they want to spend the money)."*
>
> > A reasonably cared HP-11 or HP-15C will last decades, till their internals begin to decompose by age alone. Buying many will be no use, because by the time the 2nd one is also failing, all remaining ones will be the same old age, and thus decaying as well. That is, unless keeping them on a freezer for uninterrupted decades is any use.
>
> Best regards from V.

On collecting and longevity

*Message #13 Posted by **Karl Schneider** on 11 Feb 2006, 3:34 p.m.,*
in response to message #12 by Valentin Albillo

Hello, Valentin!

In response to,

"Put them on display when they no longer work or use them for parts, but is seems odd (IMO) to just put a bunch of calculators in a glass case and just looking at them."

you posted,

> Quote:
>
> > You've never collected valuable stamps, say ? Would you consider odd to just look at them stamps in some album, instead of attaching them to a letter and mail it ? :-) What about valuable coins ? Would you consider best to spend that old silver dollar in some candy ? ;-)
> >
> > The point is, once you realize that vintage HP calculators are valuable collectables (look at eBay if in doubt) then it's pretty normal to handle them as such, glass-case treatment included.

Ah, but the flaw in that analogy is that stamps and coins are intended to be *spent*, whereas calculators are intended to be *kept and used as tools*. If a rare or distinctive stamp or coin is not to be used for its intended purpose, then it makes perfect sense to sheath it in a protective case to allow for viewing enjoyment without further degradation.

A fine calculator that is always handled and stored with care can retain its "mint" appearance, even if directly touched. I bought my HP-10C and HP-16C used on eBay, and both were functionally perfect and cosmetically near-flawless. The owner of the 10C claimed to have used it for his work related to designing a new major airport in the US. My only HP-15C, on the other hand, has not been so fortunate. I bought it new in 1983, lugging it all around campus in a backpack through three degree programs, and (unfortunately) dropping the pack at least twice. Small dents and a deep scratch on the bezel resulted, but no functional problems or damage to the display.

How about rare, classic automobiles? Some people think it is a shame to keep a vintage restored classic car "under wraps", trailered to every show it is entered, or maintained as a static display

in a museum, garage, or warehouse. However, a car cannot be driven on the roadways without suffering mechanical wear and cosmetic damage.

Being a confirmed pragmatist, I've never quite understood the appeal of stamp collecting ("philately"), except in terms of the fundamental reason for almost *any* form of collecting -- to *have* something that few others do. A stamp collection requires little space and maintenance, but what you see is all there is: "a certificate of postage paid, issued in this year by this country for this amount, in this design." Coins often incorporate more historical and political significance, but their intrinsic value beyond metal content is mainly their desirability to other people. As an *objet d'art*, only a "proof" coin can fully show the fine detail and sophistication of the coin's design and manufacture.

By contrast, a quality working calculator is not only useful, but can exhibit an entire package of fine period-specific engineering technology (software, mechanical, and electrical), as well as the specific implementation of mathematical algorithms. Some people (including HP Forum readers) value such things; most, alas, do not.

> Quote:
>
> A reasonably cared HP-11 or HP-15C will last decades, till their internals begin to decompose by age alone. Buying many will be no use, because by the time the 2nd one is also failing, all remaining ones will be the same old age, and thus decaying as well...

If this is true (and it probably is), all the more reason to use them while you can! It might even be that occasional use, to energize the circuits, will help slow the process of degradation.

My oldest is a 1971 HP-35, which still works perfectly. My two early (non-soldered) HP-34C's need service; the two fullnut HP-41's I received were successfully restored to perfect operating condition by cleaning and soldering from www.fixthatcalc.com. All my other HP's are newer and still work great; I hope they will for another several decades...

Regards,

-- KS

Edited: 12 Feb 2006, 3:23 a.m.

Re: On collecting and longevity

*Message #14 Posted by **David Smith** on 12 Feb 2006, 12:01 p.m.,*
in response to message #13 by Karl Schneider

Whenever the post office raises its rates, I use 70 year old 3 cent stamps to make up the postage increase over current stamps. I couple of postal clerks did notice and were shocked that somebody would do such a thing. They can be bought for less than their face value (I got several sheets for free). No all things that are old or collectible are vauable (or will ever be valuable). Besides, the Zepplin on the front was printed upside down ;-)

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Transfering HP-85 programs to HP-9915 EPROMs

*Message #1 Posted by **John** on 7 Feb 2006, 7:26 p.m.*

Hi,

I have been working (mainly over the Christmas holidays) on a method to transfer HP-85 Basic programs to an EPROM for the HP-9915. PROM boards are standard on the 9915 unlike tape drives which were an option. The method involves creating a LIF-like directory and breaking down programs into 256 byte records. Also each record has a two-byte checksum value added.

The whole method is on my web page at

http://www.vintagecomputers.btinternet.co.uk/hp85/hp9915_eprom.htm

This method uses LIFUTIL on the PC and HP-85 Basic programs. There are Series 80 binary programs around (and also utilities like SYSEXT on the HP-87) that can read raw sectors, but I wanted to use a basic approach that was easy for me to understand. I hope one day the original HP software pack for the 9915 surfaces, as there must be an easier way!

I would also welcome some help in understanding the CHECKSUM function, it does not seem to match IBM SDLC checksums as claimed in the manual.

BTW I would not be surprised if a similar method could be applied loading programs into EPROMs on the IPC (Integral PC).

Regards,
John

Re: Transfering HP-85 programs to HP-9915 EPROMs

*Message #2 Posted by **Vassilis Prevelakis** on 7 Feb 2006, 8:31 p.m.,*
in response to message #1 by John

Excellent work!

I wonder if anybody can help with that checksum algorithm, the manual says that it uses "the IBM SDLC Frame Check Sequence."

This is supposed to bea 16-bit CCITT polynomial, but no polynomial I have tried gives the same results as the CHECKSUM$ function on the 9915 Development ROM.

Here is a sample of some values calculated with the built-in function:

http://www.series80.org/Misc/HP9915-Checksum.gif

**vp

Re: Transfering HP-85 programs to HP-9915 EPROMs

*Message #3 Posted by **John** on 8 Feb 2006, 4:38 a.m.,*
in response to message #2 by Vassilis Prevelakis

Thanks vp,

Can you clarify about your CHECKSUM exmaple, eg when you input the string "0001", surely in hex this is 30 30 30 31?

Also as a postscript I should have mentioned I developed the Basic programs on a PC using the HP-87 emulator, then transfered them to a real HP-85.

Regards, John

Re: Transfering HP-85 programs to HP-9915 EPROMs

*Message #4 Posted by **Olivier De Smet** on 8 Feb 2006, 1:00 p.m.,*
in response to message #3 by John

Hi John,

I hope to finish an alpha version of an HP85 emulator very soon (based on my HP87 emulator). The tape and printer are not working actually and when booting the emulator say 'ERROR 23' :)

But an HP-IB interface and floppy-disc are working :) (electronic disk don't work so it's not an HP85B emulator)

Just for completness, with the service rom, CPU and DISPLAY are ok, only RAM 1 and 6 are OK (don't know why RAM 0,2,3,4,5,7,8 are bad..) and of course, tape, printer, and timers don't pass the tests.

Bye,

Olivier

BTW did someone have an image of the Service rom for HP86/87 ?

I have some manuals about servicing the HP85 and 86, but the diagnosis about the differents errors of the service rom are not enough to implement the missing functionalities.

Is there somewhere a commented listing of thoses roms ?

Re: Transfering HP-85 programs to HP-9915 EPROMs

*Message #5 Posted by **john** on 8 Feb 2006, 5:41 p.m.,*
in response to message #4 by Olivier De Smet

Olivier,

Good to hear you are still working on the HP-85 emulator. I must admit I was a bit rusty on using the HP-87 emulator when I came to use it, so I wrote myself some notes on using disks etc as it was't obvious how to do this, I'll post them to the forum.

If you need any help with debugging your HP-85 emulator, do you want to start a new thread on this forum with any questions? For example, I have an HP-85, Assembler ROM and System Monitor module so (in theory) I can set breakpoints and single step through to see what a real HP-

85 operates.

Also, how about an HP-83 emulator, as this doesn't have a tape drive or printer? I'm sure someone here will be able to dump the system ROM if needed.

Regards
John

Re: Transfering HP-85 programs to HP-9915 EPROMs

*Message #6 Posted by **Olivier De Smet** on 13 Feb 2006, 4:20 a.m.,*
in response to message #5 by john

John,

The new release is ready. I send you a mail about it. I can send it by mail (1,2Mo zip archive).

I still have some problems, perhaps from the roms. There are at least 2 release for the HP85(A) system roms and one for the HP85B. I don't know which release I use...

Olivier

CRC-16-X25

*Message #7 Posted by **Juergen Keller** on 8 Feb 2006, 4:38 a.m.,*
in response to message #2 by Vassilis Prevelakis

Seems to be CRC-16-X25. Please refer to
Crypto - Codes

I've checked it with the
online CRC calculator

I've entered 16 / 1021 / FFFF / FFFF / reverse data bytes. Hope this helps!

Best regards, Juergen Keller

Re: CRC-16-X25

*Message #8 Posted by **John** on 8 Feb 2006, 5:48 p.m.,*
in response to message #7 by Juergen Keller

Thanks Juegen,

Having found the right parameters it should now be easy for someone to write a PC / Linux program to generate 9915 EPROM files straight from the extracted HP-85 Basic program.

Regards,
John

Re: Transfering HP-85 programs to HP-9915 EPROMs

*Message #9 Posted by **Eric Smith** on 8 Feb 2006, 3:49 p.m.,*
in response to message #2 by Vassilis Prevelakis

I wrote a "brute force CRC finder" program when I was trying to identify the ROM check algorithm used

by the HP Spice series calculators, as described in this blog entry.

The actual C code is in the Nonpareil Subversion repository; I can email you a copy if it's of any use to you, but it looks like Juergen Keller has already identified the polynomial.

The general things to try when a CRC polynomial doesn't seem to work right are:

1. reverse byte ordering of data input
2. reverse bit ordering within input bytes
3. initialization value - usually all zeros or all ones
4. bit order or byte order of result

Re: Transfering HP-85 programs to HP-9915 EPROMs

*Message #10 Posted by **Vassilis Prevelakis** on 8 Feb 2006, 8:07 p.m.,*
in response to message #9 by Eric Smith

many thanks everybody -- this was great

**vp

for completeness here is the C function that calculates the CRC of the supplied string:

```
typedef unsigned char   uchar;


// 'POLYNOM' is the CRC polynom without leading '1' bit
#define POLYNOM 0x1021
// 'crcinit' is the initial CRC value belonging to that algorithm
#define CRCINIT 0xffff
// 'CRCXOR' is the final XOR value
#define CRCXOR 0xffff
// 'CRCHIGHBIT' short with most significant bit set to 1
#define CRCHIGHBIT 0x8000


ushort hp85crc(uchar* p, ulong len)
{


        int i, j;
        uchar c;
        ushort bit;
        ushort crc = CRCINIT;


        for (i=0; i<len; i++) {


                c = *p++;


                for (j = 1; j <= 0x80; j<<=1) {


                        bit = crc & CRCHIGHBIT;
                        crc<<= 1;
                        if (c & j) bit^= CRCHIGHBIT;
                        if (bit) crc^= POLYNOM;
                }
        }


        crc^= CRCXOR;


        return(crc);
}
```

and it is called like this:

```
uchar string[] = "1234567890";

printf("crc(%s) = 0x%x\n", string,
        hp85crc(string, strlen(string)));
```

Edited: 9 Feb 2006, 1:47 a.m.

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HP16 abruptly quit working

*Message #1 Posted by **Gary Olmstead** on 7 Feb 2006, 1:13 p.m.*

My HP16C,which I bought on the second day they were available, has been working just fine until recently. I had been using it earlier that same day, but when I pushed the ON button.... nothing. As of right now, still nothing.

So, what happened, and how can I fix it? The Windows calculator isn't nearly as handy.

Re: HP16 abruptly quit working

*Message #2 Posted by **Marcus von Cube, Germany** on 7 Feb 2006, 1:21 p.m.,*
in response to message #1 by Gary Olmstead

Gary,

I had some problems with the battery contacts. Some aluminum foil on one end (after some cleaning) might do the trick.

Marcus

BTW, you *know* that the HP 16C runs on batteries and not on good will alone? Since a set of these usually lasts a few decades you might have forgotten about the fact...

:-)

Edited: 7 Feb 2006, 1:22 p.m.

Re: HP16 abruptly quit working

*Message #3 Posted by **Gary Olmstead** on 8 Feb 2006, 12:23 a.m.,*
in response to message #2 by Marcus von Cube, Germany

BTW, you *know* that the HP 16C runs on batteries and not on good will alone?

Well, yes. In theory, there is a low battery indicator, but the only time it has ever gone on was about a year after I got it. I bought batteries, but by then the indicator had gone off, and I forgot to replace the batteries. Some years later, my wife was cleaning out the refrigerator, and asked "What are these batteries for?" The "new" batteries had leaked, and I had to throw them away.

I don't know if I have ever replaced the batteries. I am certain that the low battery indicator was not on the last time it worked.

But I have my DVM here, so... let's see... 1.2V... Looks good.. 0.34V oh-oh... and ummm ... 0.04V Oops. Guess that answers that question. Wonder how long it WAS running on good will alone?

Thanks. Nothing like a little Electronics 101 to counter-act all that high falutin' fancy Dan nonsense I spend my days creating...

Off to the battery store.

Regards Gary

Re: HP16 abruptly quit working

*Message #4 Posted by **hugh steers** on 7 Feb 2006, 1:39 p.m.,*
in response to message #1 by Gary Olmstead

wasn't there a trick with the 12c involving shorting out the battery terminals to cure this problem (assuming battery failure isn't the cause) ??

maybe it works for the 16c.

Edited: 7 Feb 2006, 1:40 p.m.

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HP 42S vs HP 48,49

*Message #1 Posted by **e. young** on 7 Feb 2006, 12:47 p.m.*

Is it considered a mistake that HP killed the 42s apparently for the sake of the 48 and 49 series? Or rather than killing the 42s and soldiering on with the 32sII, would it have been better if they discontinued the 32sII and the 42s, and replaced them both with a non-graphing RPN model that was somewhere between the 42S and the 32sII in capability? It could have been the HP 37s. Just wondering.

Re: HP 42S vs HP 48,49

*Message #2 Posted by **Namir** on 7 Feb 2006, 1:45 p.m.,*
in response to message #1 by e. young

The HP-42S and HP28C/S came after the HP-41C and ushered an era of more advaced stacks with contents other than simple real numbers. The HP-28S was replaced by the HP-48SX and then eventually by the HP-48GX/G+/G. The HP32S came after the 42s as a low-end RPN calculator and was replaced by the HP-32SII and eventually the HP-33s.

Namir

Re: HP 42S vs HP 48,49

*Message #3 Posted by **Howard Owen** on 7 Feb 2006, 1:54 p.m.,*
in response to message #1 by e. young

Many here do consider it a shame, if not an error, that HP chose the 32SII as the one RPN scientific calculator they would continue with. The 42S was more capable, and an updated version would be very welcome. I've heard speculation that HP didn't update the 42S for fear that it would compete with the 48G at the low end. Whatever the reason, it is a shame.

Regards,
Howard

Re: HP 42S vs HP 48,49

*Message #4 Posted by **e. young** on 7 Feb 2006, 2:53 p.m.,*
in response to message #3 by Howard Owen

If they ever update the 33s, maybe they can add some of the features of the 42s. On the other hand, the 33s/32sII have been around for a long time with minimal enhancements, which is not encouraging. I do not consider the aesthetics of the 33s to be an enhancememt. If they were to give the 33s some of the programming capability of the 42s that would be great, but that's assuming the current group at HP calculator is up to the challenge. It would be a damn shame if the 33s in its current form was the final word in RPN calculators. However, it is better than nothing.

Re: HP 42S vs HP 48,49

*Message #5 Posted by **Howard Owen** on 7 Feb 2006, 3:49 p.m.,*
in response to message #4 by e. young

I agree heartily!

Unfortunately, what seems like a no-brainer from the user's point of view, may be a good deal more complicated from the marketeer/designer/manufacturer's perspective. If the cost of that cycle ever comes down to where niche markets, like us RPN aficionados, are profitable to serve, then we might see something more to our taste.

Perhaps OpenRPN will deliver something, who knows?

Regards,
Howard

Edited: 7 Feb 2006, 3:51 p.m.

Re: HP 42S vs HP 48,49

*Message #6 Posted by **e. young** on 7 Feb 2006, 4:43 p.m.,*
in response to message #5 by Howard Owen

Hopefully OpenRPN will deliver something-their designs sound great. I'll believe it when I see it though.

Re: HP 42S vs HP 48,49

*Message #7 Posted by **Thomas Okken** on 7 Feb 2006, 8:57 p.m.,*
in response to message #5 by Howard Owen

Once the OpenRPN hardware hits the streets, I'll be happy to port Free42 to run on it. HP-42S forever! :-)

Re: HP 42S vs HP 48,49

*Message #8 Posted by **Howard Owen** on 7 Feb 2006, 9:32 p.m.,*
in response to message #7 by Thomas Okken

There you go!

I'm hoping "Open" means you can load any old bits you like, too. Having Free42 running would be great!

Have you thought about how you would improve on the 42S? Why stop at the state of the art in the late 80s?

Regards,
Howard

Re: HP 42S vs HP 48,49

*Message #9 Posted by **Jeff O.** on 7 Feb 2006, 10:28 p.m.,*
in response to message #8 by Howard Owen

Actually Thomas lists a few ideas for enhancements here. I'm sure there would be no shortage of suggestions if he asked for more.

Re: HP 42S vs HP 48,49

*Message #10 Posted by * on 13 Feb 2006, 1:24 a.m.,*
in response to message #3 by Howard Owen

> Quote:
>
> Many here do consider it a shame, if not an error, that HP chose the 32SII as the one RPN scientific calculator they would continue with. The 42S was more capable, and an updated version would be very welcome. I've heard speculation that HP didn't update the 42S for fear that it would compete with the 48G at the low end. Whatever the reason, it is a shame.
>
> Regards,
> Howard

I'm sorry, this is slightly off-topic but the original thread has dropped off the radar... Do all the 42s have double-shot keys, even the ones made in 1995?

Re: HP 42S Double shot keys?

*Message #11 Posted by **Randy** on 13 Feb 2006, 8:26 a.m.,*
*in response to message #10 by **

Yes, they do, regardless of country of origin (USA,Brazil,Singapore, Indonesia)

But... the service spares made in Indonesia from 1995 to 2000 can have noisy keys just like the 32Sii's :(

Re: HP 42S Double shot keys?

*Message #12 Posted by **Jeff O.** on 13 Feb 2006, 10:23 a.m.,*
in response to message #11 by Randy

> Quote:
>
> But... the service spares made in Indonesia from 1995 to 2000 can have noisy keys just like the 32Sii's

For the record, the service spares were made at least into 2001, as I have a unit with S/N ID1xxxxxxx. Its keys seem perfectly quiet, although it hasn't seen heavy use. I'll take Randy's word that the keys are double-shot, I have a hard time telling the difference. I *think* I can see the difference between its keys and my 2000 Indonesian made silver bezel 32SII, but that could be because I *think* there is a difference, so I see what I expect to see.

Re: HP 42S vs HP 48,49

*Message #13 Posted by **Jeff O.** on 7 Feb 2006, 10:11 p.m.,*
in response to message #1 by e. young

> Quote:
>
> ....would it have been better if they discontinued the 32sII and the 42s, and replaced them both with a non-graphing RPN model that was somewhere between the 42S and the 32sII in capability?

It could have been the HP 37s.

While it was a shame to kill the 42S, it would also have been a shame to produce something with artificially reduced capabilities just to fill a marketing niche. With the (unfortunate) NCEES requirements, the 33S does fill a valid niche. A better solution would be to eliminate the 48gii (which does represent such an artificially crippled product, come to think of it), and fill the slot between the 33S and the 49g+ with a new model, say the 43S. This fantasy machine would add a few enhancements to the 42S (principally more RAM and PC connectivity to upload/download/backup, plus a few other minor things) to become the penultimate **RPN** advanced scientific calculator. It would augment, not compete with the high end **RPL** 49g+. I'm guessing that HP would sell many more of such a machine than the 48gii has sold or ever will sell, at the same price point. Oh well, enough dreaming.

One more thing, a machine numbered "37" would classically be a business model anyway.

Re: HP 42S vs HP 48,49

*Message #14 Posted by **e. young** on 8 Feb 2006, 9:51 a.m.,*
in response to message #13 by Jeff O.

I am not familiar with how HP comes up with model numbers. Why would 37 have been a business machine?

Re: HP 42S vs HP 48,49

*Message #15 Posted by **Jeff O.** on 8 Feb 2006, 12:26 p.m.,*
in response to message #14 by e. young

I don't claim to know any hard-and-fast rules applied by HP for model numbers. I based that conjecture mostly on an analogy with the Spice series and correlating to current models. The HP-32E and HP-33E/C were mid-range scientific models, and the 37E was a low-end business model. When HP came out with the 32S/Sii and 33S, they re-used the numbers for the new models with similar functionality to the old models. So if they came out with a modern model numbered "37", it sort-of follows that it would be a business model.
Model numbering is discussed in several places in *A Guide to HP Handheld Calculators and Computers* by W. A. C. Mier-Jedrzejowicz, Ph.D. The last word seems to be that the current scheme has all business machines beginning with a "1", e.g. 12C/CP, 17B/Bii, 19B. So perhaps there could be a 37S scientific model, although as I stated in my previous post, I believe most would rather see a 43S. Another reference that might provide additional insight is *Codenames of HP Handheld Calculators and PDAs: Facts and Speculations* by M. J. P. Staps. Unfortunately I don't have a copy of that book.

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HP-IL, 41CX, and 71B

*Message #1 Posted by **Robert Graulich** on 7 Feb 2006, 8:18 a.m.*

Hi,

just received an HP-IL module for my HP-41CX and want to test it. Up to now, I don't know much about HP-IL.

I connected both machines, entered CONTROL OFF on 71. Switched the 41 on and tried DIR. The result was NO DRIVE. Well, that was to be expected, right?

Does the IL-module of the 71 have a mode to use that machine as a drive to store programs or data from the 41?

What is an easy way to demonstrate that both IL-modules work?

Robert

Re: HP-IL, 41CX, and 71B

*Message #2 Posted by **Raymond Del Tondo** on 7 Feb 2006, 8:55 a.m.,*
in response to message #1 by Robert Graulich

Hi Robert,

you already demonstrated that both IL modules work;-)
Actually, the loop was closed, so at least that part worked.

The manual of the HP-71B HP-IL module may have some info on how to receive data from an HP-41.

For data storage, I'd use a real HP-IL mass media device.

Regards

Raymond

Re: HP-IL, 41CX, and 71B

*Message #3 Posted by **Robert Graulich** on 7 Feb 2006, 9:27 a.m.,*
in response to message #2 by Raymond Del Tondo

Good to know that the hardware is fine. So I will dig into the documentation and try to exchange some data.

Robert

Re: HP-IL, 41CX, and 71B

*Message #4 Posted by **J-F Garnier** on 8 Feb 2006, 6:40 a.m.,*
in response to message #3 by Robert Graulich

Have a look here .

J-F

Re: HP-IL, 41CX, and 71B

*Message #5 Posted by **Robert Graulich** on 8 Feb 2006, 8:24 a.m.,*
in response to message #4 by J-F Garnier

Thanks. Will try this evening.

BTW, did you receive my order?

Robert

Re: HP-IL, 41CX, and 71B

*Message #6 Posted by **Robert Graulich** on 8 Feb 2006, 12:56 p.m.,*
in response to message #4 by J-F Garnier

YIPIEE! IT WORKS!

But just for data. As I understand the other article, I need the extended I/O module and special software to use the HP-71B as a drive. So I will wait now for the registered version of Emu71.

Robert

Re: HP-IL, 41CX, and 71B

*Message #7 Posted by **Eric Smith** on 7 Feb 2006, 5:55 p.m.,*
in response to message #1 by Robert Graulich

> Quote:
>
> Does the IL-module of the 71 have a mode to use that machine as a drive to store programs or data from the 41?

Nothing built in. There might be a user-written program, but I haven't seen one.

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Case cleaning

*Message #1 Posted by **Andreas Terzis** on 7 Feb 2006, 6:07 a.m.*

Hi there, I noticed one of my HP-41 cases had some mildew inside or at lease some black particles that had also filled the yellow foam on the bottom of the inside of the case as well. I cleaned the inside with some isopropyl alcohol and there were tons of particles that came out to the cloth I was using. Is that an OK way to clean the inside of the case? Can I use the case or should I use any other cleaner first? Any ideas? Thanks, Andreas

Re: Case cleaning

*Message #2 Posted by **Jeff O.** on 7 Feb 2006, 7:28 a.m.,*
in response to message #1 by Andreas Terzis

The problem you describe is very common. It seems to be due to the disintegration of the foam rubber layer between the inside liner and outside of the case. Many (myself included) have reported success with turning the case inside out and tossing it in the washing machine with a load of laundry (probably not a hot water load), then let it air dry. Of course, your results may vary, so try at your own risk.

Re: Case cleaning

*Message #3 Posted by **Andreas Terzis** on 7 Feb 2006, 4:41 p.m.,*
in response to message #2 by Jeff O.

I noticed that the removable foam had mildew in it. I assume then that the foam insulation of the whole case (which I didn't know existed) will have mildew too. Is there any way to remove it if I reverse the case (hopefully without tearing it off)? Can you think of anything to cover it after?

Re: Case cleaning

*Message #4 Posted by **David Smith** on 7 Feb 2006, 5:00 p.m.,*
in response to message #3 by Andreas Terzis

Just unzip it and toss the thing into the washing machine. Then prop open the opening and let air dry. It will come out looking and smelling like new.

Re: Case cleaning

*Message #5 Posted by **Howard Owen** on 7 Feb 2006, 5:18 p.m.,*
in response to message #4 by David Smith

This is cool.

I have two 71B cases with the identical symptoms. Thanks for the tip!

Regards,
Howard.

Re: Case cleaning

*Message #6 Posted by **gr8patra** on 7 Feb 2006, 7:36 p.m.,*
in response to message #5 by Howard Owen

Someone sold me an HP-48G case that is very sticky outside. Could that be from the washing machine by any chance?

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Looking for HP-41 Forth ROM Documentation

*Message #1 Posted by **Phil Green** on 7 Feb 2006, 2:58 a.m.*

Hi, Has anyone got any documentation for the Forth ROM used in the HP-41? Regards Phil Green

I was about to ask the same... (N.T.)

*Message #2 Posted by **Vieira, L.C. (Brazil)** on 7 Feb 2006, 1:53 p.m.,*
in response to message #1 by Phil Green

Re: Looking for HP-41 Forth ROM Documentation

*Message #3 Posted by **Xavier LaRue** on 7 Feb 2006, 3:56 p.m.,*
in response to message #1 by Phil Green

The 71 one is on the MoHPC DVD.. for teh 41 on, dunno.

Also, I'd be interested to buy a 71B Forth Rom if anyone want to sell me one.

Thank you Xavier LaRue

Re: Looking for HP-41 Forth ROM Documentation

*Message #4 Posted by **Howard Owen** on 7 Feb 2006, 4:34 p.m.,*
in response to message #3 by Xavier LaRue

Put an ad in the classified section, Xavier.

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Corbulin !!!

*Message #1 Posted by **gileno** on 6 Feb 2006, 8:24 p.m.*

Ebay link

He will sell for US$ 952252552.98 :-)))))

Re: Corbulin !!!

*Message #2 Posted by **Joe Edwards** on 6 Feb 2006, 8:32 p.m.,*
in response to message #1 by gileno

Well, It is his right, at least here in the States, to buy and sell as he pleases. If folks want to pay his rates, so be it.

Re: Corbulin !!!

*Message #3 Posted by **Museum** on 7 Feb 2006, 6:36 a.m.,*
in response to message #2 by Joe Edwards

Yes, it is his right to do this, but it is not allowed to change the auction style as the seller did. The auction was not a buy-it-now auction at the beginning. Otherwhis this module would have been sold much ealier!

Matthias

Re: Corbulin !!!

*Message #4 Posted by **Joe Edwards** on 7 Feb 2006, 8:29 a.m.,*
in response to message #3 by Museum

I don't wish to disagree, so let me ask this first. Did the auction have any bidders on it? Did the auction have less than 12 hours left on the auction? If the answer is no to those questions, then the seller can change (revise) the auction, as per ebay's current ruleset.

> Quote:
>
> Yes, it is his right to do this, but it is not allowed to change the auction style as the seller did. The auction was not a buy-it-now auction at the beginning. Otherwhis this module would have been sold much ealier!
>
> Matthias

Edited: 7 Feb 2006, 8:30 a.m.

Re: Corpulant !!!

*Message #5 Posted by **Howard Owen** on 6 Feb 2006, 9:34 p.m.,*
in response to message #1 by gileno

Well, damn. There goes another piece of collector kit into the clutches of crass commerce.

Re: Corbulin !!!

*Message #6 Posted by **blurdybloop** on 7 Feb 2006, 10:13 p.m.,*
in response to message #1 by gileno

Look at the bright side.

Sooner or later, the bubba will die, as do all Scrooges. At that point, there will be quite an inventory of classic collectables coming on the market dirt cheap, as his executor dumps the lot for whatever he can get.

So let him has his fun. It won't last.

Re: Corbulin !!!

*Message #7 Posted by **Mark Lynch** on 8 Feb 2006, 1:55 p.m.,*
in response to message #6 by blurdybloop

Ha. Don't hold your breath.

Re: Coburlin !!!

*Message #8 Posted by **K** on 10 Feb 2006, 12:32 a.m.,*
in response to message #7 by Mark Lynch

> Quote:
>
> Ha. Don't hold your breath.

But one might have to, if meeting "C" in person. Several feedback items have noted an odor of cigar smoke in items that he's packed for shipment.

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Replacing the HP-9100 decimal point select switch

*Message #1 Posted by **David Smith** on 6 Feb 2006, 7:20 p.m.*

I added an article describing how to repair an HP-9100A or HP-9100B that has a damaged decimal point select switch. This custom switch produces a special four bit code that no off the shelf switch can generate.

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HP-71 Module - ID?

*Message #1 Posted by **Howard Owen** on 6 Feb 2006, 5:11 p.m.*

Anyone recognize this module? I just recieved two CMT71-32E modules, each with the following catalog:

```
CAT :PORT(4)
 NAME             S TYPE     LEN
COMM              P BASIC   3654
CALCS             P BASIC   7457
TEST32KE            LEX      111
KEYDEF            P BASIC    822
TXSYS             P BASIC  16571
VERSION           P BASIC   2611
```

This last, when run, gives:

```
Stat Systems Inc.
STAT-TRAC/RT 1.071
```

Looks like I'll need to hit the docs to figure out how to dump a module.

Regards,
Howard

Re: HP-71 Module - ID?

*Message #2 Posted by **Howard Owen** on 6 Feb 2006, 7:41 p.m.,*
in response to message #1 by Howard Owen

Not so oddly, the only reference to that version string on the web is here at the museum. What's also interesting, I bought the modules from a gentleman in Germany. Thomas Falk has a German email address. So perhaps a German hospital recently got rid of a bunch of old 71Bs?

Regards,
Howard

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Survey PAC Program

*Message #1 Posted by **Annie** on 6 Feb 2006, 5:11 p.m.*

Posting for customer:

When I turn on last week my HP41C on disply I saw: "BAT. LOST MEMORY". After replacing the batteries, all stored "HP SURVEY PAC" program lost. When I was trying to re-load, for instance:

EXC ALPHA SIZE ALPHA 005 (following Survey Pac)

EXC Alpha Curve Alpha

100 R R/S

I noticed on disply: SIZE 0... or CURVE what is not according to the Survey PAC.

I would greatly appreciate you suggestion and advice. I am unable to dowload any Survey PAC program.The Survey Module is in and before replacing batteries everything was OK.

The Lewis and Lewis is unable to fix up , because the HP 41 C is too old, nor other survey repair companies have any advice.

Thank you for your precious time and consideration.

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Dual Stack Design Question

*Message #1 Posted by **Namir** on 6 Feb 2006, 2:27 p.m.*

Hello All,

I am thinking about updating and old HP41-based design of a Windows application for a programmable RPN calculator. My question is this regarding the stack. How do you feel about having a secondary stack to push and pop intermediate results. HP designed the older calculator with a fixed 4-register autmatic stack. We often used it to store intermediate results when calculations allowed this. Otherwise, we store results in memory registers and recall them when we need to. How about a SECONDARY stack (say with 10 registers) to which we push intermediate results and pop them back (to the main stack) when we need them???

Namir

Re: Dual Stack Design Question

*Message #2 Posted by **Eric Smith** on 6 Feb 2006, 2:36 p.m.,*
in response to message #1 by Namir

How about a single stack of arbitrary depth?

Re: Dual Stack Design Question

*Message #3 Posted by **Howard Owen** on 6 Feb 2006, 3:09 p.m.,*
in response to message #2 by Eric Smith

The nice thing about two stacks is that you can seperate them logically. So the main stack is my normal RPN/RPL parameter passing, intermediate result thing, and this other guy is what I say it is. Say that now it's a place to accumulate a list of values (you can do this with a real list in RPL.) and later it's a place to store successive results of an iterative process. I then don't have to juggle parameters as much because they stay undisturbed on the "main" stack. Forth gives you multiple stacks in many implementations.

How about a stack data type? You then allocate or abandon them as needed. Good (perhaps psychic 8) GC would be needed.

Regards,
Howard

Edited: 6 Feb 2006, 3:10 p.m.

Re: Dual Stack Design Question

*Message #4 Posted by **Jan** on 6 Feb 2006, 3:47 p.m.,*
in response to message #1 by Namir

A somewhat longer stack (or virtually infinite, only limited by the total memory-space allocated to it) would do fine. For normal calculations 4 stack positions is fairly enough though, also for temporarely storing results

to be used later.

Re: Dual Stack Design Question

*Message #5 Posted by **Katie Wasserman** on 6 Feb 2006, 4:38 p.m.,*
in response to message #1 by Namir

Sounds like Forth, it has an arbitrarily deep regular stack and a return stack. The return stack normally deals with program flow control but you can use for anything that you'd like.
http://www.forth.org/svfig/Len/softstak.htm I used to do a bunch of programming in a forth-like language of my own design but rarely found the need to use the return stack for intermediate calculation results.

Re: Dual Stack Design Question

*Message #6 Posted by **Vassilis Prevelakis** on 7 Feb 2006, 8:48 p.m.,*
in response to message #1 by Namir

I think we have been through this discussion before.

If you want compatibility with existing programs you cannot change the stack size (will break assumptions of how the stack will look like after RDN, R^ and stack drop).

So how about a pointer into a "large" register bank that tells you where your 4+1 stack is located. You can have a command (say STACK nnn) that sets the stack pointer.

Default is STACK 000. If you want to create a new stack use STACK 005.

OR

You may even have a PUSHST and POPST that "push" and "pop" your entire stack into a stack-of-stacks. But why stop at that? Why not save additional processor state (e.g. flags), program file, etc so that you can push you entire HP41 CPU state into the stack, carry out your task and then pop it. Note that you will need some way of accessing data from that stack so that you can retrieve arguments and return results. In this way you can implement a "native" HP-41 command that retains stack contents, LASTx, ALPHA, flags etc, that is not part of the spec of the command.

**vp

BTW the first technique is used in RISC processors like the MIPS.

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Short Battery Life on my HP-41CX

*Message #1 Posted by **Paul Schreck** on 6 Feb 2006, 11:18 a.m.*

My trusty HP-41CX eats batteries like there's no tomorrow! It's been perhaps 20 years or so since it's been used regularly (when I was last in college). However, whenever I need it again and install new N-size batteries, I find it dead when I need it again in a few days or weeks. It's sure not being used heavily when it's on, and I'm always careful to turn it off. I remember the batteries having a somewhat short lifespan (months) in college, but now something seems wrong. My eighth grader is prepping for SATs and I hope to pass down my trusty -41CX.

Any suggestions for this battery problem?

Re: Short Battery Life on my HP-41CX

*Message #2 Posted by **Ron Ross** on 6 Feb 2006, 11:52 a.m.,*
in response to message #1 by Paul Schreck

Since its a CX, do you have any alarms or other background programs running. Perhaps you have a module or other accessory that is also gobbleing up juice while you think it is off.

It could also be something on the inside across some contacts that might be corrected by a good cleaning.

Now, about loaning it to your younger one. Don't. Buy an Hp33s for them instead. It is actually a bit tougher and is easily replacable (and fairly cheap at $50 retail, Walmart). Later you can give them the Hp41Cx after you see how well they treat a $50 calculator.

And it is a dual mode calculator ie both RPN and algebraic.

Another calculator to consider is a graphics such as the Hp48Gii (although it is very complex and everyone in school will be using the Ti-83/84). It is also a dual mode calculator, although as an algebraic, it sucks compared to a Ti-86 which it compares most with (although it has a CAS, which may become a crutch to a younger ueser).

I wouldn't bother to loan an older Hp to your eigth grader and I say this after some experience (old piece of CRAP, why didn't Dad get me something new?!).

Re: Short Battery Life on my HP-41CX

*Message #3 Posted by **Paul Schreck** on 6 Feb 2006, 5:27 p.m.,*
in response to message #2 by Ron Ross

Thanks for the advice; I was checking out the latest versions on hpshopping.com and was considering the -33c. It may be too early to hand him a graphing device. I think those things are not authorized during SAT/ACT as well, but I'm not sure of the current policy but I will be soon!

I've always suspected the clock as the culprit because I've never used any peripherals with my -41CX. The fanciest I ever got were basic engineering equations to save time & keystokes during exams. Is there any way to disable the clock? It's not discussed in the manuals anywhere that I could ever find.

Re: Short Battery Life on my HP-41CX

*Message #4 Posted by **Wayne Brown** on 7 Feb 2006, 2:38 p.m.,*
in response to message #3 by Paul Schreck

> Quote:
>
> It may be too early to hand him a graphing device. I think those things are not authorized during SAT/ACT as well, but I'm not sure of the current policy but I will be soon!

I don't know the current policy, but my son was allowed to use his 48GX on the ACT a few years ago. He had to cover the IR port with tape (to eliminate the possibility of communicating with others during the test), but there was no objection to the calculator itself. They didn't even make him clear the memory or remove his RAM and ROM cards.

Re: Short Battery Life on my HP-41CX

*Message #5 Posted by **John Smitherman** on 8 Feb 2006, 12:56 p.m.,*
in response to message #3 by Paul Schreck

> Quote:
>
> Thanks for the advice; I was checking out the latest versions on hpshopping.com and was considering the -33c. It may be too early to hand him a graphing device. I think those things are not authorized during SAT/ACT as well, but I'm not sure of the current policy but I will be soon!

Another reason for buying the 33s versus other scientific calculators is the quality of documentation available for the 33s. The 33s comes with a good manual plus there are a set of learning modules available for the 33s on HP's web site. Most other scientific calculators come with brief and sometimes poorly written instructions printed on a single sheet of paper.

Good luck!

John

Re: Short Battery Life on my HP-41CX

*Message #6 Posted by **David Smith** on 6 Feb 2006, 1:01 p.m.,*
in response to message #1 by Paul Schreck

It may be the electrolytic capacitors in the power supply are leaky and neeed to be replaced.

Re: Short Battery Life on my HP-41CX

*Message #7 Posted by **Paul Schreck** on 6 Feb 2006, 5:29 p.m.,*
in response to message #6 by David Smith

Thanks for the reply. Would you have any suggestions for:

1. Troubleshooting techniques to isolate the problem, or 2. Perhaps somewhere I could send it for diagnostics or repair.

Re: Short Battery Life on my HP-41CX

*Message #8 Posted by **Joe Edwards** on 6 Feb 2006, 5:44 p.m.,*
in response to message #7 by Paul Schreck

I have sent a couple of calcs to fixthatcalc.com with good results. He is a bit slow, but that is due to a backlog of work - it is a hobby, not a full time business. But, if you aren't in a hurry, he might be able to help you out.

If I am not supposed to post websites here, feel free to delete my post.

Joe

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HP-41C module order

*Message #1 Posted by **Andreas Terzis** on 6 Feb 2006, 6:39 a.m.*

Hi there, I have a couple of questions if you could help me. Here they are:

1. What is a card reader test card? It came with a card reader I purchased, I ran it on both sides and didn't do anything. How can I find out what commands are on it? 2. On a HP-41CV that I have gotten from an older friend there is an infrared module (or so it looks), an 'X-functions' module and a 'dbl Xmem' module. Is there any literature on them? 3. Are those modules compatible with the card reader plugged in? Do they have to be in specific ports? Can I have the 'X-functions' in port 1 and 'dbl Xmem' in port 2 and have the card reader plugged in? I am not sure what is going on with the port order of insertion. Thanks in advance, Andreas

Re: HP-41C module order

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 6 Feb 2006, 1:42 p.m.,*
in response to message #1 by Andreas Terzis

Hi, Andreas;

> Quote:
>
> 1. What is a card reader test card? It came with a card reader I purchased, I ran it on both sides and didn't do anything. How can I find out what commands are on it?

I once had an HP82104A bought new, and I did not see any specific test card. Isn't it a custom card?

> Quote:
>
> 2. On a HP-41CV that I have gotten from an older friend there is an infrared module (or so it looks), an 'X-functions' module and a 'dbl Xmem' module. Is there any literature on them?

Yes. The X-Functions basic resources are fairly described in the HP41CX Owner's Manual, Vol.2, along with the X-Memory Modules (the Double X-Mem module is a custom module with two X-Memory 'chips' built inside as one). If you need the specific X-Functions manual, you can find it with the MoHPC CD/DVD set. Or at TOS (if you are new, please wait for T.O.S. meanning...)

> Quote:
>
> 3. Are those modules compatible with the card reader plugged in? Do they have to be in specific ports? Can I have the 'X-functions' in port 1 and 'dbl Xmem' in port 2 and have the card reader plugged in? I am not sure what is going on with the port order of insertion.

Yes, you can use them the way you mention without problems. You cannot use the Double X-mem with a single X-mem or with two X-mem modules; the double X-Mem Module allows both possible X-Mem to be used in a single port. And they do not interfere with the Card Reader operation.

Cheers.

Luiz (Brazil)

Re: HP-41C module order

*Message #3 Posted by **Howard Owen** on 6 Feb 2006, 2:17 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

> Quote:
>
> Yes, you can use them the way you mention without problems. You cannot use the Double X-mem with a single X-mem or with two X-mem modules; the double X-Mem Module allows both possible X-Mem to be used in a single port. And they do not interfere with the Card Reader operation.

However, the infrared module sticks out from the back a bit, so it needs to be in port 3 if the card reader is installed.

```
/============================\
| X Functions  | 2X X memory |
|----------------------------|
| Card Reader  | IR Printer  |
\============================/
```

That 2X Xmem module is relatively rare, although instructions exist in the article forum to build one from two regulat X Memory modules.

Regards,
Howard

Re: HP-41C module order

*Message #4 Posted by **Andreas Terzis** on 6 Feb 2006, 3:30 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Luiz, I really appreciate your input. Thanks,

Howard, Don't I have to have the following configuration instead? Thanks, Andreas

```
/============================\
| X Functions | 2X X memory  |
|----------------------------|
| IR Printer  | Card Reader  |
\============================/
```

Edited: 6 Feb 2006, 3:36 p.m. after one or more responses were posted

Re: HP-41C module order

*Message #5 Posted by **Howard Owen** on 6 Feb 2006, 3:37 p.m.,*
in response to message #4 by Andreas Terzis

Yes, I'm feeling sort of Reverse Polish Dyslexic today. 8) 8)

Regards
Howard

Re: HP-41C module order

*Message #6 Posted by **Andreas Terzis** on 7 Feb 2006, 6:04 a.m.,*
in response to message #5 by Howard Owen

Howard, Thanks. So this will create no conflicts, right? What is the general rule as far as port precedence is concerned? Andreas

Re: HP-41C module order

*Message #7 Posted by **Jim Creybohm** on 7 Feb 2006, 11:39 a.m.,*
in response to message #6 by Andreas Terzis

If I recall correctly (I don't have my manual in front of me so bear with an old man's memory.....) when you do a Catalog of the modules, the 41 goes through the ports in ascending order. If you are executing a certain XROM program, the 41 will search through the ports 1, 2, 3, 4 until it finds the culprit.

I would not be surprised to learn that the 41 uses the primary XROM number for faster searching, but have never asked this question of any one else here.

You won't have any conflicts with the ROMs that you have listed above. If a conflict occurs in a named (entered) program vs. an XROM, I believe that the named program takes precedence.

Apologies if there are errors, but I am certain that those with more concrete knowledge will correct me.

Re: HP-41C module order

*Message #8 Posted by **Howard Owen** on 7 Feb 2006, 12:32 p.m.,*
in response to message #6 by Andreas Terzis

It's a complicated subject. But as Jim says, there are no conflicts with the modules you have listed there.

The HP-41C ROM address space is 64K, broken into 16 4K pages. The lower eight of these (0-7) are reserved for various OS bits. The upper 32K, pages 8-15, are mapped to the expansion ports like this:

```
Page        Port
8-9          1
10-11        2
12-13        3
14-15        4
```

A module installed in a port may occupy 0, 1 or two of its pages. (Some modules take more than two, but these "page" the upper address space, and sometimes the lower.) The ones that occupy no pages are the so called "system" modules, like the time module and the X-memory module. Ordinary modules won't conflict with one another unless they have a collision in their ROM id. There are a copule of obscure modules that have this problem. I don't have a list handy, but they are rare. Conflicts come up more often with the "advanced" modules like HEPAX. This module plays extensive tricks with the calculator's memory map, and so it has special rules for coexisting with other modules.

Good references for this are the HEPAX module manual, available at TOS and "HP-41 M Code for Beginners" on the museum DVD.

Edited: 7 Feb 2006, 12:33 p.m.

Re: HP-41C module order

*Message #9 Posted by **Andreas Terzis** on 9 Feb 2006, 5:29 a.m.,*
in response to message #8 by Howard Owen

Howard, This was very helpful. Where is the rest 24K? Andreas

---

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Culling my collectiion and going with a 48gx model

*Message #1 Posted by **Joe Edwards** on 5 Feb 2006, 6:10 p.m.*

Okay, I think it is in my best interest to leave the collecting to the professionals. :) So here I am with several calculators I plan on selling. I am thinking that I should stick with my 27s (and get a 48gx. The emulators of the 10 series, 41 series, and 42s that Hrastprogrammer seem to be of high quality, plus I could just carry them all in one, albiet, large machine.

Since I am not true collector I don't need many machines, do you folks think I am making a mistake? Just a thought.

Would I be better off in the long run just getting a 33s and a 49g+? Sad thought, but this may be the best choice.

Edited: 5 Feb 2006, 6:17 p.m.

Re: Culling my collectiion and going with a 48gx model

*Message #2 Posted by **Namir** on 5 Feb 2006, 8:12 p.m.,*
in response to message #1 by Joe Edwards

I think you should send all your collection to me ... to compensate me for thinkig for you!

Edited: 5 Feb 2006, 8:13 p.m.

Re: Culling my collectiion and going with a 48gx model

*Message #3 Posted by **Howard Owen** on 5 Feb 2006, 8:52 p.m.,*
in response to message #1 by Joe Edwards

> Quote:
>
> Would I be better off in the long run just getting a 33s and a 49g+? Sad thought, but this may be the best choice.

There are only two reasons I can see for going with older machines. First, the older calculators are generally built better. The 49G+ has issues with keys breaking and labels wearing off with use. I haven't heard any bad reports about the 33S as far as durability goes, but some people just can't stand the weird chevron shape and the bugs. (Most, but not all bugs have been worked out as of the most recent version of the 33S.) The second reason would be affection/enthusiasm for the old machines. That's certainly why I own old HP machines, although the durability is part of the reason I have that affection.

Balancing that are several factors. Both the 49G+ and 33S run a good deal faster than the machines they replaced. They both have more features, too. Both have bigger displays. On the 49G+, the display improvement is huge, when compared to the 49G, and large when stacked aainst the 48G. If you need one or another of these improvements in your work with the calculators, that will of course weigh more heavily.

Hrast's emulators can run on the 49G+, but frequently with less functionality than on the 48GX. Hrast still identifies the 48GX as the best platform to run his emulators on. You will be unable to run any two of the

emulators at the same time, however, or have them installed side-by-side. If you have a large RAM card in port 2, you can store the ones you aren't using there, and switch them in and out as you wish. (Hrast will surely correct me if I don't have that exactly right. Perhaps there are some combinations you can run on the 48GX.) I'm planning to write a program to do the switching on my own main 48GX, with a 4MB RAM card in port 2.

Good luck with your decision!

Regards
Howard

Re: Culling my collectiion and going with a 48gx model

*Message #4 Posted by **Massimo Gnerucci (Italy)** on 5 Feb 2006, 10:44 p.m.,*
in response to message #3 by Howard Owen

> Quote:
>
> You will be unable to run any two of the emulators at the same time, however, or have them installed side-by-side

1. True
2. False: I, for one, have all of them installed on a GX: 41X, 42X, 71X, 11E, 12E, 15E and 16E.

Greetings,
Massimo

Re: Culling my collectiion and going with a 48gx model

*Message #5 Posted by **Howard Owen** on 5 Feb 2006, 11:19 p.m.,*
in response to message #4 by Massimo Gnerucci (Italy)

Don't they compete for room in port 1?

If you swap them in and out of port 1, that's what I meant by saying they could be stored in a RAM card in port 2. But they aren't "installed" there, since you can't run them out of port 2+, can you?

Regards,
Howard.

Re: Culling my collectiion and going with a 48gx model

*Message #6 Posted by **HrastProgrammer** on 6 Feb 2006, 1:08 a.m.,*
in response to message #5 by Howard Owen

Howard,

You must read instructions on my pages more carefully :-)

Of course, you can execute all my emulators directly from any port 1..33 without problem on HP-48GX. It is not possible to run them directly from Port2 on HP-49G/G+.

For example, on my own HP-48GX they are installed as follows:

Home: XQ42, XQ71 and XM41 (when needed for HP-41X)
Port 0: XF71 or XR71 (when needed for HP-71X)

Port 1: XM42 for HP-42X or XM71 for HP-71X
Port 2: RAM48X for HP-41X
Port 3: RAM48X for HP-42X (or for HP-71X without XF71/XR71)
Port 4: RAM48X for HP-71X with XF71
Port 5: RAM48X for HP-71X with XR71
Port 6: HP41X
Port 7: HP42X
Port 8: HP71X
Port 9: HP41Z
Port10: XM42
Port11: XM71
Port12: Backup of HP41X (original, disabled with BAK2)
Port13: Backup of HP42X (original)
Port14: Backup of HP71X (original), HPILROM.CRD
Port15: Backup of HP41Z (original, disabled with BAK2)
Port16: HP11E, HP12E, HP15E and HP16E
Port17: Free

Forget about RAM48X and BAK2 for a moment - these are my personal utilities.

This is from HP41X/install.htm:

HP-48GX installation:

The emulator can be executed from Port1 or from a covered port (2..33). In order to use the emulator, you must have at least one 128K (writeable) RAM card in Port1. Before installation, make shure that Port0 and Port1 are empty. If needed, initialize them with PINIT and clear everything from them. Then, use MERGE1 to merge Port1 with the main memory. This is necessary because the size of some librares is nearly 128K. If you want to use HP41Z library (and have second >=128K RAM card) then it must be received from the computer now. Store it to some covered port because there isn't much sense of storing it to Port1 (covered port must be empty, of course). Press ON+C to reboot the calculator. If you don't want to use it or you doesn't have any (free) covered ports then simply skip previous three steps. After doing this, receive the HP41X library from the computer. If you want to install the emulator to Port1 then execute the following instructions: 0 STO { :0: 1052 } FREE1.

If you want to install it to a covered port then simply store it to that port (port must be empty before storing) with something like 2 STO and free Port1 with {} FREE1. It is very important to free Port1 because emulator will not start if Port1 remains merged ('Port Not Available' error will be generated). Press ON+C to (automatically) attach the HP41X library to the HOME directory and the emulator is ready to be started with XQ41 library command.

Best regards.

Re: Culling my collectiion and going with a 48gx model

*Message #7 Posted by **John Limpert** on 5 Feb 2006, 9:01 p.m.,*
in response to message #1 by Joe Edwards

For day to day use, I'd stick with the HP-48GX. Newer models may be faster and have more features, but the HP-48GX was the last model with a good keyboard, sensible layout of keyboard functions, and a color scheme that doesn't hurt my eyes.

Re: Culling my collectiion and going with a 48gx model

*Message #8 Posted by **Stephen Easterling** on 5 Feb 2006, 10:38 p.m.,*
in response to message #1 by Joe Edwards

I remember being where you are now and asking the exact same question. To answer it, I have 30 different HP models now. I do have the 49G+ and two 33S calcs (one for work and one for the collection). In the beginning, all I wanted to want (I hope that sounds right) was the 33S and 49G+. However, due to a slight lack of patience with both models for several reasons (all posted on this forum by many users), I decided to try some of the older models. (My first was a 28S over 15 yrs ago.) I fell in love with the older ones for their quality (no keyboard problems that I've experienced with the 33S, 49G+, 12C Platinum, and 17BII+) and overall feel and aesthetics. I learned that I actually prefer the 12C or 11C/15C (Voyager series) as a day-to-day scientific calc despite their relatively slow speed compared to todays newer calcs. I will say, though, that after downloading the new ROM 2.00 into my 49G+, I have not had any problems with its keypad at all. However, I do find it a bit clumsy to use for quick scientific calculations.

Re: Culling my collectiion and going with a 48gx model

*Message #9 Posted by **Les Bell** on 5 Feb 2006, 10:57 p.m.,*
in response to message #1 by Joe Edwards

I'm not a collector, but I certainly couldn't get by with just a 48 or 49. The 41 is much more convenient for back-of-an-envelope stuff, and the 16C is the only way to go for computer-related work.

The 48 is just too cumbersome for daily use, imho. I only use it for maths self-study.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Culling my collectiion and going with a 48gx model

*Message #10 Posted by **Thomas Okken** on 6 Feb 2006, 1:38 a.m.,*
in response to message #9 by Les Bell

Hi Les,

Not to contradict you or anything (I love the 41 and 16C too, and I agree that the 48 tends to be a bit too awkward for quick-and-dirty work)... But what do you think about the 42S? If you can live without the 41's expandability, and without the 16C's variable word size, the 42S seems like the best of both worlds. Just $0.02 from a majorly biased person. ;-)

- Thomas

Re: Culling my collectiion and going with a 48gx model

*Message #11 Posted by **Les Bell** on 6 Feb 2006, 3:26 a.m.,*
in response to message #10 by Thomas Okken

I'll go along with that, Thomas; I like the 41 because I have a couple with lots of modules, card reader and printer, but the 42S would suit me about as well (I rarely use the printer and have never got around to fixing my card reader - assuming that it *has* a gummy wheel problem, which it certainly ought to).

But the 16C is a bit harder to replace - it's nice having fast keyboard access to all those logical, rotate and bit count functions. . .

Best,

--- Les
[http://www.lesbell.com.au]

Collecting, or just having several calc's?

*Message #12 Posted by **Karl Schneider** on 6 Feb 2006, 1:33 a.m.,*
in response to message #1 by Joe Edwards

> Quote:
>
> Okay, I think it is in my best interest to leave the collecting to the professionals. :) So here I am with several calculators I plan on selling. I am thinking that I should stick with my 27s (and get a 48gx....
>
> Since I am not true collector I don't need many machines, do you folks think I am making a mistake? Just a thought.

Hello, Joe --

I coveted the HP-41C/CV in 1980-81, but it was too pricey for me at the time. In late 1981 or 1982, I saw an LED-display HP-34C. When I had some money in late 1983, I set out to buy a HP-34C, but the salesman steered me to buy something better: the HP-15C. It served me through three degree programs.

In 2002, I vistited a local used-electronics seller, who had a 34C and several 41's in a drawer. I saw an opportunity to obtain what I had to pass up 20 years prior, and ended up buying the 34C and a near-mint 41CV from the store.

I didn't set out to become a collector, but in the MoHPC Forum, I learned about the fine HP-42S, HP-16C, and other models. I eventually bought these and others on eBay and from the local seller. My collection now includes the LED-based HP-35 and HP-34C, plus all five Voyager-series models, all 11 Pioneer-series models, all three HP-41 models, as well as the HP-71B, HP-48G, and HP-28C.

My focus in collecting has been to keep and preserve the examples from what I consider HP's 1979-1993 "golden era" of calculators: affordable, well-engineered, well-built, and well-documented.

Sure, there were other fine HP calculators from outside that era (e.g., HP-67), and there were others from that era (e.g., HP-75, HP-18C). However, limits should be imposed...

Would it be worth it you in time and money to be one of those who help preserve part of the legacy of an American company, which once was run by engineers and did things right? Only you can answer appropriately for your own situation. A "complete" collection will cost you thousands of dollars at eBay prices.

If you would want to limit such a collection to the *creme de la creme* of HP calculators from that era, I'd recommend the following:

```
Foundation: HP-15C, HP-41CX, HP-32SII, HP-17BII (or HP-27S)
Supplemental:  HP-16C, HP-42S, HP-28C/S, HP-71B, HP-48
```

Of these, however, only the financial HP-17BII and RPL-based HP-28C/S can usually be had for less than $100.

- The HP-15C surpasses the HP-10C and HP-11C.
- The HP-41CX surpasses the HP-41C and HP-41CV.

- The HP-32SII surpasses the HP-32S.
- The HP-17BII surpasses the HP-17B, providing RPN.
- The HP-27S provides the fine equation solver and time/calendar functions of the HP-17BII, but not all the financial functions.
- The HP-16C is a unique computer-science model.
- The HP-42S is the most capable RPN, but is somewhat awkward and limited in certain ways.
- The HP-28C/S offer a nice unit library with conversions.
- The HP-71B is significant, but quite different from calculators.
- The HP-48 (certain models?) will allow you to run the emulators.

I don't yet have the fine emulators that HrastProgrammer, Eric Smith and others have graciously provided to us. Even though the emulators outperform the "real McCoy" physical calculators, I prefer the tactile "actuality" of the original hardware.

Regards,

-- KS

Re: Culling my collectiion and going with a 48gx model

*Message #13 Posted by **Geir Isene** on 6 Feb 2006, 3:28 a.m.,*
in response to message #1 by Joe Edwards

There are of course pros and cons for most every machine. My highlights are as follows:

48GX: A solid math and graphing machine. Big and not a very good programming environment. The clock /drifts/.
42S: A very good calculator. Small and full of features. Lacks I/O to save programs.
41CX: A very good calculator with great I/O. Slow and a bit bulky but with a very good programming environment (IMHO).
Voyagers: Very good LCD, small and well built. No alphanumerics. Slow and maybe horizontal layout is something to get used to.
97: Great calc for your desktop. One shift key. Easy access to all functions. Ok, it's slow, but it's pretty.
67: Good calc for us hobby astronomers with its red LED display.
(I don't have a 49g+ or a 33s.)

Just my 2 øre.

Re: Culling my collectiion and going with a 48gx model

*Message #14 Posted by **Joe Edwards** on 6 Feb 2006, 8:56 a.m.,*
in response to message #1 by Joe Edwards

So far I have decided to keep the following:

HP 33s returned to Fry's. Going to skip buying a 49g+.

I have decided to stick with the following models: HP 21 as a desktop four-banger. The LED's were too much to pass up. HP 27s as my favorite of all HPs. HP 48gx with 41, 42, 16, and 15 emulators.

I thought about going the "Made in USA" route only. This would be the following: HP 21 HP 11c HP 15c HP 16c (maybe a 12c and 10c later on) HP 41c

It seems that the 27s, 42s, and 48 models are all made in Singapore. My 41c is US made, but my 41cx is Singapore made. Are there any CV and CX models made in the USA?

Thanks for the input. Joe

Edited: 6 Feb 2006, 12:05 p.m.

Re: Culling my collectiion and going with a 48gx model

*Message #15 Posted by **Ed Look** on 7 Feb 2006, 11:57 a.m.,*
in response to message #14 by Joe Edwards

Awww, maybe I should have responded sooner.

I truly have found the 33S to be quite useful and handy; it is a slightly expanded version of the 32SII.

In research activities, I find I need a combination of a calc from group 1 [49G+ or 48(G or G+)], and one from group 2 [32SII or 33S]. While I truly enjoy the feel of using the 32SII, I must confess the 33S is a tad bit more USEFUL with the slightly more spacious programming capacity and speed and preprogrammed constants library. Other times, I need my self-stored data or programs I put on the graphing ones from group 1; not that I ever graph any functions, I just need their programmability and memory.

If I teach advanced courses, I often need one of the group 1 machines because I've written and stored programs on it and if an intro course, I use it as a very portable "MS Excel" for quick stats.

In either case, the "smaller" calculators in group 2 are needed actually more often for, as we all call them, quick and dirty, or even somewhat more involved calculations that might require just light programming.

The vintage calcs are sweet and I myself only own one (not totally functional anymore), but these newer and much more maligned HP units are actually more than useful; they are quite handy.

(They really aren't a bad first couple of steps in trying to stake a claim on the calculator market again!)

Re: Culling my collectiion and going with a 48gx model

*Message #16 Posted by **Joe Edwards** on 7 Feb 2006, 6:08 p.m.,*
in response to message #15 by Ed Look

Ed, The 33s wasn't bad. It seems to me to be a nice zombie mutation of the HP 22s and the HP32sii. Unfortunetly, I don't like the cluttered keyboard of the 32sii anymore than the 33s. I would rather stick with the 32s by itself versus the 33s, given the choice.

> Quote:
>
> Awww, maybe I should have responded sooner.
>
> I truly have found the 33S to be quite useful and handy; it is a slightly expanded version of the 32SII.
>
> In research activities, I find I need a combination of a calc from group 1 [49G+ or 48(G or G+)], and one from group 2 [32SII or 33S]. While I truly enjoy the feel of using the 32SII, I must confess the 33S is a tad bit more USEFUL with the slightly more spacious programming capacity and speed and preprogrammed constants library. Other times, I need my self-stored data or programs I put on the graphing ones from group 1; not that I ever graph any functions, I just need their programmability and memory.
>
> If I teach advanced courses, I often need one of the group 1 machines because I've written and stored programs on it and if an intro course, I use it as a very portable "MS Excel" for

quick stats.

In either case, the "smaller" calculators in group 2 are needed actually more often for, as we all call them, quick and dirty, or even somewhat more involved calculations that might require just light programming.

The vintage calcs are sweet and I myself only own one (not totally functional anymore), but these newer and much more maligned HP units are actually more than useful; they are quite handy.

(They really aren't a bad first couple of steps in trying to stake a claim on the calculator market again!)

Re: Culling my collectiion and going with a 48gx model

*Message #17 Posted by **Ed Look** on 7 Feb 2006, 11:21 p.m.,*
in response to message #16 by Joe Edwards

LOL!!

> Quote:
>
> ... 33s... a nice zombie mutation of the HP 22s and the HP32sii...

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Implementing a second alpha register on the 41?

*Message #1 Posted by **Geir Isene** on 5 Feb 2006, 12:14 p.m.*

Has anyone implemented a second alpha register (a scratch register for holding temporary alpha data [for instance while switching between two XM-ascii-files])? I know this can be done with ASTO/ARCL 01-04, but has it been implemnted in MCODE? Also, has anyone implemented moving registers longer than 24 characters from one ascii file to another in an efficient way?

Edited: 5 Feb 2006, 12:47 p.m.

Re: Implementing a second alpha register on the 41?

*Message #2 Posted by **Raymond Del Tondo** on 5 Feb 2006, 1:23 p.m.,*
in response to message #1 by Geir Isene

Hi,

you could use a buffer for these tasks.

Raymond

Re: Implementing a second alpha register on the 41?

*Message #3 Posted by **Geir Isene** on 5 Feb 2006, 2:08 p.m.,*
in response to message #2 by Raymond Del Tondo

buffer?

Re: Implementing a second alpha register on the 41?

*Message #4 Posted by **PeterP** on 5 Feb 2006, 2:03 p.m.,*
in response to message #1 by Geir Isene

Angel martin (who still owes us some manuals for his wonderful little pieces of works...) has programmed some functions that allow you to move the complete alpha register into a block of 4 registers and back with one line (A>RG and RG>A as well as ST>RG and RG>ST). This way you can quickly move a whole alpha into 4 consecutive regs and back. Works pretty neatly. They are part of the Sandbox as well as the Alpha modules from him. He has even made the MCode available (Fully documented!!!!!)

However, Raymonds suggestion works also for larger thatn 24 chars and serves your purpose potentially much better.

Cheers

Peter

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OS-41 barcodes

*Message #1 Posted by **Geir Isene** on 5 Feb 2006, 12:07 p.m.*

The Educalc catalogue #29 (from 1985) shows the product "OS-41" for sale complete with barcodes. Anyone that has these barcodes and/or manual?

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71B Memory Module

*Message #1 Posted by **Xavier LaRue** on 5 Feb 2006, 12:21 a.m.*

Hi there,

A little question, did somone made any memory module for the 71B. I see that for the 41, it has some user made memory module like Clonix / NoVram... But for the 71B, Do that was done ?

Thank for yer info.

Also a last question, if the VER$ outputted string contain HP71:2CDCC HPIL:1B

Do that mean that I have the HPIL interface ?

Thank for all your answer.

Ahh and a last question, do the MoHPC is still availlable, I'm considering the option to buy one.

Thank for all your help, Xavier LaRue

Re: 71B Memory Module

*Message #2 Posted by **Garth Wilson** on 5 Feb 2006, 4:57 a.m.,*
in response to message #1 by Xavier LaRue

I don't know of any recent HP71 memory module offerings, but back in the mid- to late-1980's, CMT offered them in 32KB and 64KB for the front ports, and 32KB, 64KB, 96KB, 128KB, and 160KB for the card-reader port. There was also a company that would hard-wire 256KB internally for you for a hefty fee, so it would not take up any of your ports.

The HPIL module added a pair of connectors next to the power connector. You don't even have to turn the computer on to tell if it has an HPIL module. If you have the pair of connectors there, you have HPIL. If they're not there, you don't. Very simple.

Your last question is not clear. Are you asking whether the MoHPC CD ROMs are still available? They are at http://www.hpmuseum.org/cd/cddesc.htm

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Price > HP41CX !!!!

*Message #1 Posted by **gileno** on 4 Feb 2006, 8:08 p.m.*

Ebay Link

Re: Price > HP41CX !!!!

*Message #2 Posted by **Stephen Easterling** on 4 Feb 2006, 9:11 p.m.,*
in response to message #1 by gileno

I'm confused. What does this Casio have to do with a 41CX?

Re: Price > HP41CX !!!!

*Message #3 Posted by **Howard Owen** on 4 Feb 2006, 9:31 p.m.,*
in response to message #2 by Stephen Easterling

I think ">" means "greater than" in this context.

Pretty cool little handheld computer. I wouldn't pay that much myself, but I wouldn't mine getting one as a gift. 8)

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HP-12CP Trigonometric functions program still not tested. Anyone?

*Message #1 Posted by **Gerson W. Barbosa** on 4 Feb 2006, 7:27 p.m.*

Hello,

I have a trigonometric functions program that should work on the newer Platinum. However, it remains untested because I don't intend to get a Platinum just because of this, at least for the time being.

The accuracy is comparable to that of the HP-35, I'd say it's even slightly better, and I don't mean the buggy one :-)

I estimate running times to be around 2 seconds for SIN and COS (twice as much for TAN as it is calculated as SIN/COS for the sake of accuracy); and under 3 seconds for ASIN, ACOS and ATAN. It is not as fast as it could be because the constants used by the program are all built-in rather than previously stored in the registers.

Keying in a 274-step untested program is not exactly what one would choose for the weekend, but in case someone wants to try, here it is:

Trigonometric Functions on the HP-12C Platinum (newer one only!)

In an effort to make the task less boring, I have used Luiz's keyset4 font (thanks, Luiz!) in the listings, as you can see. I have doublechecked the listing and I have also provided a working equivalent program for the HP-15C.

Thanks,

Gerson.

Edited: 4 Feb 2006, 7:28 p.m.

HP-12CP Trigonometric functions program tested (single values only)

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 4 Feb 2006, 8:02 p.m.,*
in response to message #1 by Gerson W. Barbosa

Hi, Gerson;

first of all, shame on me... (you know why, don't you?)

Second, thanks for using the fonts. I'm suspect to say, but the listing looks good, don't you agree?

I tested the program with the simplest values:

```
45 SIN -> .7071067812 ([STO] 9 for testing)
45 COS -> same as above
[x^2] [RCL]9 [x^2] [+] [f][PREFIX] -> .999999999
45 TAN -> 1.000000000
```

The complementary values were obtained with the value stored in R9.

In time: a few glitches in your listing (just little peebles...). [square-root] and [GTO] are prefixed functions in

the HP12C (they are not in the HP15C, where you wrote the routines, right?) and step #029 is repeated twice in the sequence.

I see it is a .GIF, and you'd have to do it all again. If you actually are going to update it, consider an initial remark with the changes, only.

Congrats! Great program!

Luiz (Brazil)

Re: HP-12CP Trigonometric functions program tested (single values only)

*Message #3 Posted by **Gerson W. Barbosa** on 4 Feb 2006, 9:28 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Hi Luiz,

Thank you very much for taking the time to test it. I really didn't expect a so prompt response!

Sorry for having forgotten the prefix keys. I will revise it later, just o matter of editting the text and converting it to .GIF.

About the test, 45 SIN -> .7071067812 is better than .7071067813 on the 15C. But I didn't like the '.999999999'. On the 15, this would result '1.000000000'. A '9' is missing, isn't it?

I didn't use full-accuracy coefficients in the minimax polynomial for sine , to save some steps:

```
-3,2818376137E-08
 5,5539160587E-14
-4,4756602223E-20
 2,0935117545E-26


(max abs error: 8,02E-14)
```

Instead, I used:

```
  -3,28183759E-08
       5,5539E-14
     -4,47304E-20
             2E-26


(max abs error: 1,87E-11)
```

This should have been good enough. Have you seen the comparison table with the 15C and 35? If the displayed result is correct to 10 digits, this should be nice for a financial calculator, it's most of the time set to FIX 2 anyway :-)

Cheers,

Gerson.

PS.:

1) Would you try this:

asin(acos(atan(tan(cos(sen(9))))))

9 R/S GTO 094 R/S GTO 104 R/S GTO 157 R/S GTO 141 R/S GTO 123 R/S

On the 15C the result is 9.000878935

2) The X register is always preserved

3) How about the running time?

Thanks.

Edited: 4 Feb 2006, 9:39 p.m.

Re: HP-12CP Trigonometric functions program tested (single values only)

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 4 Feb 2006, 9:54 p.m.,*
in response to message #3 by Gerson W. Barbosa

Hey, Gerson; my pleasure.

> Quote:
>
> About the test, 45 SIN -> .7071067812 is better than .7071067813 on the 15C. But I didn't like the '.999999999'. On the 15, this would result '1.000000000'. A '9' is missing, isn't it?

You're right. I did not count the '9's, just keyed them in... Sorry! And as you see the last digit, the '2' (12Cp) instead of '3' (15C) leads to a lower result.

> Quote:
>
> 1) Would you try this:
>
> asin(acos(atan(tan(cos(sen(9))))))
>
> 9 R/S GTO 094 R/S GTO 104 R/S GTO 157 R/S GTO 141 R/S GTO 123 R/S

Resulting value is 9.000148569. Closer to the original value. The HP12Cp works with more internal digits... I still believe this is the main cause for the low-value IRR issue in the first Platinum units. And the program runs fast in the HP12Cp. In time: I used a newer model as specified, with parenthesis and back-space/undo features. I think of keying it in one of the earlier units and test it, too. I'll let you know.

Cheers.

Luiz

Additional remark (interesting)

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 4 Feb 2006, 10:03 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Hi Gerson, all;

in my previous post, I wrote that the asin(acos(atan(tan(cos(sen(9)))))) resulted in 9.000148569. With this result in the display, I keyed in:

```
9 [-]
```

and I got the following mantissa:

```
1485693900
```

I'm not sure: should the two additional significant digits '3' and '9' be there?

Luiz (Brazil)

Edited: 4 Feb 2006, 10:04 p.m.

Re: Additional remark (interesting)

*Message #6 Posted by **tony(nz)** on 5 Feb 2006, 9:49 p.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

Congrats Luiz, you found the 2 hidden digits :-) 3 [1/x] 1000 [x] [g][FRAC] also shows 0.333333333. On the old 12cp and HP12C we see 0.333333300. So the new 12cp should perhaps be called the 12d, as it has 12 digits under the hood :-)

Best Regards, Tony

I feel like I'm talkn'bout yesterday's news... as if they are just news.

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 5 Feb 2006, 10:14 p.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

Hi, guys;

I must confess I've been a bit selective in therms of what to read, mainly because of a lack of time and sometimes because of the huge amount of threads/info that can be found here. My bad...

I remember reading about the (old...) TI58/59 hidden digits that can be shown under certain circumstances, and I also tested a few keystroke sequences to see the HP30S hidden digits as well. I also remember reading about the HP12Cp internal precision due to the specific processor. I know that higher internal precision allows better final resulting values, and it is not necessarily kept in the final result/display.

I was completely unaware of the fact that the newer HP12Cp could handle results with a 12-digit mantissa. This is actually a new design. Not sure if these digits were suppressed in the earlier, bug-filled series or if they are actually added to the new design.

Thanks, guys, for any new data. Also, forgive me if this is a knwon fact and I treated it as new, I'm sort of enthusiastic with unknown facts. If so, can you point me any thread or article that mentions this fact?

Thanks again.

Luiz (Brazil)

Edited: 5 Feb 2006, 10:44 p.m.

Re: I feel like I'm talkn'bout yesterday's news... as if they are just news.

*Message #8 Posted by **Gerson W. Barbosa** on 6 Feb 2006, 7:00 a.m.,*
in response to message #7 by Vieira, Luiz C. (Brazil)

Hi Luiz,

> Quote:
>
> can you point me any thread or article that mentions this fact?

Yes, Tony told me about these two hidden digits almost three months ago:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=81563#81563

By the way, I have updated the listing to include the prefix keys I had missed. Thanks for having warned me about this. Also, line 147 has been changed from **g x^2** to **g LSTx**. This is more effective and doesn't cause a needless decrease in the ACOS accuracy, at least on the 15C. The forensic result (see below) in now 9.000270299. On the Platinum, due to the extra digits, the difference will be less noticeable, if any.

Cheers,

Gerson.

Re: HP-12CP Trigonometric functions program tested (single values only)

*Message #9 Posted by **Gerson W. Barbosa** on 5 Feb 2006, 8:40 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Hi Luiz,

Thanks again.

9.000148569 is a good result, the HP-15C and HP-41 internal functions return 9.000417403. See Mike Sebastien's Calculator Forensics Project. I think it is still possible to adjust the constants to take advantage of the Platinum's features, but I am pleased with the result.

When you subtract 9 from the result the two addition digits come from the extra internal digits in the Platinum.

I don't think the program will work on the older unit because there's a limitation in the number of steps it can handle, just 255 if I am not wrong.

One more question: you said the program ran fast. Is it possible to know exactly how fast? Would you please time 45 TAN? In the 15C version, it takes about 16 seconds! As I said, the program might run even faster if there was a separate initialization routine that stored all the constants in the registers, but then we'd have to run it every time we were not sure about the registers contents. As I know the Platinum is fast, I chose this approach for ease of use.

Cheers,

Gerson.

Update: Thanks to a minor change (see above), the forensic result in the 15C version of the program is now 9.000270299. We should notice the forensic result alone is not a good indicator of the overall accuracy, since the 15C internal function, which are far better, return a worst result: 9.000417403.

Edited: 6 Feb 2006, 7:13 a.m.

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*.ROM and *.MOD file format documentation?

*Message #1 Posted by **Thomas Okken** on 4 Feb 2006, 1:49 p.m.*

Hi all,

I'm looking for documentation about the *.ROM and *.MOD file formats (HP-41 ROM image files). Anyone have a link to byte-by-byte explanations of these? Thanks,

- Thomas

Re: *.ROM and *.MOD file format documentation?

*Message #2 Posted by **Howard Owen** on 4 Feb 2006, 2:16 p.m.,*
in response to message #1 by Thomas Okken

The .ROM file format is documented in SDK41 over at TOS.

Re: *.ROM and *.MOD file format documentation?

*Message #3 Posted by **Doug Wilder** on 5 Feb 2006, 8:01 a.m.,*
in response to message #1 by Thomas Okken

The .ROM format is very simple. It is 16 bits for each 10 bit word exactly as they appear in the rom.

The upper 6 bits are set to zero. So a 4Kword rom takes 8KB in a PC .ROM binary file. The largest 16 bit word is 03FF just as the largest 10 bit word is 3FF. Open a .ROM file in a hex editor.

To my knowledge the .MOD format has not been released. The .r41 format (found here: ftp://ftp.math.jyu.fi/pub/hpil/swap/swap09/) is more complex as it packs 4 words into 5 bytes.

Best

Re: *.ROM and *.MOD file format documentation?

*Message #4 Posted by **Thomas Okken** on 5 Feb 2006, 8:11 a.m.,*
in response to message #3 by Doug Wilder

Thanks Doug!
I guess it's not a big problem to only be able to handle ROM files, since it's easy enough to extract the ROM file from a MOD file.
I took a peek at a couple of MOD files (Finance and Securities), and at first I couldn't make sense of what I was seeing, but given that the original ROMs have 10 bit words, now I get it. I'm wondering, though, what this means for user code. If I want to extract user code from a ROM image, is it OK to just ignore bits 8 and 9, or do they have some significance? I notice that they're not all zero, which is what I would expect (given that user code instruction words are just 8 bits).

- Thomas

Re: *.ROM and *.MOD file format documentation?

*Message #5 Posted by **Doug Wilder** on 5 Feb 2006, 12:32 p.m.,*
in response to message #4 by Thomas Okken

Hi Thomas,

I don't work with user code directly in rom much, the reason being that the HP41C COPY function will pull any rom user code into ram and MLDL will write user code to romram. I just develop in ram.

Didn't look it up so this may be wrong/incomplete:

1) Each new line: the first byte has bit 8 set (so it is 1xx).

2) At the .END. bit 9 is set (2xx). I have to look this up.

3) There are two header words before each user code program to implement COPY and PRIVATE.

4) The entry point/s is at a global label.

5) Jumps/executes distances are in words. They are always precompiled (duh, guess i didn't need to say that).Programs run backwards from in ram so the direction bits are switched. The global chain is still intact as it is needed for COPY.

Best

Edited: 5 Feb 2006, 12:51 p.m.

Re: *.ROM and *.MOD file format documentation?

*Message #6 Posted by **Thomas Okken** on 5 Feb 2006, 2:20 p.m.,*
in response to message #5 by Doug Wilder

I stared at a couple of ROM dumps for a couple of hours, and here's what I found. It seems pretty straightforward. I don't care about the "mystery" blocks (Doug mentioned they are for COPY and PRIVATE), and the details of GTO/XEQ offsets and the global chain are not important for what I plan to do either (when Free42 imports HP41/42 user code, it translates it to its own internal format and the specifics of offsets etc. are unceremoniously discarded).

Thanks again for your help -- looks like I'm good to go! :-)

- Thomas

```
0000: (1 word)  ROM number
0001: (1 word)  number of functions + 1
0002: (2 words) Offset to pac name. Points to an E0 byte, which is *preceded*
                by the pac name, with letters in reverse order. The encoding
                looks like ASCII but with the letters of the alphabet moved
                to 01-1A. The last character of the name is flagged by bit 7.
0004:           function directory, one 2-word entry per function. If the
                function is user code, bit 9 of the pointer's first word is
                set; for mcode, bit 9 is clear.
                The directory is followed by two zero words, presumably a
                sentinel.


The remaining words contain the pac's code. User code chunks are always
preceded by a two-word chunk of unknown purpose; both the user code chunks and
the mystery chunks have their final word highlighted by having its bit 9 set.
Inside user code chunks, bit 8 is used to indicate the first word of an
instruction -- to help speed up BST, no doubt.
```

```
So, to extract user code from a ROM image, the following algorithm seems like
it might be adequate:


1) Get the ROM number from word 0000 and the instruction count from word 0001.
2) Get the ROM name by dereferencing the offset at word 0002-0003 (minus one)
and moving backward until a word with bit 7 set is found. Add 0x40 to all words
in the range 00-1F.
3) Copy the table of offsets into temporary storage. Discard all mcode entries;
sort the remaining entries by address.
4) Import user code, starting from the instruction pointed to by the first
entry in the sorted offset table. Keep importing until an END instruction is
found. Then remove all offsets before this END from the offset table.
5) Repeat step 4 until the offset table is empty.
6) During the import process, keep track of the locations of global labels in
the imported code. Build a new XROM->label translation table. Mcode entries
should be set to NULL so Free42's instruction despatcher will know that it has
to display an error message rather than perform a subroutine call.
7) Display a warning when mcode entries were found in the ROM image; display an
even sterner warning if the user code from the ROM image calls these mcode
functions.
```

Edited: 5 Feb 2006, 2:27 p.m.

Re: *.ROM and *.MOD file format documentation?

*Message #7 Posted by **Vieira, L.C. (Brazil)** on 9 Feb 2006, 12:12 p.m.,*
in response to message #6 by Thomas Okken

Hi, Thomas;

part of what you have already observed is described in 'HP41 MCODE For Beginners', availble with the MoHPC DVD/CD Set. And there is more in there, a lot more... It´s fairly worth reading.

Cheers.

Luiz (Brazil)

Re: *.ROM and *.MOD file format documentation?

*Message #8 Posted by **Thomas Okken** on 9 Feb 2006, 2:31 p.m.,*
in response to message #7 by Vieira, L.C. (Brazil)

Thanks for the tip, Luiz -- it hadn't occurred to me to look there, but now that you mention it, machine code and ROM layout are topics that seem to go hand in hand! I don't look at those CDs enough. :-)

- Thomas

Re: *.ROM and *.MOD file format documentation?

*Message #9 Posted by **Doug** on 5 Feb 2006, 10:29 p.m.,*
in response to message #5 by Doug Wilder

Yes, it looks like you have it! Keep in mind however that the first line of a program does not have to be a global.

The 2 word header for user code program, used by COPY:

0000 Number of 7 byte registers required to hold the program.

0001 Number of bytes that go into the first 7 byte register so that all the other 7 byte registers are full. Format is 2b0 (or 3b0 for priv) where 0 < b < 8.

3E0 = RTN, usually used at entry to first function (rom name). Although many times HP don't waste the word as rom name is not supposed to be executed. So it could be anything.

Edited: 5 Feb 2006, 11:19 p.m.

Re: *.ROM and *.MOD file format documentation?

*Message #10 Posted by **Thomas Okken** on 7 Feb 2006, 9:03 p.m.,*
in response to message #9 by Doug

Thanks to all for helping me with this!
I have written a program that extracts the user code from *.ROM files and saves it in a *.raw file that Free42 and Emu42 can use. It still needs some tweaking, but it looks usable... In case anyone is interested, I'll post a message on this forum when it's done, and I'll put it on the Free42 web page for download. Probably by the end of this week.

- Thomas

Re: *.ROM and *.MOD file format documentation?

*Message #11 Posted by **Howard Owen** on 7 Feb 2006, 9:42 p.m.,*
in response to message #10 by Thomas Okken

I wondered what you were up to with the 41C rom images. Sounds really useful!

I imagine these would be loadable into HP-42X with Hrast's RAW42.EXE. Unfortunately, at least one program with 42S specific functions does not work, and actually crashes my 48gx. How similar is the raw fromat for Emu42 and Free42 to the P41 raw format?

Regards,
Howard

Re: *.ROM and *.MOD file format documentation?

*Message #12 Posted by **Thomas Okken** on 8 Feb 2006, 10:59 a.m.,*
in response to message #11 by Howard Owen

Hmm, if you have a raw file with HP-42S code, and it crashes your 48 when you run it under HP42X, it sounds like you need to send Hrast a bug report. BTW, does it work when you load it in Free42 or Emu42?
On the other hand, the problem could be non-HP42S code, that is, XROM instructions that are not valid HP-42S instructions. I don't know how a real 42S (or a hardware-level emulator like HP-42X and Emu42) will react to that kind of thing, or to synthetic instructions. It might crash.
As far as the format is concerned: AFAIK, all raw files are memory images, that is, the same bytes as in the memory of a real calculator, nothing added, nothing removed.

- Thomas

Edited: 8 Feb 2006, 12:00 p.m.

Re: *.ROM and *.MOD file format documentation?

*Message #13 Posted by **J-F Garnier** on 9 Feb 2006, 6:27 a.m.,*
in response to message #12 by Thomas Okken

I don't know how a real 42S (or a hardware-level emulator like HP-42X and Emu42) will react to that kind of thing, or to synthetic instructions. It might crash.

From what I remember from a HP42S ROM code disassembly, an unknown XROM will cause a "Machine Reset". I didn't try, although it would be easy using the built-in memory editor. It may not be the case with HP42X, as Hrast is an expert in ROM code patch :-)

J-F

Re: *.ROM and *.MOD file format documentation?

*Message #14 Posted by **HrastProgrammer** on 9 Feb 2006, 7:41 a.m.,*
in response to message #13 by J-F Garnier

It may not be the case with HP42X, as Hrast is an expert in ROM code patch :-)

Thanks J-F, but it will do "Machine Reset" or something like that because I haven't patched this :-)

Re: *.ROM and *.MOD file format documentation?

*Message #15 Posted by **Tony Duell** on 6 Feb 2006, 1:39 p.m.,*
in response to message #1 by Thomas Okken

I don't know if it's any use, but my LIF Utilities for Linux include programs to look at an HP41 ROM file (as saved on floppy by most MLDL boxes), and to catalogue the functions in a ROM.

I am not sure whether .ROM and .MOD files are anything like these, but if so, you might find the comments in the source code to be of interest.

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New Versions of Free42 from Thomas Okken

*Message #1 Posted by **Namir** on 4 Feb 2006, 7:18 a.m.*

For those who are fans of the free HP-42s software, Thomas Okken has resumed posting new versions at his Free42 web site.

Go Thomas!!!!!!!!!!

Namir

Edited: 4 Feb 2006, 7:19 a.m.

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Slashes in HP48 source code

*Message #1 Posted by **Kieron Abbott** on 3 Feb 2006, 10:47 p.m.*

I'm a new HP48 user who recently inherited my dad's old 48G. I have a question about 48 source code with slashes. In the Advanced User's Guide, there are no slashes in the program listings, but in the source on the Goodies Disks and most places online (i.e. at http://www.hpmuseum.org/software/48vigenc.htm), there are slashes "\" before each << and >>. Can someone clue me in as to what these signify, and whether they are necessary?

Re: Slashes in HP48 source code

*Message #2 Posted by **Gerson W. Barbosa** on 4 Feb 2006, 1:06 a.m.,*
in response to message #1 by Kieron Abbott

Those back-slashes are used to represent the 48G characters with ASCII codes above 127 with characters in the first half of the ASCII table, which is standard for all code pages. For instance, \<< and \>> stand for the program delimiters and \PI stands for the pi symbol.

Refer to the HP 48G User's Guide, page 27-16, for the complete ASCII Characters Translations table.

Re: Slashes in HP48 source code

*Message #3 Posted by **Howard Owen** on 4 Feb 2006, 1:07 a.m.,*
in response to message #1 by Kieron Abbott

Those slashes mark characters that don't have equivalents in ASCII. A 48/49 series calculator will insert them into an RPL program transferred in "text" mode to a PC. So, for example \<< stands for the character with decimal code 171 in the calculator's character set. \>> similarly stands for the character with code 187. If you type these translated codes into a source file on the PC, then transfer it to the calculator in text mode, the kermit server will do the opposite translation, from the backslash escaped codes to the ASCII equivalent. The hp 49g+ & 48gII_advanced user's reference manual (HP link) has a table of these translations in Appendix J. I think they are broadly similar to the 48G translations, though there might be differences in detail.

Regards,
Howard

Re: Slashes in HP48 source code

*Message #4 Posted by **Kieron Abbott** on 4 Feb 2006, 12:50 p.m.,*
in response to message #1 by Kieron Abbott

So, if I was going to type a program directly into my calculator from a source file on my computer, I would simply ignore the replace \<< and \>> with << and >>, and other characters such as \pi with the actual pi symbol? BTW, have you seen Pi: Faith in Chaos? It's good.

Re: Slashes in HP48 source code

*Message #5 Posted by **Howard Owen** on 4 Feb 2006, 2:06 p.m.,*

in response to message #4 by Kieron Abbott

> Quote:
>
> So, if I was going to type a program directly into my calculator from a source file on my computer, I would simply ignore the replace \<< and \>> with << and >>, and other characters such as \pi with the actual pi symbol?

That's right. Most of the escaped symbols are easy to guess, like \>>, \<< and \->. For others you need the tables Gerson and I pointed you to.

> Quote:
>
> BTW, have you seen Pi: Faith in Chaos? It's good.

No. I'm culturally isolated. 8)

Regards,
Howard

Re: Slashes in HP48 source code

*Message #6 Posted by **Kieron Abbott** on 7 Feb 2006, 10:10 p.m.,*
in response to message #5 by Howard Owen

Thanks very much! I just typed in by hand a Pythagorean triangle calculator and it worked fine. I appreciate everyone's help.

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HP, one-stop shopping for all your business needs;-)

*Message #1 Posted by **bill platt** on 3 Feb 2006, 10:24 a.m.*

http://www.homeandoffice.hp.com/hho/cache/422-0-0-225-121.html

Re: HP, one-stop shopping for all your business needs;-)

*Message #2 Posted by **Les Bell** on 3 Feb 2006, 7:34 p.m.,*
in response to message #1 by bill platt

Three quite interesting articles there, Bill - thanks for the link. As someone who works from home a lot of the time, I'll take all the help I can get.

My office looks like the one in http://h71036.www7.hp.com/hho/cache/425-0-0-39-121.aspx, only it has many more books in the shelves (actually, here's an old pic - it's even worse now). And on the other side of the office, there's another 2 meter tall bookshelf, with one shelf full of HP calculator manuals and maths books. Any tips that can save space are welcome!

Best,

--- Les
[http://www.lesbell.com.au]

Re: cleaning up

*Message #3 Posted by **Randy** on 3 Feb 2006, 9:07 p.m.,*
in response to message #2 by Les Bell

Toss anything more than ten years old in the bin. Except for maybe the one volume of Knuth (why only one?)...

A Win95 resource guide... very useful :-)

Re: cleaning up

*Message #4 Posted by **Les Bell** on 3 Feb 2006, 10:02 p.m.,*
in response to message #3 by Randy

Consider the Win95 and NT resource kits gone, Randy. I've also tossed the books on ancient Slackware and Caldera Linux. But I'm keeping the books on REXX and PL/I for sentimental reasons. ;)

As for Knuth - all three volumes are there - Vol 1 ("Fundamental Algorithms") is in green paperback form and is hidden behind the other two - Volume 3 is slightly obscuring Vol. 2, so that might be why they look like one, but you can *just* make out the two Addison Wesley logos at the bottom of the spines. In any case, your eyesight is excellent!

Best,

--- Les
[http://www.lesbell.com.au]

Re: cleaning up

*Message #5 Posted by **Randy** on 3 Feb 2006, 10:39 p.m.,*
in response to message #4 by Les Bell

I never knew they had been published in paperback. It's absolutely amazing what one can learn when discussing calculators!

PS: Your overloaded shelf caused me to do some cleaning as well. A bunch of Delphi and old VB stuff got the pitch. My three volumes of Knuth, original issue Intel 8008 and 8080 manuals will never go!

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So many ebay sellers

*Message #1 Posted by **Paul Marin** on 2 Feb 2006, 5:57 p.m.*

Why is it that we have so many ebay sellers trying to get us to buy from them on ebay. Why dont they come off there and sell direct to those on this site instead like most of us have done or do today??? Just a silly question. I hate ebay

Just my 1 cents worth

Re: So many ebay sellers

*Message #2 Posted by **Namir** on 2 Feb 2006, 6:06 p.m.,*
in response to message #1 by Paul Marin

Paul,

eBay is a free platform for selling and buying items. No one is forcing anyone to buy anything. If you find a deal then go for it. If you think the prices are way too high, then you have the personal power to vote with your wallet. No one is helpless!

As for selling on this site, I have noticed that many of the offers are EVEN MORE EXPENSIVE than eBay. So you do you want to pay MORE for the same item?

This web site is NOT as organized for selling items as eBay is. By that I mean that the site curator does not get involved if a transaction goes sour. There is no feedback system on this site to warn potential buyer.

This site is mainly to share news, techniques, ideas, and so on about HP calculators. It does include a modest for sale part. Again, those folks comfortable with selling and buying here do so, and those who are not don't get involved.

Either eBay or this site, we ALL HAVE A CHOICE. Each system has it's dynamics, advatnatges, and disadvantages. We pick the ones we are comfortable with ... or none at all.

Namir

Re: So many ebay sellers

*Message #3 Posted by **Paul Marin** on 2 Feb 2006, 7:48 p.m.,*
in response to message #2 by Namir

Yes I agree Namir. We do have free choice, but I won't go back to ebay ever.

Re: So many ebay sellers

*Message #4 Posted by **Namir** on 2 Feb 2006, 8:20 p.m.,*
in response to message #3 by Paul Marin

That choice is your right.

Re: So many ebay sellers

*Message #5 Posted by **Howard Owen** on 2 Feb 2006, 9:53 p.m.,*
in response to message #1 by Paul Marin

Why do sellers use eBay? *Buyers.*

Better to ask why buyers use eBay. I think it's because the general perception is that it is safe. Whether it is or not is certainly arguable. But I think it's true that most buyers see it that way. And other sites on the Internet are unknown quantities to most people, and therefore seen as unsafe, once again whether they are or not.

But when you look at how the psychology of eBay's modified auction works on the seller's behalf, it's amazing so many people keep going there. I "opt out" of the bidding wars, generally. Otherwise I too get goaded into bidding over what I really want to pay.

Regards,
Howard

Re: So many ebay sellers

*Message #6 Posted by **Namir** on 2 Feb 2006, 10:18 p.m.,*
in response to message #5 by Howard Owen

I'd say that eBay is more ORGANIZED and that seems to instill some confidence. Who would want to deal with a here-today-gone-tomorrow web site??? As for safety, I make no illusion about the presence of dishonest or lazy sellers. As a buyer, I have to read between the lines and use experience to get a general feeling about the reliability of the auction info and the seller.

Namir

Re: So many ebay sellers

*Message #7 Posted by **Howard Owen** on 2 Feb 2006, 10:50 p.m.,*
in response to message #6 by Namir

Yes, the stability is part of the safety equation. Also, they work really, really hard to address issues that could undermine trust in the site, generally. Their efforts to educate people about phishing schemes using eBay and PayPal as bait is an example. The warnings and educational links are right up front in "My eBay" most of the time. They have PayPal, which has basically no downside for buyers, offering guarantees, for extra money of course. A user doesn't even have to use the service to get a sense of safety from that. And then there's the reputation system. While it's flawed in the sense that people are reluctant to mark anyone down for fear of retaliation, it actually works pretty well for dissuading outright criminality. (Nobody is reluctant to give negative feedback to a crook.)

So between managing actual site safety and the perceptions of same, eBay keeps the buyers on board. They have to, because *buyers under the influence of the modified auction are eBay's product.*. That product attracts eBay's customers, *the sellers*. Sellers get fees hiked on them every year, and they keep coming back. And eBay keeps on minting money.

But hey, you can get some cool calculators there! 8)

Regards,
Howard

Re: So many ebay sellers

*Message #8 Posted by **gifron** on 3 Feb 2006, 2:04 p.m.,*
in response to message #7 by Howard Owen

> Quote:
>
> Their efforts to educate people about phishing schemes using eBay and PayPal as bait is an example.

I agree. I get emails from eBay and PayPal all the time about phishing. They say to be careful, and then I just have to click on the link and log in to learn more. ;^} ;^)

Re: So many ebay sellers

*Message #9 Posted by **Howard Owen** on 3 Feb 2006, 4:42 p.m.,*
in response to message #8 by gifron

Aren't you glad they care so much as to warn you all the time? 8)

If you sell internationally ...

*Message #10 Posted by **Artur - Brasil** on 3 Feb 2006, 2:05 p.m.,*
in response to message #1 by Paul Marin

you may try my own site to sell your calculators and accessories: www.elibertas.com.br link Tecnologia, Balcao Calculadoras.

It also is not so organized as Ebay, but you still may use it ;>)

About confidence, Ebay is not perfect too ...

Best regards, Artur

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32SII only about $100

*Message #1 Posted by **Han** on 2 Feb 2006, 5:27 p.m.*

This auction (eBay # 5859611553) for an HP32SII ended and the final price was approximately $100. It's also the more desirable unit. How is it that people are charging $300+ for an HP32SII when a collector's unit goes for around $100?

Re: 32SII only about $100

*Message #2 Posted by **Les Bell** on 2 Feb 2006, 5:30 p.m.,*
in response to message #1 by Han

He incorrectly named it "Hewlitt Packard", so those collectors and traders who search on "Hewlett" would have missed it. Also, he offered shipment to US only, which would have eliminated some enthusiastic bidders.

Best,

--- Les
[http://www.lesbell.com.au]

Re: 32SII only about $100

*Message #3 Posted by **Joe Edwards** on 2 Feb 2006, 5:55 p.m.,*
in response to message #1 by Han

> Quote:
>
> This auction (eBay # 5859611553) for an HP32SII ended and the final price was approximately $100. It's also the more desirable unit. How is it that people are charging $300+ for an HP32SII when a collector's unit goes for around $100?

I saw that about 15 mins after the auction ended. I stopped to buy my dog a new chew bone....hmmmmph. How do I explain to my lab that she owes me a NEW HP 32sii??? :)

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Hp 71B

*Message #1 Posted by **Xavier LaRue** on 2 Feb 2006, 1:12 p.m.*

Hi there,

I just have got a 71B lately and I was asking myself if is possible to program in Assembly without the rom or an HP-IL link. Also, is there a way to make an HP-IL ? As I'm in an Electrical Engeenering I can do the circuit with some microcontroler but, has the protocol been Reverse engeenered ? If so, where can I find the doccument.

Thank your for your info, Xavier LaRue

Re: Hp 71B

*Message #2 Posted by **Howard Owen** on 2 Feb 2006, 1:46 p.m.,*
in response to message #1 by Xavier LaRue

There are several documents on TOS and on the museum's DVD that have detailed specs for HP-IL. These in particular ought to be of interest:

- Hewlett Packard General Purpose HP-IL Interface Integrated Circuit 1LB3-0003 (TOS)
- The HP-IL Interface Specification HP Pub. 82166-90017 (TOS)
- Firmware Design for HP-IL Devices - HP Application Note (Museum)
- The HP-IL System: An Introductory Guide (retrocalculator.com)
- HP-71B HP-IL Internal Design Spec, Volumes 1 and 2 (Museum)

The museum DVD may be purchased here. If you need a pointer to TOS, email me at hbo@egbok.com.

HP made a series of ICs that implemented the HP-IL protocol. You can probably scavange chips from old, non-working hardware. Here's a partial list of devices that had HP-IL, and thus the IC in question, built in:

- Thinkjet HP-2225B
- 9114, 9114B floppy drives
- 3421A Data Acquisition - Control Unit
- 3468A Digital Multimeter
- 82161A Digital Cassette Drive
- 82162A HPIL Printer
- 82163 HPIL Video Interface
- 82164 HPIL-RS232 Interface
- 82165 HPIL-GPIO Interface
- 82166C HPIL Converter Kit
- 82169 HPIL-HPIB Interface
- 82905B Printer
- 82973A HPIL/ISA Interface Card
- FSI164A HPIL RS232 Interface
- HP-110 and Portable+ Laptops
- Add on modules for HP-85 and HP-150 computers

Cristoph Klug makes a reimplementation of the 82973A ISA card. If you were to implement a PCI card, I'd buy one. 8)

Regards,
Howard

Edited: 2 Feb 2006, 1:49 p.m.

Re: Hp 71B

*Message #3 Posted by **Howard Owen** on 2 Feb 2006, 2:02 p.m.,*
in response to message #2 by Howard Owen

Or USB, better yet!

Re: Hp 71B

*Message #4 Posted by **Xavier LaRue** on 3 Feb 2006, 12:45 a.m.,*
in response to message #3 by Howard Owen

Hi there,

Happy to see that somone would be interested into what I'm planning to do.

I'm planning to make a cable to remplace de ISA card using eather RS232 or USB [I'll make it with a microControler]. So I need to find the doccumentation about the protocol and how it works.

I'll need any information that you know on the HP-IL protocol.

Thank you for all your help :) Xavier LaRue

Re: Hp 71B

*Message #5 Posted by **Howard Owen** on 3 Feb 2006, 1:11 a.m.,*
in response to message #4 by Xavier LaRue

Well, all the references I listed above would be helpful.

HP shipped a development kit for HP-IL. It contained four of the 1LB3-003 HP-IL ICs, supporting electronic parts, a couple of HP-IL development modules for the HP-41C, an HP-IL translator, which was some sort of demonstration implementation, plus a lot of documentation. "The HP-IL Interface Kit Technical Guide" contains an overview of the kit. It recommends the following documentation, all of which I listed above: "The HP-IL System" is a book-length tutorial on implementing HP-IL. "The HP-IL Interface Specification HP Pub. 82166-90017" is the most useful document for what you have in mind. It has all the state digrams for the protocol, and exhaustive specs for the logical and electrical properties. Taken together, those two should have enough information for what you want to do. If you decide to take the route of scavanging HP-IL ICs of old hardware, then the "HP-IL Integrated Circuit User's Manual" will also be useful. In might be good to have in any event, just to compare the implementation to the spec. The first book is linked to above. The other two can be found at TOS.

I'm not an EE. I'm a systems software guy with a serious addiction to old computers and networks. I studied the documents listed above with an eye toward writing a Linux driver for Cristoph Klug's ISA card. But I ended up cobbling a solution together with DOSEMU and JF Garnier's EMU41. That got my PCs and my HP-IL gear talking, so the itch got scratched, and I shelved the project.

I'm not sure how much help I'd be to you beyond pointing you at the right documentation. But I'm glad to help out any way I can.

One issue I see is the loop vs the point-to-point nature of serial links. How were you planning to handle that?

Regards,
Howard

Re: Hp 71B

*Message #6 Posted by **Vassilis Prevelakis** on 3 Feb 2006, 6:39 a.m.,*
in response to message #1 by Xavier LaRue

The HP-IL interface generally consists of a controller, two pulse transformers for line isolation and the connectors.

Reverse engineering the controller will be tedious but doable since the specs are out there (see Howard's post above). However finding replacements for the transformers and connectors will be tough.

I'd suggest you forget about HP-IL and think about creating a USB or RS-232 interface for your HP-71B instead. This interface can fit within the HP-IL controller cavity and will be far more useful than the (obsolete) HP-IL interface.

Just my two cents

**vp

Re: Hp 71B

*Message #7 Posted by **Howard Owen** on 3 Feb 2006, 11:54 a.m.,*
in response to message #6 by Vassilis Prevelakis

On the other hand, an HP-IL solution would work for the HP-41, HP-75 and HP-110 as well as the HP-71, increasing the potential market for a hobbyist product.

Re: Hp 71B

*Message #8 Posted by **Xavier LaRue** on 3 Feb 2006, 11:59 a.m.,*
in response to message #7 by Howard Owen

I'll see,

The point is the if I find all the needed info, I'd like to make product that work with every HP-IL compatible, calculator.

What I need it the documentation.

Thank for your help, Xavier LaRue

Re: Hp 71B

*Message #9 Posted by **Vassilis Prevelakis** on 3 Feb 2006, 10:25 p.m.,*
in response to message #7 by Howard Owen

```
Howard Owen wrote:
```

> On the other hand, an HP-IL solution would work for the HP-41,
> HP-75 and HP-110 as well as the HP-71, increasing the potential
> market for a hobbyist product.

Maybe I misunderstood, but I was left with the impression that he does not have the **HP-IL interface** fpr his HP-71B and that he is looking to make a new 71B HP-IL interface.

How is *that* going to be of any use to an HP-41 owner?

Another idea would be the card reader port. It provides access to the internal bus so you can hang there a microprocessor with Flash (something like Diego's NOVRAM module). Then you can download programs to the flash and the 71 will find them mapped in its address space.

**vp

Re: Hp 71B

*Message #10 Posted by **Howard Owen** on 4 Feb 2006, 11:21 a.m.,*
in response to message #9 by Vassilis Prevelakis

I think you may have missed this part, Vassilis:

> Quote:
>
> I'm planning to make a cable to remplace de ISA card using eather RS232 or USB [I'll make it with a microControler]. So I need to find the doccumentation about the protocol and how it works.

Regards,
Howard

Re: Hp 71B

*Message #11 Posted by **Garth Wilson** on 4 Feb 2006, 2:44 p.m.,*
in response to message #6 by Vassilis Prevelakis

> Quote:
>
> This interface can fit within the HP-IL controller cavity and will be far more useful than the (obsolete) HP-IL interface.

HPIL is obsolete only in that it is out of production. It's good for only the medium speed of about 5,000 bytes per second plus overhead (even USB 2.0 may not be able to go any faster with an HP71 though), but HPIL has a lot of benefits over other interfaces. It allowed simultaneous interfacing to anywhere from one to *hundreds* of other devices with a single pair of small, inexpensive connectors and no external hubs, was plug-n-play, did auto-addressing and error-checking, every device knew what it was and what it could do, it supported hot-swapping and interrupts, had 1,000-volt isolation between any two adjacently connected devices (by the pulse transformers), and allowed passing control from one controller to another if you had two or more controllers on the loop. There were interface converters to the other major interface types--parallel, RS-232, and HPIB (IEEE-488). Being less expensive and more intelligent than HPIB, it should have become an industry standard, but unfortunately HP marketing killed it like they did the 71. The 71 was made for technical professionals; but not one in ten of them knew it existed; and of those who did know, not one in ten had any idea how much power it had.

USB is the common interface now. It's faster, but it has the *huge* disadvantage that you need an additional

port for each thing you want to connect. (That's a problem when you have limited space for connectors, like on the 71.) Distance is more limited too. Again there are converters to the different interface types though, so a USB port can be connected to RS-232, HPIB, and hubs to more USB ports.

The only other interface I can think of right now that had the isolation like HPIL is MIDI, which uses optoisolators instead of pulse transformers. The optoisolators made it less suitable for low-power hand-held operation, the connectors are bigger, and its fixed speed is slower, at 31.25kbps. It did allow daisy-chaining, but there was no error-checking.

Re: Hp 71B

*Message #12 Posted by **Howard Owen** on 4 Feb 2006, 3:32 p.m.,*
in response to message #11 by Garth Wilson

> Quote:
>
> Being less expensive and more intelligent than HPIB, it should have become an industry standard, but unfortunately HP marketing killed it like they did the 71.

As the experience of the following thirty-odd years has showed, standard technologies are more likely to succeed than proprietary ones, absent a monopoly. That's because competitors can usually implement the standard on easy terms, often for free. And if there's an installed base already, a company will want to adopt the standard so as to be compatible and familiar to the existing customers. HP-IL was published, but not standardized, remaining an HP-proprietary technology. HP-IB was published *and* standardized, as IEE-488. HP-IB lives on as GPIB, and has been extended several times to keep up with increased data rates and other advances. HP-IL never went beyond the basic implementation of the loop. Controllers were upgraded, from the 41 to the 75 to the 71, and half-heartedly to the HP-85, (the HP-110 and HP-150 weren't intended as instrument controllers,) but HP-IL died a death in obscurity. It's a pity, no doubt.

Re: Hp 71B

*Message #13 Posted by **Eric Smith** on 3 Feb 2006, 1:22 p.m.,*
in response to message #1 by Xavier LaRue

With a bare 71B, you can program in assembly language by using POKE, PEEK, etc. It's quite a hassle though, so I don't especially recommend it. You really should either buy the assembler ROM or the HP-IL interface and an HP-IL to serial converter.

Buildinng your own HP-IL interface for the HP-71 would be a very large undertaking; it's not enough to just build something that emulates the microcontroller and 1LB3 chip in the HP-IL module. In addiion to needing to write a fair amount of firmware for the microcontroller, you would somehow need to have a copy of the HP-IL ROM code that runs on the HP-71.

The protocol has not been reverse-engineered, because HP actually published all the relevant specifications. They're on the MoHPC DVD or CD set.

Re: Hp 71B

*Message #14 Posted by **Xavier LaRue** on 3 Feb 2006, 3:16 p.m.,*
in response to message #13 by Eric Smith

As Said earlier, I'll see, when I'll get my hand on the documentation, It shoul'nt be to much hard to interface...

We will see, Xavier LaRue

Re: Hp 71B

*Message #15 Posted by **Xavier LaRue** on 3 Feb 2006, 3:21 p.m.,*
in response to message #14 by Xavier LaRue

The point is that I love playing with uC, so, this is only a bus with some protocol. We will see for an RS232 interface but it should not be that hard.

The Assembler Rom and/or the Linking interface cost too much for my budget.. so :)

Anyway, I'll continue my research and see for the Museum CDs.

Thank you all, Xavier LaRue

ps: I still need to receive my hp71B. Its due for the next week :)

Re: Hp 71B

*Message #16 Posted by **Eric Smith** on 4 Feb 2006, 12:47 p.m.,*
in response to message #14 by Xavier LaRue

> Quote:
>
> It shoul'nt be to much hard to interface...

I think you'll find otherwise. I did HP-IL product development for a while, and even WITH all of the HP specifications, it still took months of hard work to develop a microprocessor-based HP-IL device, make sure that all of the necesary state machines work correctly, etc.

This isn't a simple interface like RS-232.

And for what you're talking about doing, you need to interface the the Saturn microprocessor bus too, which is more complex than a typical microprocessor bus of the 1980s.

It's all quite possible, but it's also quite a time sink. So unless you simply have a lot of time on your hands, you're definitely better off buying the interface than engineering your own.

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tricky definite integration

*Message #1 Posted by **hugh steers** on 1 Feb 2006, 10:16 p.m.*

Suppose you wanted to evaluate the following definite integral:

$$I = \int_0^1 \cos\left(\frac{1}{x}\right) dx$$

the idea is to try to evaluate it on a calculator. so far, no calculator i've tried will handle the input as stated, so i'm looking for a manipulation or substitution that will break down the problem or transform it into a do-able calculation that will yield over 5 significant figures. a bit like some of the hp manuals treated some difficault cases.

But first: the answer!
We actually know the symbolic answer:

$$I = x\cos\left(\frac{1}{x}\right) + Si(x) + c \qquad \text{where } Si(x) = \int_0^x \frac{\text{Sin}(t)}{t}\, dt$$

therefore $I = \cos(1) + Si(1) - \lim_{x\to\infty} Si(x)$ and $\lim_{x\to\infty} Si(x) = \pi/2$

so I = -0.084410950559573886889

Now suppose we didn't know the above and wanted to evaluate the answer on a calculator and i don't mean using the breakdown of `I' in terms of Si(x) and calculating Si(1) on a calculator because this is cheating.

let's try some substitions:

plan A:

$u = 1/x, \quad \text{gives } I = \int_1^\infty \frac{\cos(u)}{u^2}\, du$

this isn't any good either because of the `inf'. you can try numbers like 1000 for inf and get some of the answer. for example, on a 71b i (eventually) get integral(1,1000,1e-5,cos(ivar)/ivar^2) = -0.0844101253838 which is correct to the 5 figures i asked of it (ie 1e-5), but i didn't prove the remainder of the integral was small enough to ignore and getting more than 5 this way would be very tedious.

plan B:

$u = \tan(y), \text{ gives } I = \int_0^{\pi/2} \frac{\cos(\tan(y))}{2}\, dy$

```
                              /pi/4    sin(y)


now we get finite limits, but still the function oscillates so wildly,
there's insufficient calculator convergence. for instance,
integral(pi/4,pi/2,1e-3,cos(tan(ivar))/sin(ivar)^2) = -0.084561887...
after some time and this is still quite vague.
```

so does anyone have a transform that gets fast enough convergence?

Re: tricky definite integration

*Message #2 Posted by **Marcus von Cube, Germany** on 2 Feb 2006, 3:17 a.m.,*
in response to message #1 by hugh steers

Hugh,

you'll find this thread interesting: Torture Integral. Look for message #5.

This beast is even worse:

Integral between 0 and 1 of f(x) = Cos(Ln(x)/x)/x

The trick is to integrate along a complex path where the trigonometric functions stop oscillating.

Marcus

Re: tricky definite integration

*Message #3 Posted by **GE** on 2 Feb 2006, 3:45 a.m.,*
in response to message #1 by hugh steers

Plan A is not so bad as you think, since we can find an upper bound for the remainer
R=integral(cos(u)/u^2,1000,inf) : abs(R)<integral(1/u^2,1000,inf)=1/1000.
So you get your 4 exact digits.
I wonder if you can take u = cos(1/x), since arccos is relatively well behaved. I have not tried.
Thanks for this mind-streching post.

Re: tricky definite integration

*Message #4 Posted by **Valentin Albillo** on 2 Feb 2006, 7:05 a.m.,*
in response to message #1 by hugh steers

Hi, Hugh:

The HP-71B can compute your integral as is, for instance let's get and display four decimal places:

```
FIX 4 @ INTEGRAL(0,1,1E-4,COS(1/IVAR))

   -0.0844
```

but of course it's rather slow. The optimum way to compute it, exact analytic methods apart, is to do the integration in the complex plane, where your trigonometric function becomes just the real part of some complex exponential, and using a path of integration that mostly avoids the oscillations. A suitable change of variable before performing the complex integration might help as well, if the upper or lower limits are infinite. This is the standard "trick" and it does work.

The integral then becomes much easier and can be computed to 12-digit accuracy in a matter of minutes (or

seconds under Emu71).

Best regards from V.

Re: tricky definite integration - help wanted to relearn

*Message #5 Posted by **Arnaud Amiel** on 3 Feb 2006, 3:37 a.m.,*
in response to message #4 by Valentin Albillo

I am loking to refresh my memory on complex plane integration. Quite a few years ago, it was covered in my university maths course. Unfortunately it was on Friday afternoons so only remember it is very useful for tricky integral and that there are a few pitfalls in the selection of integration path.

Any pointers to go and relearn this would be helpful.

Thanks

Arnaud

Re: tricky definite integration

*Message #6 Posted by **hugh steers** on 3 Feb 2006, 12:13 p.m.,*
in response to message #4 by Valentin Albillo

thanks for your complex contour suggestion,

```
i decided to try out the contour approach. i was hoping to find a really
cunning path that might make the problem really easy. but i can't see one
(anyone?). so here's my attempt:


working now in the complex plane, the problem i have is to start from (0,0)
which is a pole. so what i'm going to do is not start on the pole and instead
start on (eps,0) [eps = epsilon].


my path from (eps,0) to (1,0) has three parts:


part A: quarter circle anticlockwise from (eps, 0) to (0, eps).
part B: line along y, from (0,eps) to (0,1).
part C: clockwise quarter cicle from (0,1) to (1,0).


so my answer, I, is Re(A + B + C), providing i can make eps->0 without
problems (Re = real part).


now, i can say right away that Re(B) = 0, since it is entirely on the
imaginary line. which leaves me with two problems lim eps->0 Re(A) and Re(C).


this is where the calculator can only partly help me. i have to do part A
and maybe it (the 71b in this case) can do part C.


                 1
let  f(z) = cos(-)
                 z


PART A:
                 /pi/2
                 |                                                        it
       A =       | f(z(t)) z'(t) dt   and z(t) = eps(cos(t)+ i sin(t)) = eps e
                 |
                /0
```

$$= i\,\mathrm{eps}\int_0^{\pi/2} \cos\left(\frac{1}{\mathrm{eps}\, e^{i t}}\right) e^{i t}\, dt$$

now, the bit i want is Re(A) whilst eps->0. however this is where i cheat because i can't let eps->0 before integrating and i don't know how to integrate it.

now it turns out that Re(A) = -eps cos(1/eps) - Si(1/eps), where Si(z) is the sine integral as before. knowing this, it's clear than Re(A) lim eps->0
= 0 - si(inf)
= -pi/2

but that was because i knew the original indefinite integral all along. maybe i can put a small eps into the 71b and integrate numerically and guess the answer is pi/2. is there any way to deal with the limit before integrating?? so, by guessing or otherwise i have Re(A) = -pi/2

PART C:

this part i have to manipulate the problem into a form i can feed to the 71b. as in part A, but with no eps, i have:

$$C = -i\int_0^{\pi/2} \cos\left(e^{-(i t)}\right) e^{i t}\, dt$$ [note: minus comes from other direction]

the first idea was to feed this directly to the 71b as a complex numerical integration, like this:
integral(0,pi/2,1e-5,cos(exp((0,-1)*ivar))*exp((0,1)*ivar))

but it doesn't like it. its a pity, i was hoping it could perform its summation with complex numbers. is there a way??

so, i have to do more more work. i can expand C into real and complex parts. if i expand the integrand and take the imaginary part, it will form the real part of the answer when put with the -i outside. so after simplification, i get:

$$\mathrm{Re}(C) = \int_0^{\pi/2} (\sin(t)\cos(\cos(t))\cosh(\sin(t)) + \cos(t)\sin(\cos(t))\sinh(\sin(t)))\, dt$$

and into the 71b (with the additional -pi/2 from part A) as this:

```
10 DEF FNA
20 S=SIN(IVAR) @ C=COS(IVAR)
30 FNA=S*COS(C)COSH(S)+C*SIN(C)*SINH(S)
40 END DEF
50 DISP INTEGRAL(0,PI/2,1E-8,FNA)-PI/2
```

which finally gives the very good (correct) answer:

-0.08441095058.

Re: tricky definite integration

*Message #7 Posted by **Tizedes Csaba [Hungary]** on 6 Feb 2006, 3:08 a.m.,*
in response to message #1 by hugh steers

Hello,

I played with the Taylor-approximation of

```
1/X
```

function on my 48SX. Some results:

```
1/X = 1+SUM(I=1,INFINITY,(1-X)^I) = (1-(1-X)^(N+1))/X (where N is big enough, but not too
;) )
```

I know, this is not an elegant way, but I spend some time to play with it. I want only a fastest result. I wrote few versions of this method, finally the "PRG1" was the integrator with 'COS(INV(X))' intengrand, and "PRG2" was the integrator with 'COS((1-(1-X)^(N+1))/X)'. The big fault is the numerical error when the N is too big!

```
-----------------------------------------------------
N=24  RESULTS                RUNNING TIMES
      PRG1        PRG2       PRG1          PRG2
FIX1  -0.07725   -0.19917       1.2sec     1.9sec
FIX2  -0.083396  -0.084487     37.6sec    14.7sec
FIX3  -0.084375  -0.084487   1193  sec(!) 14.1sec(!)
-----------------------------------------------------
N=49  RESULTS                RUNNING TIMES
      PRG1        PRG2       PRG1          PRG2
FIX1 (AS ABOVE)  -0.06555    (AS ABOVE)    1.9sec
FIX2 (AS ABOVE)  -0.085261   (AS ABOVE)   28.7sec
FIX3 (AS ABOVE)  -0.085261   (AS ABOVE)   28.7sec
-----------------------------------------------------
```

I tried some other way too: changing the boundaries of the interval from [0...1] to [1...H], where H->0, tried to integrate 1+COS(INV(X)), then substract 1 from the result (with this method no change sing on the interval), and so on...

Csaba

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Bad 49G+ wanted

*Message #1 Posted by **Hugh Evans** on 1 Feb 2006, 3:53 p.m.*

From discussions around here I have the impression that quite a few replacements were issued by HP for bad 49G+ units. Rather than buy a revised new and potentially good machine I wanted to ask around here for a donor unit that was replaced by HP... In other words a spare that someone might have sitting around.

It will be used to develop an aftermarket enclosure based on OpenRPN designs. Similar to this:

http://openrpn.org/images/userimages/CAD/Portrait-iso-top.jpg

Of course, I will pay for all shipping and handling. And if we decide to a market a retrofit kit, we'll give you the first one free of charge. This will most likely be the first openrpn product to be marketed.

Please respond via email.

Best Regards, Hugh

Re: Bad 49G+ wanted

*Message #2 Posted by **e.young** on 1 Feb 2006, 4:58 p.m.,*
in response to message #1 by Hugh Evans

OpenRPN sounds very intriguing. How long will it be before you estimate that you will have a product on the market?

Re: Bad 49G+ wanted

*Message #3 Posted by **Howard Owen** on 1 Feb 2006, 9:26 p.m.,*
in response to message #1 by Hugh Evans

```
When the keys seem a little shifty..
     When trust is violated..
When the numbers just don't add up..

     WHEN CALCULATORS GO BAD!!
```

Quote:

The calculator looked so innocent, sitting there on the shelf. Not like those low-life TIs you find so commonly hanging around the schools. This one had an air of .. dignity, almost. An air of wounded pride and past glories lost forever. Little did she suspect that, when she got home and opened the package, he would start playing games with her. Tetris at first, then Cyclo. Then things started to get rough. It began with an extra bit of acceleration in Babal ...

- From *When Calculators Go Bad* by A. Neuro Tique. At a bookstore near you.

Re: Bad 49G+ wanted

*Message #4 Posted by **Ed Look** on 1 Feb 2006, 10:09 p.m.,*
in response to message #3 by Howard Owen

Ha ha. ::)

Seriously, one time at church on Sunday, I saw a boy with his big graphing TI-whatever, punching away at the buttons. I thought to myself, "What a studious young man!" So, I went over to see what he might be studying/calculating even on a weekend day like this.

Ever get a small dream deflated?

He was playing games.

Pffphppt!

Re: Bad 49G+ wanted

*Message #5 Posted by **Ed Look** on 1 Feb 2006, 10:11 p.m.,*
in response to message #1 by Hugh Evans

Hugh, as far as I know, mainly by my own experience, you have to RETURN the old unit in exchange for the improved one. I suspect none of us may have an extra 49G+, at least not from that transaction.

Re: Bad 49G+ wanted

*Message #6 Posted by **Joe Edwards** on 2 Feb 2006, 8:37 a.m.,*
in response to message #5 by Ed Look

> Quote:
>
> Hugh, as far as I know, mainly by my own experience, you have to RETURN the old unit in exchange for the improved one. I suspect none of us may have an extra 49G+, at least not from that transaction.

Sometimes HP doesn't ask for the original calculator back. THAT is how disposable these new machines are! Software seems nice, too bad the build quality is poor. I would pick up a few of them if they had the HP 48S/G/X build quality.

Re: Bad 49G+ wanted

*Message #7 Posted by **Hugh Evans** on 2 Feb 2006, 9:53 a.m.,*
in response to message #6 by Joe Edwards

That's the reason I asked. I recall several posts stating that HP didn't request the faulty unit being returned. This isn't a big deal either way... it would just be nice to avoid cannibalizing a perfectly good unit after shelling out $150 or so when someone around here might have a left over one to spare.

Thanks, Hugh

Re: Bad 49G+ wanted

*Message #8 Posted by **Tim Wessman** on 3 Feb 2006, 8:05 a.m.,*

in response to message #7 by Hugh Evans

I have one. What exactly do you need? It was coverted to use AA batteries, and then later fell out of a pocket while riding my bike. I have the circuitboard/screen whole and intact. The keyboard is scattered in various locations and the case is destroyed from the fall/modifications, but I think the board and screen is still good. Is that all you require?

TW

Re: Bad 49G+ wanted

*Message #9 Posted by **Hugh Evans** on 6 Feb 2006, 2:47 p.m.,*
in response to message #8 by Tim Wessman

Yes, that actually sounds perfect for my needs. I'll send you an email to discuss the shipping details. Thank you very much for your response and contribution.

Once I receive it I expect to have a design ready within a month. My plans include adding a PCB to modify the keyboard layout with a properly sized and placed enter key, as well as an enclosure adapted directly from my OpenRPN designs. The process will also require a new set of tactile domes which should fix keypress registration issues once and for all.

When all is said and done, we'll finally have a worthy successor to the 48gx.

Re: Bad 49G+ wanted

*Message #10 Posted by **Howard Owen** on 6 Feb 2006, 3:14 p.m.,*
in response to message #9 by Hugh Evans

Sounds great.

Best of luck, Hugh!

Regards,
Howard

Re: Bad 49G+ wanted

*Message #11 Posted by **Tim Wessman** on 6 Feb 2006, 8:39 p.m.,*
in response to message #9 by Hugh Evans

timwessman at yahoo.com

or same @google.com

TW

Return of Defective units

*Message #12 Posted by **Paul Brogger** on 3 Feb 2006, 4:57 p.m.,*
in response to message #7 by Hugh Evans

I've got one of each (HP-49G+ and HP-33s) that H-P service decided they didn't need returned after sending me replacements. I think it's a good way for H-P to smooth their customers' ruffled feathers -- they'd just be tossing the faulty units anyway. (In fact, the help desk people did database look-ups on the problems I'd reported, and would have asked for return of a faulty unit had they

wished to examine it, but in neither case was that an issue.)

They took the Serial #'s of the problem units, so those are presumably ineligible for future warranty claims. I was instructed to save the battery cover, recycle the batteries, and dispose of the unit. (I said, "*Will do* . . . ") But there are apparently no guarantees regarding this "free calculator" practice, so your mileage may vary.

Unfortunately, I'm not looking to give away my 49G+. (Sorry!)

Unfortunately also, in the 49G+ the display board is soldered firmly to the main circuit board along two edges. This will likely limit your options in "re-imagining" the overall size and layout of the beast.

I still have a partially-started project to try and fit a TI-83+SE into an HP-41 case. The previous-generation TI's -- 83+ and (I think) 89 -- have the display board linked to the main (keyboard/processor) PCB by a ribbon cable. Potentially, that could be lengthened and folded to reduce the new device's long dimension -- or enabling, possibly, a Voyager-like "landscape" layout? (But that project is sitting in a box -- I really should get back to it some day . . .)

Edited: 3 Feb 2006, 5:03 p.m.

Re: Bad 49G+ wanted

*Message #13 Posted by **Han** on 2 Feb 2006, 5:29 p.m.,*
in response to message #1 by Hugh Evans

This would be fantastic. I recall seeing some pictures of an HP49G (not plus) prototype that used the HP48GX keyboard. Your enclosure design also seems to have a keyboard that looks very much like that of an HP48. Is this the goal? To give the innards of an HP49G+ the beautiful outer shell of an HP48?

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factors and primes for 29c

*Message #1 Posted by **Hal** on 31 Jan 2006, 11:28 p.m.*

I would humbly like to submit my program (written for the HP29C) to find the prime factors of a given integer, or find all primes between 2 given integers. This program could be adapted to any machine with >= 98 program lines, conditional branching, and at least 6 storage registers. Note that since the 29C doesn't have flags, I have used register 0 as a pseudo flag.

Instructions: To find prime factors of an integer...put integer in x register and GSB 9. Factors are displayed successively. R/S to see the next factor. 1 is always the final factor displayed. If given integer is prime, factors displayed will be it and 1.

To find primes between two integers, put lower integer into register 6, and upper integer into register 9, and GSB 8. primes will display from lowest to highest. R/S to view next prime. Display will flash one zero, then 10 zeros, then 3 zeros (fix 2) when finished.
Best regards, Hal

```
step#           mnewmonic

1               lbl 9
2               0       set flag register to 0 for prime
3               sto 0    factors routine
4               x<>y
5               lbl 7
6               sto 04
7               sqrt
8               sto 05  set bail out point for finding factors
9               2
10              sto 1
11              gsb 1
12              3       manually check 2,3,5,7 for divisibility
13              sto 1
14              gsb 1
15              5
16              sto 1
17              gsb 1
18              7
19              sto 01
20              gsb 1
```

```
21              lbl 3
22              4       increment trial divisor by sequence
23              sto + 1  such that multiples of 2,3 and 5
24              gsb 1     are skipped
25              2
26              sto + 1
27              gsb 1
28              4
29              sto + 1
30              gsb 1
31              2
32              sto + 1
33              gsb 1
34              4
35              sto + 1
36              gsb 1
37              6
38              sto + 1
39              gsb 1
40              2
41              sto + 1
42              gsb 1
43              6
44              sto + 1
45              gsb 1
46              gto 3
47              lbl 1
48              rcl 5
49              rcl 1
50              x>y?
51              gto 5
52              rcl 04
53              x<>y
54              /
55              enter
56              frc
57              x=0?
58              gto 4
59              rtn
60              lbl 4
61              rcl 0
```

```
62              x<>0?
63              gto 2
64              rcl 1
65              r/s
66              roll dn
67              roll dn
68              roll dn
69              gto 7
70              lbl 5
71              rcl 4
72              r/s
73              rcl 0
74              x<>0?
75              gto 2
76              1
77              r/s
78              rtn
79              lbl 8
80              9       set flag register to non-zero for
81              sto 0    primes between integers routine
82              rcl 6
83              gto 7
84              lbl 2
85              1
86              sto + 6
87              rcl 9
88              rcl 6
89              x>y?
90              gto 6
91              gto 7
92              lbl 6
93              0
94              pause
95              fix 9
96              pause
97              fix 2
98              r/s
```

Re: factors and primes for 29c

*Message #2 Posted by **Trent Moseley** on 1 Feb 2006, 2:46 p.m.,*

in response to message #1 by Hal

Hi,

Peter Henrici in his book "Computational Analysis with the HP-25 Pocket Calculator" has a prime program for the 25 using all 49 lines, its four storage registers, and of course no flags.

tm

Re: factors and primes for 29c

*Message #3 Posted by **Hal** on 1 Feb 2006, 5:38 p.m.,*
in response to message #2 by Trent Moseley

I'll have to check that book out...Henrici must be a master of brevity when programming. There is a prime factors / prime numbers program for the hp67 in the software section of the this website that's 223 lines long (it has a few more bells and whistles for printing options, and error detection, etc). Best regards, Hal

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Help 75C !!!!

*Message #1 Posted by **gileno** on 31 Jan 2006, 1:26 p.m.*

I have just become two nice hp 75c and 75d. 1. Does anyone know how to access the built in roms in the 75C (Data communications, text formatter, visicalc). What is the syntax for a catalog on these ports? 2. Does anyone have information on how to become the digital wand to work on the 75D?

Thank you for your reply,

Re: Help 75C !!!!

*Message #2 Posted by **J-F Garnier** on 1 Feb 2006, 7:07 a.m.,*
in response to message #1 by gileno

1. Does anyone know how to access the built in roms in the 75C (Data communications, text formatter, visicalc). What is the syntax for a catalog on these ports?

Data communications, text formatter, visicalc ROM are NOT built-in, but are plug-in modules. There is no command to get a catalog of ROMs (built-in or plugged-in): no equivalent of the HP71 CAT :PORT.

2. Does anyone have information on how to become the digital wand to work on the 75D?

AFAIK, the Wand ROM module or the POD extension is needed, even if there is the Wand connector built in the HP-75D, but maybe am I wrong.

J-F

Re: Help 75C !!!!

*Message #3 Posted by **gileno** on 1 Feb 2006, 9:41 a.m.,*
in response to message #2 by J-F Garnier

CAT :PORT doesn't exist in HP75C :-(

Re: Help 75C !!!!

*Message #4 Posted by **J-F Garnier** on 1 Feb 2006, 3:17 p.m.,*
in response to message #3 by gileno

I'm a little bit amazed that you are *never* happy with my answer, each time I try to help you or give information :-((

J-F

Re: Help 75C !!!!

*Message #5 Posted by **gileno** on 1 Feb 2006, 5:42 p.m.,*

in response to message #4 by J-F Garnier

Thank you for the help. She helped me enough. Thank you very much. :-)

Visicalc on the 75C

*Message #6 Posted by **Tom Sherman** on 1 Feb 2006, 12:20 p.m.,*
in response to message #1 by gileno

To access the visicalc program, type vc

To exit the program: shift-attn (as if you were turning the unit off)

For command menu: /

For anything other than historical curiosity, a video interface and monitor would be helpful, as it is pretty hard to follow a spreadsheet with only a one-line display. But it is interesting to see that HP made this spreadsheet program available for the 75C.

Cheers, Tom

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how to "see" bmp files on windows

*Message #1 Posted by **how to convert bmp to grob** on 31 Jan 2006, 12:16 p.m.*

Hello,

My problem is: I have some graphics on windows and I want to see them on HP49G+.

So I start looking for something to convert a bmp windows into something HP49G+ could open.

I found bmp2hpgg.exe at hpcalc (God bless Eric...).

Now I can convert to an .gg file, I put it on the stack, but I don't have a clue what to do with it.

Someone can help me;)?

Rui

Re: how to "see" bmp files on windows

*Message #2 Posted by **bill platt** on 31 Jan 2006, 12:19 p.m.,*
in response to message #1 by how to convert bmp to grob

try searching and/or posting here:

http://groups.google.com/group/comp.sys.hp48?lnk=lr

Edited: 31 Jan 2006, 12:20 p.m.

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Off Topic - Question on Sharp PC-1500A Module

*Message #1 Posted by **Bill (Smithville, NJ)** on 31 Jan 2006, 10:48 a.m.*

Sorry for the off topic post, but I know there are several people here that also collect the Sharp pocket computers.

I just received another PC-1500A and it came with two CE-160 program module with battery. THe battery are obviously dead and from what I can learn on the WEB, when the battery dies, the programs on it also disappear.

Two Questions:

1. How do I open the modile to replace the battery?

2. Is the module used as addition memory? Or do I need some special device to program it?

Since this is off-topic, you can reply direct to

bjunk at NOTvpes dot com

Just remove the NOT and reassemble.

Thanks, Bill 12345

Re: Off Topic - Question on Sharp PC-1500A Module

*Message #2 Posted by **Howard Owen** on 31 Jan 2006, 11:10 a.m.,*
in response to message #1 by Bill (Smithville, NJ)

I wouldn't mind the same information, if it's not too much trouble. My email is hbo@egbok.com. (Lowlife pondscum spammer filth already have my address for years and years.)

Re: Off Topic - Question on Sharp PC-1500A Module

*Message #3 Posted by **Valentin Albillo** on 31 Jan 2006, 11:43 a.m.,*
in response to message #1 by Bill (Smithville, NJ)

Hi, Bill:

Bill posted:

"Since this is off-topic, you can reply direct to [...]"

I don't agree this is technically off-topic. The MoHP Terms of Use read:

> *"The topics of these forums, include just about anything listed in the Museum pages. These include HP calculators, early HP computers, general math, **calculating machines**, computer history, tips on buying, finding, repairing, or using old HPs etc."*

and your SHARP PC-1500 certainly belongs in the "calculating machine" cathegory, and even in

"computer history" as well. So while I deem reasonable to avoid converting this into a TI or SHARP forum, I think the occasional posting is covered by the above Terms. Matter of fact, I've seen much more off-topic, even bizarre subjects discussed here no questions.

"1. How do I open the modile to replace the battery?"

I do not have a RAM module for your particular SHARP model, but the ones I have for other similar SHARPs, such as the PC-1350, etc, do have a very small screw which you can unscrew with a specialized, 'watchmaker' screwdriver.

"2. Is the module used as addition memory? Or do I need some special device to program it?"

That would depend on the particular module but the ones I've always seen used with this machine are normal RAM modules, which simply add 8 Kb to system memory so, yes, you can use it as additional memory without doing anything special except plug it in.

By the way, if the module's battery is dead, this means you'll lose its contents as soon as you take it out. But as long as it remains plugged in, it'll draw current from the main unit's batteries and won't lose a thing unless they completely discharge as well. This essentially means you can use it ok even if its own battery is dead.

Best regards from V.

Re: Off Topic - Question on Sharp PC-1500A Module

*Message #4 Posted by **Bill (Smithville, NJ)** on 31 Jan 2006, 12:39 p.m.,*
in response to message #3 by Valentin Albillo

Hi Valentin,

Thanks for your reply. I knew you were a big sharp pocket computer fan. My first pocket computer was the 1500A with the neat four color plotter/printer. I now have several of them, but only a couple of pens that still work.

There's no screw on the CE-160 module. I just removed the label on it and checked to see if it was hidden - no luck.

From what I can find so far, it's a 16K memory module with a cr2032 battery. These were not installed in the computer I bought and anyway, the computer ended up with highly corroded battery still install. The unit works, but I think it'll just be a spare parts machine.

It's be great if it is additional memory that could be loaded with programs and then removed without losing them. I did put them in a good computer and they weren't reconized - that's why I figue the battery is dead.

I think the next step is to try the pry apart with a screwdrive or knife.

Thanks,

Bill

Re: Off Topic - Question on Sharp PC-1500A Module

*Message #5 Posted by **Marcus von Cube, Germany** on 31 Jan 2006, 5:11 p.m.,*
in response to message #4 by Bill (Smithville, NJ)

Bill,

> Quote:
>
> I now have several of them, but only a couple of pens that still work.

You can ask here for new pens: "Peter Lass" <christiane.Lass@t-online.de>

It's a small German enterprise selling medical equipment where these pens seem still to be used.

Marcus

Re: Off Topic - Question on Sharp PC-1500A Module

*Message #6 Posted by **Bill (Smithville, NJ)** on 1 Feb 2006, 8:22 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Hi Marcus,

Thanks for the info. It would be great to get some pens and put the plotter to some use.

Bill

Module Is Now Open

*Message #7 Posted by **Bill (Smithville, NJ)** on 31 Jan 2006, 1:23 p.m.,*
in response to message #1 by Bill (Smithville, NJ)

Okay, I bit the bullet and took a dull screwdriver to the module. With carefull prying I was able to get the module to pop apart. Looks like it was tack glued together.

There's a battery soldered directly to the circuit board. The battery shows zero volts. Now I need to get a CR2032 size battery with solder tabs. Anyone know of any souces?

When I get home tonight, I'll take a few digital photos of the module now that it's apart. I can e-mail copies of the photos to anyone who wants them.

Thanks, Bill

Re: Module Is Now Open

*Message #8 Posted by **Charlie O.** on 31 Jan 2006, 1:47 p.m.,*
in response to message #7 by Bill (Smithville, NJ)

The CR2032 is common and available even at your supermarket. You probably have one in your computer for its clock. The hp 12's use it too.

Re: Module Is Now Open

*Message #9 Posted by **george** on 31 Jan 2006, 2:03 p.m.,*
in response to message #7 by Bill (Smithville, NJ)

Sockets for 2032 batteries should be available from companies like Digikey. Then you can use regular, non-tabbed bateries.

Re: Module Is Now Open

*Message #10 Posted by **GE** on 1 Feb 2006, 6:49 a.m.,*
in response to message #9 by george

On later Sharp machines you have the option of merging the module RAM with the main RAM, or leave it as a separate file system. This is true on the PCE500, PC1600, and I believe the PC1360.
On the PC1500 (even 'A') there is no such thing and RAM should be appended immediately. I think you need to reset the machine by using the usual pointy thing in the hole marked 'P' on the back. It asks you if you want to erase everything, you can dismiss it by pressing [CL]. I'm not sure if this procedure can *really* keep the previous content of your machine, so please don't sue me !!
And yes, those machines are things of beauty. They never stop working if reasonably used, and they have STYLE !!

Re: Module Is Now Open

*Message #11 Posted by **Bill (Smithville, NJ)** on 1 Feb 2006, 8:25 a.m.,*
in response to message #9 by george

I don't think there would be enough room to squeeze a battery holder into the module. There's just barely enough room for the battery. Maybe a smaller or thinner battery with holder could be squeezed in, but I doubt it.

Bill

Re: Off Topic - Question on Sharp PC-1500A Module

*Message #12 Posted by **Bill (Smithville, NJ)** on 1 Feb 2006, 8:49 a.m.,*
in response to message #1 by Bill (Smithville, NJ)

I've got good news and bad news.

The good news:

Searching through my box of sharp PC manuals turned up the CE-160 Manual.

The Bad News:

The manual states:

"The CE-160 is a module that can write any program by using the CE-165 exclusive writer. However, no program can be written in CE-160 by using the PC-1500."

"When the CE-160 is connected to the PC-1500, all the programs, data, and the reserved contents previously stored in the PC-1500 cannot be used. Therefore, should be need these, make sure to record them on the tape before connecting the CE-160."

"Any program writen in the CE-160 cannot be either displayed or printed using either the LIST or LLIST instructions. No programs can be recorded on the tape using the CSAVE instruction."

It would appear that even though these are ram modules, they act like pre-loaded rom modules. The big difference is that after 3-5 years, the battery goes dead and all contents are lost. Sort of like self-destructing programs. They say to return module to the orginal place of purchase to have battery replaced and re-program module with the programs.

Has any one ever heard of or seen the CE-165 exclusive writer? Haven't been able to find referece on the web about it.

Very interesting module. Make's me wonder what the thinking was that went into developing it.

Looks like I have a nice display item, but not of much practicl use.

Bill

Re: Off Topic - Question on Sharp PC-1500A Module

*Message #13 Posted by **Marcus von Cube, Germany** on 1 Feb 2006, 10:09 a.m.,*
in response to message #12 by Bill (Smithville, NJ)

Bill,

it looks like you are searching for a CE-161 RAM module. Sorry, I don't have one :-(

Marcus

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LCD4.TTF Font

*Message #1 Posted by **Stephan** on 31 Jan 2006, 9:38 a.m.*

Hi all Has anybody the fontfile LCD4.TTF for me? I am unable to locate it on the internet anymore. If so, I should be more than happy if you could send me a copy via e-mail. Thank you very much in advance, best regards Stephan

Re: LCD4.TTF Font

*Message #2 Posted by **Richard Garner** on 31 Jan 2006, 6:46 p.m.,*
in response to message #1 by Stephan

You have mail.

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Loading Forth ROM into Clonix Module

*Message #1 Posted by **Phil Green** on 31 Jan 2006, 8:14 a.m.*

Hi, How do I load the Forth-41.HEX ROM image into the Clonix-41 module? What Page, Bank etc? When I try to load it, nothing appears in the Cat 2 directory. Any suggestions? Regards Phil Green

Re: Loading Forth ROM into Clonix Module

*Message #2 Posted by **Diego Diaz** on 31 Jan 2006, 10:14 a.m.,*
in response to message #1 by Phil Green

Hi Phil,

Please try:

http://www.clonix41.org/Projects/Clonix-41/forth-41.zip

This is the .HEX file to load directly into IC-Prog buffer.

Note that this is compiled with Clonix6P code, therefore, current drain will be higher than the ClonixLP counterpart...

I'll build "LP" .HEX versions for some of these "rare" modules that use pages below #6, namely: Services, Forth, Laitram... it will take a while though. (Really busy nowadays)

Best regards

Diego.

Edited to add: Please remember that Forth ROM as well as any other using page #5 won't work when plugged into 41CX for obvious reasons ;-))

Edited: 31 Jan 2006, 3:33 p.m.

Re: Loading Forth ROM into Clonix Module

*Message #3 Posted by **Phil Green** on 31 Jan 2006, 4:16 p.m.,*
in response to message #2 by Diego Diaz

Hi Diego, Thanks for your advice once again. I should have realised that it was a .HEX file. And yes, I have found I can not use it in my CX! I have just tried it! Can this ROM ever be relocated so that it does not use page #5? Regards Phil Green

Re: Loading Forth ROM into Clonix Module

*Message #4 Posted by **Diego Diaz** on 31 Jan 2006, 5:35 p.m.,*
in response to message #3 by Phil Green

I'm affraid I'm not of much help here... Sorry.

If any of the M-code gurus here read this, they may know if such a relocation is possible.

Best wishes.

Diego.

Re: Loading Forth ROM into Clonix Module

*Message #5 Posted by **Doug Wilder** on 1 Feb 2006, 1:44 a.m.,*
in response to message #3 by Phil Green

Took a quick look. Seems the lower 4K must be at page 4 yet the upper page (the one with the FAT) can go into any page. That is: the local executes are relative (not hard wired to page 5). Worth a try anyway.

Best

Re: Loading Forth ROM into Clonix Module

*Message #6 Posted by **Diego Diaz** on 1 Feb 2006, 10:49 a.m.,*
in response to message #5 by Doug Wilder

Thanks Doug, I'll give a go to a "splitted" Forth-41 version to verify your point... alas I'm not sure how long it will take... as noted before, I'm really busy nowadays.

Cheers

Diego.

Edited: 1 Feb 2006, 11:50 a.m.

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Inform Builder 1.8

*Message #1 Posted by **Marx Pio** on 30 Jan 2006, 11:01 p.m.*

Dear friends,

Does anyone has encountered bugs using IFB1.8 optimized for the HP49G+'s new display?

The IFB1.5 works fine on my HP48GX and it's is far the best Inform creator for the HP's ever made. But I could not run as expected on my HP49G+ (ROM revison #2.00)

The problem:

I create a full 2 columns by 4 rows(8 labels and 8 data fields being the last 2 a listfield type) but when I run the compiled code inside a UserRPN program, it doesn't shows the labels in the fourth row. It shows only the data fields(ListFields)in the same 4th row. I noticed that I just get the fourth row labels if I move it up near the 3th row. I had installed twice both extable and IFB1.8 but the problem still remains.

Is it a bug or I missed something?

Thanks in advance,

Marx Pio Manaus-AM

Re: Inform Builder 1.8

*Message #2 Posted by **Raymond Del Tondo** on 31 Jan 2006, 4:23 a.m.,*
in response to message #1 by Marx Pio

Hi,

are you sure you used IFB 1.5 on your HP-48GX?
Or did you mean 49g?

Regards

Raymond

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HP 32sII - upgrade memory to 32K?

*Message #1 Posted by * on 30 Jan 2006, 10:50 p.m.*

Hello, I'm pretty happy with my 32sII with one exception... Well, 2 exceptions since I'm still looking for one with the double-shot keys. The memory is so pitiful. As I'm sure you know.

Then I stumbled across this article:

Increasing HP-42s Memory to 32K

Has anyone tried that with their 32sII?

It sounds very delicate and risky. Drilling and cutting. There's no way I could do that myself and my 32sII is brand-new. Still I wish there was some business (like HP!) I could send it to that would do it for me, with some kind of a guarantee if the operation didn't go as planned... Or better, would sell one already upgraded. Don't you agree? I would just buy the 42s but the screen sounds almost painful to read and I love the big, sharp digits on the 32sII.

Re: HP 32sII - upgrade memory to 32K?

*Message #2 Posted by **Thomas Okken** on 31 Jan 2006, 8:40 a.m.,*
*in response to message #1 by **

> Quote:
>
> I would just buy the 42s but the screen sounds almost painful to read

It is true that the HP-42S display has rather poor contrast compared to, say, the 41 and the Voyagers, but I wouldn't go so far as to say it's painful to read. My eyesight is not great but my only issue with the 42S is that the viewing angle is a bit limited; once I adjust the contrast to match my usual viewing angle, I have no problems with it.

Re: HP 32sII - upgrade memory to 32K?

*Message #3 Posted by **Ron Ross** on 31 Jan 2006, 9:02 a.m.,*
*in response to message #1 by **

I don't think the Hp32s has any provision for RAM upgrade. The Hp42s was designed to have 32K RAM, but only sold with 8K for price and marketing reasons (since it has no I/O, 32K isn't needed or used often and a memory clear or reset is very painful to see).

If you want a 32s with 32K, buy an Hp33s. It is a 32sii with 32K RAM (although, not quite as good of quality and certainly not nearly as classic).

Re: HP 32sII - upgrade memory to 32K?

*Message #4 Posted by **Gerson W. Barbosa** on 31 Jan 2006, 9:02 a.m.,*

*in response to message #1 by **

The HP-42S can be upgraded to 32K because its OS can handle this much memory. I fear the 32SII wouldn't accept this large memory upgrade, but I am not the right person to tell.

Anyway, if you're pleased with the 32SII I think you should give the HP-33S a try because:

- it's backward compatible with the 32SII you're used to;

- it has 32K, much more than one will ever need (on the 33S);

- two-line easy-to-read display, but get the newer one with larger dots and commas;

- good keyboard;

- fanciful design.

Ok, to some the latter might be a weakness. I just think it should be slightly smaller, especially in the length. Nevertheless, I'd go for a 43S the same shape if only it were available...

Re: HP 32sII - upgrade memory to 32K?

*Message #5 Posted by **Norris** on 31 Jan 2006, 12:50 p.m.,*
*in response to message #1 by **

Even if you could upgrade the 32SII memory, you would still be in for a major disappointment. Other features of the 32SII wouldn't allow you to take full advantage of the larger memory.

The 32SII offers only a very limited number of labels (A to Z, plus i), which *cannot* be reused between different programs. Every program title, loop, or branch uses one up. This is not normally a limitation with the the 32SII, because you run out of memory before you run out of labels. But if you removed the memory limitation, you would soon run into the label limitation.

The 33S, which is basically a 32SII with a 2-line display and 32K memory, has this problem. Even though the memory is greatly enlarged, it's difficult to load more than a few moderately complex programs into it, because you run out of labels. The "effective" memory capacity for programs is greater than that of the 32SII, but not nearly as much as you would expect. The increased memory of the 33S does allow you to store virtually unlimited numbers of equations, but it does not allow you to store a large number of additional programs.

Re: HP 32sII - upgrade memory to 32K?

*Message #6 Posted by ** on 31 Jan 2006, 11:47 p.m.,*
in response to message #5 by Norris

Thanks for all the responses... This board is great.

That's a good point about the number of labels. I guess I'll have to buy the 42s then. I actually had one about 10 years ago but it was stored at my parent's house and they're not sure what they did with it, "maybe we gave it away" (!!!) I can't remember how difficult the display is to read, maybe it won't be that bad. The 32sII display is definitely nice though.

There's no way I'd buy the 33s with the weird keyboard and cheap construction. And I thought even the new version had tiny periods and commas?

Re: HP 32sII - upgrade memory to 32K?

*Message #7 Posted by **Jeff O.** on 1 Feb 2006, 7:27 a.m.,*
*in response to message #6 by **

> Quote:
>
> I guess I'll have to buy the 42s then....I can't remember how difficult the display is to read, maybe it won't be that bad.

By all means, find your old one or otherwise get another 42S. Yes, the display is somewhat more difficult to read than the 32S/SII or even the 33S. The absolute superiority of the 42S in every other way (in my humble opinion, of course) more than makes up for this shortcoming.

> Quote:
>
> And I thought even the new version had tiny periods and commas?

Check this message and judge for yourself.

Re: HP 32sII - upgrade memory to 32K?

*Message #8 Posted by **e.young** on 1 Feb 2006, 5:17 p.m.,*
*in response to message #6 by **

if you get a 33s with a serial number CNA 5xxxx or later you will have a unit with the improved display and keyboard. There is no more legibility problem with the decimal point, the keyboard has a better tactile feel, and I have yet to have a keystroke fail to enter.

With that being said, just looking at the 33s can be difficult, although it is more functional than the beloved early 32sII. I find myself using the 32sII for tasks that don't require any programs, and I use my 33s for tasks that do. I have about 10 programs in my 33s, and it is a great time saver. These were tasks I used to do on Excel, but I prefer using my HP.

Re: HP 32sII - upgrade memory to 32K?

*Message #9 Posted by **John Noble** on 1 Feb 2006, 1:17 a.m.,*
in response to message #5 by Norris

> Quote:
>
> The 33S, which is basically a 32SII with a 2-line display and 32K memory, has this problem. Even though the memory is greatly enlarged, it's difficult to load more than a few moderately complex programs into it, because you run out of labels.

It depends on how you write the programs. If you take the traditional approach of doing this:

```
A0001 LBL A
A0002 X>Y?
A0003 GTO Z
.....
Z0001 LBL Z
Z0002 1
Z0003 +
Z0004 2
Z0005 *
Z0006 RTN
```

... it's only nine lines of code, but you'll chew up labels in a hurry.

A far less elegant way to do it that conserves labels is to use a flag and keep testing it:

```
A0001 LBL A
A0002 CF 0
A0003 X>Y?
A0004 SF 0
A0005 FS? 0
A0006 1
A0007 FS? 0
A0008 +
A0009 FS? 0
A0010 2
A0011 FS? 0
A0012 *
A0013 CF 0
.....
```

Thirteen lines, one label.

Either all the flag tests will fail and skip over the stuff in between, or all of them will succeed and the code gets executed.

Inlining subroutines like this feels cheesy and obviously won't work in a lot of situations, but there's RAM to burn and it can save a bunch of labels you'd otherwise have to waste on simple conditionals.

I probably saved 4 or so labels this way in a ~100 line program I wrote recently. The code is ugly as hell, but it computes Julian dates given a Gregorian date (the usual dd.mmyyyy, expected in stack X) and an optional time zone offset from UTC & time (tz.hhmmss, expected in stack Y) with **one** label. Working this way, I think I might actually run out of RAM before I run out of labels.

Re: HP 32sII - upgrade memory to 32K?

*Message #10 Posted by **Howard Owen** on 1 Feb 2006, 1:58 a.m.,*
in response to message #9 by John Noble

I've done this too, and hated myself afterwards. 8)

It's true that there's plenty of memory. But repeating those tests takes cpu, also. It might be interesting to time a 32SII with labels versus a 33S with repeated tests to see how many tests it takes before they cross over.

Edited: 1 Feb 2006, 1:58 a.m.

Re: HP 32sII - upgrade memory to 32K?

*Message #11 Posted by **John Noble** on 1 Feb 2006, 12:00 p.m.,*
in response to message #10 by Howard Owen

> Quote:
>
> I've done this too, and hated myself afterwards. 8)

Yeah, it makes feel so ... *dirty*.

> Quote:
>
> It's true that there's plenty of memory. But repeating those tests takes cpu, also. It might

> be interesting to time a 32SII with labels versus a 33S with repeated tests to see how many tests it takes before they cross over.

It doesn't seem to matter on a 33S. Execution speed of the aforementioned hack is nearly instantaneous. It might matter in a loop with a lot of iterations, but I doubt it would amount to much.

As far as crossover, you could write something like 26 programs of 200 lines each on a 33S if each used one label (assuming 5k lines filled the available 32k). That's a lot more button pushing than *I* want to do, especially with no way to back up the programs. A 32SII would never get close, though you'd be a lot happier about looking at it while entering your programs. :-)

Re: HP 32sII - upgrade memory to 32K?

*Message #12 Posted by **Norris** on 1 Feb 2006, 5:36 p.m.,*
in response to message #9 by John Noble

If you are willing to change your programming style to adapt to the limitations of the 33S, then yes, this technique is ugly but will work.

Incidentally, you can also save labels on the 33S by *not* using them to separate programs. For example, start program 1 at line A0001, program 2 at line A0200, program 3 at line A0300, etc. Fill up any extra lines between programs with RTN statements.

Then you can select and start programs by using "GTO ." to move the program pointer. For example, "GTO . A0200 R/S" will start Program 2. "GTO . A0300 R/S" will start Program 3, etc. Obviously you have to remember the line numbers.

Re: HP 32sII - upgrade memory to 32K?

*Message #13 Posted by **e. young** on 31 Jan 2006, 2:09 p.m.,*
*in response to message #1 by **

If you want a 32SII with double shot keys, look for one made before 1995. I have one made in 1993 in Singapore that has the double shot keys, and a former coworker had one made in 1995 in Singapore that had the painted keys.

If you're looking for one on ebay, ask what the serial number is. This website tells you how to decode the serial number so you can tell what year the calc was manufactured. If you're looking at pictures on ebay, one way to distinguish the double shot keys from the painted keys is that the "e" in the "ex" key is larger with the double shot keys.

Re: HP 32sII - upgrade memory to 32K?

*Message #14 Posted by ** on 31 Jan 2006, 11:50 p.m.,*
in response to message #13 by e. young

Thanks, it sounds like 1993 is the golden year!

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$400.00 HP 27s?

*Message #1 Posted by **Joe Edwards** on 30 Jan 2006, 10:49 p.m.*

It looks like it might be time to sell my 27s...WOW

Re: $400.00 HP 27s?

*Message #2 Posted by **Joe Edwards** on 30 Jan 2006, 10:50 p.m.,*
in response to message #1 by Joe Edwards

Ooops.

Sorry, here it the ebay item number 5859302292

Re: $400.00 HP 27s?

*Message #3 Posted by **gifron** on 1 Feb 2006, 11:38 a.m.,*
in response to message #2 by Joe Edwards

This reminds me of the Joe Oil auctions.

Re: $400.00 HP 27s?

*Message #4 Posted by **bill platt** on 31 Jan 2006, 11:19 a.m.,*
in response to message #1 by Joe Edwards

If you do a search on "completed listings" you will see that the 27S does not usually stray outside the $80-$160 box.

Re: $400.00 HP 27s?

*Message #5 Posted by **Joe Edwards** on 31 Jan 2006, 11:49 a.m.,*
in response to message #4 by bill platt

Exactly Bill, I bought mine for $90.00. This Ceasar guy really wants that calculator!

Re: $400.00 HP 27s?

*Message #6 Posted by **Vincent Weber** on 31 Jan 2006, 12:43 p.m.,*
in response to message #5 by Joe Edwards

I am the 'Caesar guy'... and yes, I really want it for my collection... it seems that somebody has been enjoying outbidding me everytime just to piss me off! Anyway...

Cheers,

Vincent

Re: $400.00 HP 27s?

*Message #7 Posted by **bill platt** on 31 Jan 2006, 12:50 p.m.,*
in response to message #6 by Vincent Weber

Be patient, Caesar :-)

Re: $400.00 HP 27s?

*Message #8 Posted by **Stephen Easterling** on 31 Jan 2006, 2:45 p.m.,*
in response to message #6 by Vincent Weber

A few months ago I got caught up in the same bidding wars that you're in now over a NIB 27S. I had to pay about $300 for a new one, and it was one of my most expensive calcs and hard to get a nice one now. When more than one is offered, they go for less, but when only one is up for auction, then they're expensive, the 27S is rarely for sale.

Edited: 31 Jan 2006, 2:46 p.m.

Re: $400.00 HP 27s?

*Message #9 Posted by **Joe Edwards** on 31 Jan 2006, 6:35 p.m.,*
in response to message #6 by Vincent Weber

Vincent, Might I ask why you want that particular HP27s versus other models on ebay,past and present? It seems that the bidding war on it has gotten out of hand...and I should know as I am the lamewing guy who was bidding on it! I need another 27s as I acutally use them, but I think the bidding has gotten too much for my blood. I have no clue who the other folks are. Good luck on the auction.

Update...it seems our bidding war has caused temporary inflation on the "percevied" value of the 27s models. Another one just went up for $300.00.

I guess I will wait a month or two.

> Quote:
>
> I am the 'Caesar guy'... and yes, I really want it for my collection... it seems that somebody has been enjoying outbidding me everytime just to piss me off! Anyway...
>
> Cheers,
>
> Vincent

Re: $400.00 HP 27s?

*Message #10 Posted by **Joe Edwards** on 31 Jan 2006, 6:46 p.m.,*
in response to message #9 by Joe Edwards

I should point out that I have had or have no intention of rabble-rousing regarding that HP 27s. In fact, I was the third to bid on it, why you, Ceasar were the 5th person. Heck, I could say you are bidding on it to piss me off!!! :)

Nonetheless, good luck with your collection.

Joe

Re: $400.00 HP 27s?

*Message #11 Posted by **Joe Edwards** on 31 Jan 2006, 7:03 p.m.,*
in response to message #10 by Joe Edwards

I should point out that I have had or have no intention of rabble-rousing regarding that HP 27s. In fact, I was the third to bid on it, while you, Ceasar were the 5th person. Heck, I could say you are bidding on it to piss me off!!! :) -PLEASE UNDERSTAND I AM JUST JOKING WITH YOU. If I have offended you in any way, please let me know as it was unintentional.

Nonetheless, good luck with your collection.

Joe

I had to repost this as I wasn't a member when I made the last post. Sorry for wasting the limited space.

Re: $400.00 HP 27s?

*Message #12 Posted by **Vincent Weber** on 1 Feb 2006, 12:36 p.m.,*
in response to message #11 by Joe Edwards

Hi Joe,

So, you are the one who pissed me off :pp I am joking too, no offence, and no prob ! :-) I am very keen on the 27S as 1) it is rare 2) it is one of the most underrated machine here - let me explain:

I own a 19BII, which does almost everything the 27S does (except for base conversion) and much more... but in too bulky a package for a calculator with no I/O. I do prefer my 200LX to it, if you want the drawbacks of a bulky machine, you should at least get the advantages: I/O, large screen, full QWERTY keyboard.

The good thing about the 27S is that it is pocketable. It is the only scientific pocketable calculator with the most elegant and powerful solver ever done. I read the technical applications book and I got amazed that for a so-called 'non programmable' calculator, it can do conditionals, loops, intermediate variables, long variable names, with no need for prompts as all variables appear nicely in the solver automatically. It even has some kind of indirect adressing, at least for reading variables, through the list feature. This is more programmability than most people will ever need on a pocket calculator. If you need more complexity than advanced formulas, you are likely to go for a notebook these days..

I just regret that you cannot define your own functions: imagine that you could do something like DEF F(X,Y)=SIN(X)*COS(Y) and reuse F within other formulas - there we go, this would be a true subroutine feature, that will leave the 27S with very little to be desired compared to let's say a 33S - but so much more user friendly for the commun user!

Too bad the 27S lasted so little time, and is underrated on this forum as it is not RPN.

Yet, it is a beautiful thing! The 27S makes me (almost) agree with Valentin Albillo that RPN is obsolete ! :-) (no flame intended).

Hope you now see why I want to pay so much for this baby.

Cheers,

Vincent

Re: $400.00 HP 27s?

*Message #13 Posted by **bill platt** on 1 Feb 2006, 1:25 p.m.,*
in response to message #12 by Vincent Weber

Hi Vincent,

Be patient :-)

I traded an 11-c for my 27s a year or two ago, right here on the MoHPC classifieds! (I already have another 11c).

Re: $400.00 HP 27s?

*Message #14 Posted by **Joe Edwards** on 1 Feb 2006, 1:41 p.m.,*
in response to message #12 by Vincent Weber

Vincent, It might be in the members' best interest is we had some type of "I am bidding on this calc forum!" to avoid pushing the price up in the future. :) Nonetheless, I will back off and not bid again. Can't do anything about anyone else. You are right though about the 27s. If the 27s had RPN/ALG (like the 33s) and the programming capablities of the 42s it would be the only machine I would ever need for hand-held work. The equation support in the 27s is heads above the 33s (and I assume 32s). Yes I bought a 33s to play with and I might keep it (bug free). I wouldn't be so disappointed with the 33s if I hadn't used a 27s and a 42s.

Joe

HP 27S Price?

*Message #15 Posted by **Karl Schneider** on 31 Jan 2006, 11:32 p.m.,*
in response to message #4 by bill platt

I got a pristine HP-27S with manual on eBay within the past year for about $150.

A few months later, someone else got what also looked like a nice 27S, with manual *and* the "HP-27S/19B Technical Applications" book I wanted, for $127. Oh, well...

The HP-27S is a nice calc, intended for engineering manager who perhaps never learned RPN (unlike his cohort from the 1970's, who used the LED-based HP-27). I wanted a 27S for my collection of the 11 models of the Pioneer series, which will be complete after I receive my 22S. All of the 27S functionality is also found in one of its fellow high-end Pioneers: the 17B, 17BII, or 42S. However, the transcedental mathematical functions (e.g., trigonometrics and hyperbolics) can be included in equations on the 27S.

The 27S also has a menu of hyperbolics, which the 42S should have had.

-- KS

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HP philosophy

*Message #1 Posted by **Joe Edwards** on 30 Jan 2006, 9:08 p.m.*

Just a quick comment. I opened up my first HP 41c today and was both impressed and unimpressed. The machine is gorgeous, but wow, it is really limited on features compared to modern calcs. I guess this shouldn't be a suprise.

The suprise came in the way of the manual. My old 32s and 15c manuals are pretty nice, but the manual of the 41c practically spilled over with HP's love and respect for their customers. I haven't seen a manual like that since, well...ever.

Where and when did our companies lose their respect for the customers? I look at the new HP calculator manuals and just shake my head, especially after having read just the first few pages of the HP 41c owner's manual. Was HP just a special case?

After seeing this and reading all of your stories, it really hit home that I was born about 15 years too late. :)

Joe

Re: HP philosophy

*Message #2 Posted by **Les Bell** on 30 Jan 2006, 10:08 p.m.,*
in response to message #1 by Joe Edwards

I'm with you 100% on this one. The biggest problem with low-end calculators today is the lack, and poor quality, of documentation. The 17 pages (excluding TOC and foreign-language stuff) that came with the 6S I bought for my son was an embarrassment. At least it was better than the slip of paper that accompanied the Casio which replaced it.

What's more, I suspect that anyone who attempted to write a good guide for this class of machine would fall foul of the inconsistencies and poor design which characterise them. Those calcs are nearly unlearnable and, for the same reason, nearly udocumentable.

Things for HP seemed to go pear-shaped with the introduction of the 48 series, for a couple of reasons:

a) the manuals have no section which explains the philosophy and underlying principles of the machine. I only "grokked" the 48 after reading a comp.sys.hp48 post by Joe Horn (from memory), which introduced some RPL concepts for the 28S. If that had been in the manual (and some of it was in the 28 manuals) life would have been much easier.

b) the sheer volume of information is much larger. Providing humorous examples and in-depth explanation of the functions in the 48GX - let alone the 49 series - would give rise to a huge (and expensive to develop) manual. Splitting off the AUR was a first step, and PDF's are another step to reducing costs. However, the typographical style of the 48 manuals was an incredible turn-off, reminding me of nothing so much as the maths textbooks used in Scottish schools in the 1960's, and which seemed to date back to the 1890's.

Call me old-fashioned, but I'd much prefer a machine of mid-range capability with an excellent manual, to a machine of indeterminate capability because of poor documentation.

Best,

--- Les
[http://www.lesbell.com.au]

Re: HP philosophy

*Message #3 Posted by **Namir** on 30 Jan 2006, 10:08 p.m.,*
in response to message #1 by Joe Edwards

HP did a fantastic job with the manuals of the vintage calculators. They were multicolor and showed the gold and blue shift keys, the red of the LED digits. Also the older manuals included more detailed math, which I often use as a reference. The more calculator produced the less impressive the manuals were. I guess this related to the decreasing calculator costs too.

Re: HP philosophy

*Message #4 Posted by **Howard Owen** on 30 Jan 2006, 10:55 p.m.,*
in response to message #1 by Joe Edwards

The 41C documentation taught me how to program. I had seen an Apple][and a Commodore Pet, but I didn't know the first thing about BASIC. The excellent "Owner's Handbook and Programming Guide" was all I needed to break through from nearly complete ignorance into a fairly good grasp of how computers were programmed. (I actually didn't know what a good grounding it was until later, when assembly programming and FORTH on the Apple came easily to me.)

Documentation, or the lack of it, on the low-end machines notwithstanding, I don't fault HP for trying to produce good documentation for the RPL machines. The 28S manuals are pretty good. But the complexity of the machine had increased to the point where they couldn't give the same kind of general overview. The 48G saw the publication of the AUR, a fine piece of work. It even tries to reproduce that signature HP method of teaching programming through the use of examples. But the language is much, much harder, so the tutotial has to spend most of its time discussing the details rather than how they fit together.

That philosophy that Les says is lacking in the manuals is actually present in "HP-28 Insights" by William Wickes. It gives a designer's eye view of the machine. It's not particularly helpful in learning how to operate the machine, but it does give you an excellent idea of where the principle architect of RPL was coming from. But the HP-48 version of this work was two volumes, so you really ended up needing to read *four volumes* of not-so-easy prose to appreciate the attempt HP made to deliver documentation of a quality similar to the best of what had come before. And in my opinion, the attempt failed, precisely because the job was made so much harder by the explosion in complexity that RPL brought with it.

When I got my 41C, I spent at least six hours every day reading that manual and playing with the calculator. Inside a month, I had a pretty good grasp of what the basic machine was capable of. It's been seven months since I bought an HP-49g+. I haven't concentrated my time on it, or on the 48s I've bought, in the same way as for that first 41, but I've spent plenty of time nonetheless. I am nowhere close to knowing the whole machine the way I knew my first 41. That's not the documentation's fault, however. The new AUR for the 49G+ is built on the old 48 AUR, with lots of additions from the Metakernel manual and other places. There's a terrific little User's Guide by Dr. Gilberto Urroz that gives a methematical introduction to the operation of the machine, and a larger User's manual in PDF form that fleshes the guide out nicely. The documentation is well organized and comprehensive. But the machine is just too darn complicated to grasp in a short time. I keep learning new stuff the longer I play with the 49g+. This is a great delight for me, since I'm doing this as a hobby, i.e. for recreation. But I can certainly see why TI won the educational market with its simpler machines. HP probably got a lock on the mathematics and computer science geek market, but gave up the rest with these powerful, but difficult machines. I'm just glad I'm in the target demographic. 8)

Regards,
Howard

P.S. Don't worry about being born "too late." You get to partake of the best of the past *and* the present. And you have a longer time to try to influence the future. Good luck!

Re: HP philosophy

*Message #5 Posted by **Garth Wilson** on 31 Jan 2006, 2:02 a.m.,*
in response to message #1 by Joe Edwards

I have tried to model my own product manual-writing after what I found in the manuals for my HP41cx and 71B and some of the supporting products, as much as I've been able. It was amazing when I got those, that I could start at the beginning, read right through, find things clearly laid out and understand them well, and gradually get to the end and feel like I really knew the product, without ever having gotten to the "hard part."

Several years ago when I was at WESCON (an electronics industry convention), I saw a man probably in his late 40's exclaim to an older man, "Aren't you professor so-and-so?" (I don't remember the name.) He had had him in his EE classes in the 60's. Soon into the chat, the older man said, "That was when students knew how to write!" and lamented that young people today don't.

Re: HP philosophy

*Message #6 Posted by **Eric Smith** on 31 Jan 2006, 10:57 a.m.,*
in response to message #1 by Joe Edwards

> Quote:
>
> I opened up my first HP 41c today and was both impressed and unimpressed. The machine is gorgeous, but wow, it is really limited on features compared to modern calcs.

But compare it to the other calculators that were available in 1979.

If you buy a "modern calc" now, how do you think it will compare to calculators made in 2032?

Re: HP philosophy

*Message #7 Posted by **Joe Edwards** on 31 Jan 2006, 11:55 a.m.,*
in response to message #6 by Eric Smith

I really didn't think I needed to add a caveat to my post. I am sorry, but I thought the body of my post pretty summed up the fact that I am very impressed with the 41c. Of course it is short on features, it was made in 1980.

My main point had more to do with the difference in the additude between the HP of then and now, based simply on the comparison of the 41 manuals and the current calculator manuals...ie the 33s,etc. Sure the 33s manual isn't difficult to read (isn't it basically the 32sii manual?), but the 41c manual is so much better. Just the introduction expressing how important the customers were appreciated back them almost brought a tear to my eye...almost. :)

I wasn't bashing the 41c. I was quite aware of its liimitations when I bought the thing. No insult intended.

Joe

Quote:

But compare it to the other calculators that were available in 1979.

If you buy a "modern calc" now, how do you think it will compare to calculators made in 2032?

Re: HP philosophy

*Message #8 Posted by **Jan** on 31 Jan 2006, 2:46 p.m.,*
in response to message #1 by Joe Edwards

I never owned a 41 model (I think about buying a 2nd hand though) but to my knowledge the 41 is not that modest when it comes to its features. It may not be a match to let's say a 48, but especially the CX has many functions and features, not to mention enough memory for even more extended software packages. The point is that you can't tell that from the keyboard however: many functions are categorised in catalogs from which the user can select them. They can also, when a function is used very often, be assigned to a specific key. In "user" mode, that specific key then corresponds to the assigned function.

As far as the HP philosophy is concerned, I would say that around the early 90's HP's attitude towards calculators and their buyers has changed gradually. I cannot tell if a similar change in attitude also applies to their other products, but at least the physical appearence of the simple test and measurement equipment (now with agilent) also underwent a negative trend (they looked somewhat cheaper, the tank-like construction gradually made way to a lower- end casing-style and appearence). After the TM equipment division(s) was(were) turned into a separate company under the name of Agilent (the true heir of the old "HP-way" in my point of view), quality matters at HP really went down the drain to my point of view. With China becomming the main "production facility" for electronic equipment in general, I see no signs for improvement in this respect. Not a reason to dislike the chinese but rather the CEO's and shareholders of our western companies that cannot resist outsourcing labour in the far-east for short term profit.

Re: HP philosophy

*Message #9 Posted by **John Noble** on 31 Jan 2006, 5:35 p.m.,*
in response to message #8 by Jan

Quote:

With China becomming the main "production facility" for electronic equipment in general, I see no signs for improvement in this respect. Not a reason to dislike the chinese but rather the CEO's and shareholders of our western companies that cannot resist outsourcing labour in the far-east for short term profit.

I don't think outsourcing is the problem -- how many beloved Voyagers were made in Singapore? Lots, and I don't think most people question their quality vs. Brazilian or American manufactured calcs.

If you want to blame anyone, go ask the bean counters of that era how hard they squeezed the engineers on the bill of materials and tooling costs.

Then again, it just might be possible that competition and a changing market forced them to squeeze so hard. If the market doesn't want to pay for that kind of quality anymore, then you can either stop production and find other things to do with your capital, keep making the same thing and go bust eventually, or cut costs and keep trying to make a profit with something people *will* pay for.

Blame the "throwaway" consumer culture for caring about cost over all other considerations (except maybe fashion), if you want the real culprit.

Re: HP philosophy

*Message #10 Posted by **Dave Shaffer** on 31 Jan 2006, 5:55 p.m.,*
in response to message #9 by John Noble

Some more (overall, general) philosophy tangentially relevant to comments about outsourcing to China:

I think we (the US, at least) are in the process of cutting our own throat in the longer term. Yes, Chinese products may be lower quality at the moment, but I think they will learn to do much better. (They already are: the new Boeing airplane will have significant "made-in-China" content.)

Remember (some of us, at least!) back to the 50's and 60's. "Made in Japan" was synonymous with real junk (much worse than the middle-of-the-road Chinese stuff of today). Nowadays, that Japanese "junk" is on the verge of driving two of the largest, most succesful American enterprises (Ford and GM) right over the cliff. The Japanese learned to make quality products, generally now preferred (Sony, Toyota, Lexus, etc.) over many American "equivalents."

Re: HP philosophy

*Message #11 Posted by **GE** on 1 Feb 2006, 8:56 a.m.,*
in response to message #10 by Dave Shaffer

I have been talking with my brother who is manager of a small R&D team for TV decoders and communicaion devices at some european manufacturer.[nl) He says that production (fabrication or 'fab' for short) has been send way far there a long time ago, with some "abnormal" situations (his words) for a few products still built in Europe. Bean counters are working on this, rest assured.
The point, however, is that there is a tend by which R&D itself is being outsourced in those far away countries, with no more knowledge retained in the original country. This worries me a lot more, as what do we have to sell apart from our supposedly superior research capability ?
The only thing left here is marketing and sales. The only problem is who is going to buy your products ? Your former employees have just been fired and they don't have the cash needed. Their relatives tighten the budget to support the family. Overseas suppliers now know how to produce better products (remember now THEY lead on the R&D side, thanks to us !), and cheaper too (they don't need our brands, as our customers now value more the bottom line past any oher criteria).
Believe me in 10 years I'll be working in a branch which CANNOT be localised overseas (like hair cutting). Others will die. I have children and this doesn't really makes me laugh. Well, not REALLY...
Good luck to you all.

Re: HP philosophy

*Message #12 Posted by **bill platt** on 1 Feb 2006, 10:55 a.m.,*
in response to message #11 by GE

Yes, whether Europe or the US, the outsourcing is major. I realized how much this was so, when I woreked in Germany for 2 months in 1998. I was looking forward to buying a pair of Leitz binoculars there. My father had bought many well made optics there in the 1960s. Well, to my astonishment, the camera store did not even stock "made in Germany" equipment!

I have an easier time buying european products here inthe US than I did in europe!

Who will the customers be, in 20 years? The Chinese, naturally! The same as U.S. economic growth up until the 1970's.

Re: HP philosophy

*Message #13 Posted by **Jan** on 1 Feb 2006, 11:16 a.m.,*
in response to message #11 by GE

I agree with all reactions to my response, they all address an element of truth in my opinion. I personally think that bean counters and outsourcing cannot be seen as 2 separate things however: they are 2 sides of the same medal so to say. Which of the 2 came first is even hard to tell. Did outsourcing and product influx from the far east raise a demand for bean counting by our domestic industries in order to remain competitive or is outsourcing the culmination of the efforts of the beancounters? Hard to tell. One thing is for sure to me: it is all a direct consequence of the demand for short term profit by the management and shareholders of our companies. Where it will end I don't know but I am not too confident w.r.t. the future of our western economy. The point is that the economic policy of the moment bears some elements in itself that could be called selfdestructive and nothing else. Industries outsource production and development activities in order to raise the profit margins of their sales in western countries and to remain competitive against manufacturers from low-wage countries. However, by the outsourcing of activities jobs are lost in the western world (the replacement of which is difficult), reducing the national income and the amount of money that citizens of western countries can spend. This, in fact, counteracts at least some of the initial objectives behind the outsourcing process: making more money from sales in the western world. In addition to that, the combined trade and budget deficit of some western countries and the way this is being dealt with, is quite alarming. In fact, by lending USD to the west so that we can buy their products, the chinese are financing their own export: a situation that defies all laws and basic principles of economics. I simply refuse to believe that such a situation is sustainable. With respect to R&D I also believe we are not doing enough to stay ahead of wouldbe industrial nations in Asia. We still have a hughe advantage over them but that advantage is not that selfevident anymore. The no longer unthinkable disappearence of R&D activities in the west (including even basic research) is, in my point of view, also a cultural drainage with potentially far reaching (social) consequences. In conclusion: it is time for the western world to wake up!

Re: HP philosophy

*Message #14 Posted by **bill platt** on 1 Feb 2006, 12:00 p.m.,*
in response to message #13 by Jan

We will not wake up. Empires rise and fall. We are falling.

Sucks, but that's the way it is.

Re: HP^H^H Economic philosophy

*Message #15 Posted by **Howard Owen** on 1 Feb 2006, 12:30 p.m.,*
in response to message #14 by bill platt

Please forgive me stirring the pot in an off-topic thread.

Perhaps it would be heretical to mention that along with potent - and soon to be more potent - competitive industries, China and India and the rest of the developing world also bring large markets to the party? I realize they are more or less protected markets at the moment, but that can and will change over time, simply because their domestic industries won't be able to keep up with demand once the ball really gets rolling. Then

there's this other small factor called "innovation." All countries with adequate R&D and industrial capacity have an equal chance at redefining what the world perceives as "valuable." This is particularly true the more economic activity becomes software based. And no country can maintain a monopoly on innovation over the long term. That means both West and East have roughly equal chances at creating, and being the first exploiters of, innovation. As markets open up around the world, that means that demand for brain power will rise everywhere. Finally, the advantage India and China (and Russia, and Ukraine and so forth) have now with respect to labor costs won't last. Already India is seeing competition from Russia in IT outsourcing, for example.

There's no doubt that the rise of economic power in the East, particularly in China, will challenge entrenched economic power in Europe and the US. However, that expansion is a two-edged sword. And refusing to participate in the markets that emerge from the power shift would simply doom an economy to protectionist isolation, and thus to eventual economic irrelevance.

Re: HP^H^H Economic philosophy

*Message #16 Posted by **bill platt** on 1 Feb 2006, 1:43 p.m.,*
in response to message #15 by Howard Owen

You are correct, and the large players for the most part aready saw that a long time ago, which is why Boeng is there, and GM etc.

But even if we innovate, the empire is still sinking.

The question America has to grapple with is, can we be content to *not* be the superpower? Or will we destroy ourselves in wars while attempting to maintain control?

Edited: 1 Feb 2006, 1:43 p.m.

Re: HP^H^H Economic philosophy

*Message #17 Posted by **Joe Edwards** on 1 Feb 2006, 5:16 p.m.,*
in response to message #16 by bill platt

> Quote:
>
> But even if we innovate, the empire is still sinking.
>
> The question America has to grapple with is, can we be content to *not* be the superpower? Or will we destroy ourselves in wars while attempting to maintain control?

Pretty much the case in my opinion. If we can accept that fact that we are going to turn into the equivilant of England, Australia, etc then all might be okay, but my concern is that we won't be willing to accept this fate and will destroy ourselves.

By the way, my wife and I have jobs that we will keep (hopefully) for life. She is a clinical (up and growing field) pharmacist/facuilty and I will be teaching math. It might not be grand, but hey...

Re: HP^H^H Economic philosophy

*Message #18 Posted by **Les Bell** on 1 Feb 2006, 7:50 p.m.,*
in response to message #17 by Joe Edwards

> Quote:
>
> If we can accept that fact that we are going to turn into the equivilant of England, Australia, etc then all might be okay, but my concern is that we won't be willing to accept this fate and will destroy ourselves.

Huh? The British Empire has had its day, but the Australian Empire hasn't had its day in the sun yet.

And I dare say there are some British readers who would opine that they are glad that their culture hasn't declined to the same extent as America's!

Yours in unbounded ethnocentricity,

--- Les
[http://www.lesbell.com.au]

Re: HP^H^H Economic philosophy

*Message #19 Posted by **Joe Edwards** on 1 Feb 2006, 9:07 p.m.,*
in response to message #18 by Les Bell

I believe you are reading into my statement. When I state that we are going to turn in the equivilant of England and Australia (maybe Canada too), I MEANT that we would reach a state where we wouldn't be superpowers, nothing more.

I ACTUALLY hold high regard for those folks in England, and especially those in Australia. If it weren't for the strict immigration laws and my wife's family I would jump ship and live out my days, happily, "down under".

> Quote:
>
> Huh? The British Empire has had its day, but the Australian Empire hasn't had its day in the sun yet.
>
> And I dare say there are some British readers who would opine that they are glad that their culture hasn't declined to the same extent as America's!
>
> Yours in unbounded ethnocentricity,
>
> --- Les
> [http://www.lesbell.com.au]

Edited: 2 Feb 2006, 8:37 a.m.

Re: HP^H^H Economic philosophy

*Message #20 Posted by **Howard Owen** on 1 Feb 2006, 11:04 p.m.,*
in response to message #18 by Les Bell

Oh, come on, Les. "The sun never sets on the Australian empire." Remember that? Remember Bunker Hill and the War of 1812 when we threw the Australians out of our part of North America? I mean, OK, we helped you out in WWII when the Germans were bombing you and all, and you do make good calculators, but don't ask us to forget our own War of Independence!

Remember the Boston Foster's Party!

Re: HP^H^H Economic philosophy

*Message #21 Posted by **GE** on 1 Feb 2006, 4:00 p.m.,*
in response to message #15 by Howard Owen

True, BUT -- R&D is currently being outsourced to our economic "ennemies" of the future. Actually the process has been under way for years.
Hard to fight if they are bigger, richer AND smarter.

Re: HP^H^H Economic philosophy

*Message #22 Posted by **Bernhard** on 1 Feb 2006, 5:43 p.m.,*
in response to message #21 by GE

Q: Hard to fight if they are bigger, richer AND smarter.

True, but observre the "if..."

It is very likely that China / India / etc. won't be able to ever reach the current wealth of the West. Most likely, they will run into the brick wall of depletion of natural resources before they even get close in terms of wealth. Personally, I even doubt the Western investors will ever get a total return of investment from their China endavours. There are huge factories in China, lots of them, built with Western capitalist's money, and they turn out shiploads of low-quality, low-margin products, that will soon end in a landfill. Scarce raw materials being turned into garbage, by the way. Scarce raw materials which could have been turned into high quality, high-margin products. And it is the latter kind of products which build the wealth of nations. Seen from this point of view China is on a road to failure. I think the next big stock market crash will come from there. Anyone who knows the Club of Rome report "Limits of Growth" can conclude that in a world depleted of resources, only those nations will survive which can project military power to those places where the last resources are located, secure their transport, and at the same time transform their society to a post-industrial form where wealth is mainly created by applying human skill and craftmanship instead of wasting resources and energy carriers. It even may be possible to sustain some limited form of a technological society this way. The main difference will be that products will be made to last, will contain a lot of human labour, and less machine labour, and will be very expensive, even those products which are needed for daily life. And they will employ relatively low-tech methods which can be sustained locally. We can only hope the sustainable technological level will be better than the 1960s. Early 1970s maybe. I doubt that

such a society could sustain multi-billion-dollar 90nm wafer fabs (and their equivalent, highly complicated processes, in any other technical field).

Maybe this will bring back the quality of Classic HP pocket calculators, who knows ? A wafer fab for a five micron PMOS metal gate technology possibly could be sustained even under the chaotic but interesting conditions of such a future society which lacks energy, ressources, and capital, but has lots of creative brains who will need to use whatever tools and machines are left over from the industrialized era and can be repaired again and again.

Bernhard

Re: HP^H^H Economic philosophy

*Message #23 Posted by **Howard Owen** on 1 Feb 2006, 11:19 p.m.,*
in response to message #21 by GE

The problem with that analysis is the implied idea that those countries wouldn't develop their own R&D if we didn't outsource some of ours to them. China and India will be "up and coming" whether we do R&D here or there. The reasons have to do with increased communication, liberalization of their economies, shrewd policy on the part of their governments and the energy and dedication of their peoples. In addition to wanting to be "on the ground" in the midst of new and emerging markets, US and European R&D is going there to take advantage of those same factors.

Re: HP philosophy

*Message #24 Posted by **e.young** on 1 Feb 2006, 5:05 p.m.,*
in response to message #14 by bill platt

great societies do not fall from without, but from within

Re: HP philosophy

*Message #25 Posted by **Ron Allen** on 1 Feb 2006, 7:22 p.m.,*
in response to message #24 by e.young

Don't exactly understand how all this ECONOMIC DOOMSDAY talk got left on HP's philosophical doorstep, but the REAL contributor to the collapse of the empire will be the pessimistic, failure-oriented scientists and engineers employed to invent and to lead in an optimistic society. No country in the past century has provided the freedom to create the way ours has.

Smarter than us? How is "smart" measured? Not by how well one performs on math tests. Smart is how well and how quickly one innovates and adapts to changing conditions in a "Future Shocked" world, working with the tools and skills available. Granted, there are excessive numbers of bean counters with too much authority to trim away the craftsmanship of high quality products AND too many engineers with the attitude that marketing is equivalent to prostitution.

The strongest organizations in this world long after us will be those that can balance the scales whereby they can truthfully say that they operate under the "Total Marketing Concept." As I recall from reading about the philosophy of "TMC" in graduate studies, the market invented us, not the other way around. Just as freedom

of speech is protected, there is no guarantee of an audience; and our freedom to invent does not CREATE a market. We have the FREEDOM to RESPOND to the market.

SMART!

Re: HP philosophy

*Message #26 Posted by **Howard Owen** on 1 Feb 2006, 7:52 p.m.,*
in response to message #25 by Ron Allen

I had a friend once who always reacted to pessimistic talk in the same way. "We're all dooommed" he would croak, "it's just no use doing anyyyyything..." It would usually crack up the doomsayer and everyone else around, and was a nice antdote for that sort of thing. 8)

Re: HP philosophy

*Message #27 Posted by **GE** on 2 Feb 2006, 4:17 a.m.,*
in response to message #26 by Howard Owen

Well, if your day work is to actually research, you tend to find more than if your work is to do marketing research or advertising.
Such reasearch work is being destroyed NOW. If it doesn't exist anymore, who is going to innovate? Don't tell me some bright mind can devise devices the complexity of current computers in her free time and budget.

As for the fact that transferring R&D knowledge and skills to others may have no impact on the long term because they could reinvent it anyway, let me tell you a small tale.
In 1859 Bernhard Riemann published an article within which he stated his famous 'Riemann Hypothesis'. When he died, his maid burnt most of his notes, not knowing it could contain valuable material. The only problem is that Riemann had said he had some ideas to prove his Hypothesis, and (contrary to Fermat and his last theorem), it is believed that could be true (When Siegel went to Germany in the 1960 to read the remains of Rieman's notes, he found there a formula to calculate the zeros of the Zeta function that no-one had ever thought of). NO ONE has proved the hypothesis since 1859... So not everything can be invented twice in less than 100 years. So :
1. R&D results have value
2. You can never be sure that you'll invent something big in the next 100 years

Re: HP philosophy

*Message #28 Posted by **bill platt** on 2 Feb 2006, 9:38 a.m.,*
in response to message #27 by GE

Excellent anecdote. I had forgotten about it. The Black Adder had a spoof of this once, if I remember correctly. Though I think it was to do with Johnson's dictionary.

Re: HP philosophy

*Message #29 Posted by **Howard Owen** on 2 Feb 2006, 11:11 a.m.,*

in response to message #27 by GE

You aren't seriously suggesting that secrets along the lines of how to exploit weaknesses in a competitor's product are in the same class as the Riemann Hypothesis?

Certainly there are secrets, then there are secrets. But nobody is going to get a leg up in solving problems in the class of the Riemann Hypothesis through outsourced R&D from a western technology company. As a matter of fact, the odds of someone in China or India solving that conundrum are better than anyone in Europe or the U.S. doing so, simply by virtue of of a larger educated population. (The CIA world fact book doesn't have breakdowns of higher education specialization, but the relative numbers of people with mathematical training can be inferred from the overall number of persons with some education. Here are the numbers for population * literacy rate for China, India and the U.S.: China: 1,187,439,255 India: 642,757,311 U.S 286,862,110)

Regards, Howard

Re: HP philosophy

*Message #30 Posted by **GE** on 3 Feb 2006, 6:32 a.m.,*
in response to message #29 by Howard Owen

You're right, but it is even worse because you forgot to factor the percentage of people in each case who are doing research.
So :
U.S 286,862,110 & research 'bean-counter-ized' => 0% research, result 286,862,110 x 0% = 0 people
China: 1,187,439,255 & consciousness of the need for R&d => 0.1% research, result 1,187,439,255 x 0.1% = 1,187,439 people

And I don't agree that R&D is always a simple matter. For example, IC fabrication and magnetic storage R&D relies on quantum theory (see IBM's facility in Switzerland), and this is not easy (well, it was not last time I tried !!).

Re: HP philosophy

*Message #31 Posted by **bill platt** on 3 Feb 2006, 9:27 a.m.,*
in response to message #30 by GE

The bigest research activity in the U.S. is the export of research skills and techniques. How? From University graduate science and engineering programs. Most of them are more than 50% foreigners. We do not have a market for american PhD's in engineering, but the chinese and indians do. So our professors teach whoever is willing to pay.

Re: HP philosophy

*Message #32 Posted by **e. young** on 3 Feb 2006, 3:07 p.m.,*
in response to message #25 by Ron Allen

you need to stop looking at things through rose colored glasses. Take a look aroung you. Unfortunatley, we have become fat dumb and happy. I agree that no country in the history of the world has been as creative or productive as the U.S. The massive brain drain that is happening does not bode well for the future. This is a culture that does not value engineers or scientists. You can quote theory all you want from the ivory tower of graduate school, but what connection to reality does that have?

The truth is that engineers are responsible for a huge part of the prosperity and power that the U.S. has, NOT a bunch of marketing or business majors. Face facts: a society obsessed with hedonism that has little regard for engineering, and that does not produce and retain talented engineers is in for trouble. If engineers are pessimistic it is because we have to deal with clueless business majors and marketeers.

Re: HP philosophy

*Message #33 Posted by **Joe Edwards** on 3 Feb 2006, 4:30 p.m.,*
in response to message #32 by e. young

I see this at school every day. There are droves of business and marketing folks who think they just own the campus. Talk to one and you will see how they truly feel about engineers and scientists...they are labor and nothing more. /sigh

> Quote:
>
> you need to stop looking at things through rose colored glasses. Take a look aroung you. Unfortunatley, we have become fat dumb and happy. I agree that no country in the history of the world has been as creative or productive as the U.S. The massive brain drain that is happening does not bode well for the future. This is a culture that does not value engineers or scientists. You can quote theory all you want from the ivory tower of graduate school, but what connection to reality does that have?
>
> The truth is that engineers are responsible for a huge part of the prosperity and power that the U.S. has, NOT a bunch of marketing or business majors. Face facts: a society obsessed with hedonism that has little regard for engineering, and that does not produce and retain talented engineers is in for trouble. If engineers are pessimistic it is because we have to deal with clueless business majors and marketeers.

Re: HP philosophy

*Message #34 Posted by **bill platt** on 3 Feb 2006, 4:43 p.m.,*
in response to message #32 by e. young

Well, most of the world, engineer or businessman, is near-sighted and provincial.

The smartest or most successful engineers are the ones that understand

business and have business savvy.

There is no value to "engineering for engineering's sake." Engineering is an inherently business-oriented profession. You have to have something economically useful to offer, or there is no point in the exercise.

That some young arrogant punks in bachelor's business school think of engineering in low terms is nothing but sheer ignorance. The smart ones will either already know, or figure out, that engineering is a means to an end, as is a business degree, and that good ideas know no boundaries.

Edited: 3 Feb 2006, 4:44 p.m.

Re: HP philosophy

*Message #35 Posted by **e.young** on 3 Feb 2006, 5:01 p.m.,*
in response to message #34 by bill platt

agreed

Re: HP philosophy

*Message #36 Posted by **Howard Owen** on 3 Feb 2006, 5:00 p.m.,*
in response to message #34 by bill platt

> Quote:
>
> That some young arrogant punks in bachelor's business school think of engineering in low terms is nothing but sheer ignorance. The smart ones will either already know, or figure out, that engineering is a means to an end, as is a business degree, and that good ideas know no boundaries.

Bingo! The ones that truly rule the roost know that both approaches to reality are required to be successful. In economic terms, a gadget is just a lump of plastic, glass and trace metals without a market. And markets have nothing to trade without the products of human imagination.

But bridging the gap between the two takes even more imagination - the power to put yourself in the shoes of someone who sees the world very differently from you. I find one fact about people helps me stretch my imagination in that way. People almost never think what they are doing is evil or useless. Humans generally have a story they tell themselves about their lives that has them in the center, pursuing noble goals, or at least being well justified in pursuing less-than-noble ones. When confronted with someone whom you may despise, ask yourself this question: "what story is this person telling herself about her life?" The answers may surprise you. They may contain some kernels of truth you have overlooked.

Or else the rest of the world really is populated by complete jerks. Yeah, that's it. 8)

Regards,
Howard

Re: HP philosophy

*Message #37 Posted by **John Noble** on 4 Feb 2006, 12:54 a.m.,*
in response to message #36 by Howard Owen

> Quote:
>
> Or else the rest of the world really is populated by complete jerks. Yeah, that's it. 8)

Howard, like everyone else, you are entitled to my opinion.

As an aside, I don't know if I like the fact that all of this off-topic (but very thoughtful and interesting) discussion is hanging off one of my comments 'way up-thread. See? Another example of the truth of this statement:

> Quote:
>
> Humans generally have a story they tell themselves about their lives that has them in the center, pursuing noble goals, or at least being well justified in pursuing less-than-noble ones.

All of my goals are "noble" by definition. :-P

Re: HP philosophy

*Message #38 Posted by **Howard Owen** on 4 Feb 2006, 1:17 a.m.,*
in response to message #37 by John Noble

> Quote:
>
> All of my goals are "noble" by definition. :-P

Hah!

I guess it would be useless to belabor the obvious point that "noble goals" is distinct from "Noble's goals?" I thought so. 8)

Regards,
Howard

Re: HP philosophy

*Message #39 Posted by **Wayne Brown** on 6 Feb 2006, 12:08 a.m.,*
in response to message #34 by bill platt

> Quote:
>
> There is no value to "engineering for engineering's sake."

Well, I'd say that depends on who is making the evaluations. I happen to value "engineering for engineering's sake" very highly indeed. For instance, many years ago I read an article by a business analyst who was criticizing HP's marketing techniques. He said that too many of HP's decisions were made by engineers who were more interested in building and playing with cool toys than with products that would sell well. That article came out before I owned any HP products, and was a key factor in my decision to become an HP customer.

In general, I nearly always value the pursuit of knowledge for its own sake above that which is sought for practical purposes. That's why the mathematician G. H. Hardy is one of my heroes. In his "Mathematician's Apology," he said "...that very little of mathematics is useful practically, and that that little is comparatively dull" and "I have never done anything useful. No discovery of mine has made, or is likely to make, directly or indirectly, for good or ill, the least difference to the amenity of the world." (Much of his work in number theory *did* turn out to be very useful later, but he had no way of knowing that at the time.) Hardy also said, "Here's to pure mathematics. May it never have any use!"

Generally, the more "useful" or "practical" a discovery or invention is, the less it interests me.

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HP-IL keyboard for 71B?

*Message #1 Posted by **Arne Helme** on 30 Jan 2006, 3:51 p.m.*

Hi, I am looking for an external keyboard solution for a HP-71B. Which HP-IL keyboards were recommended for the 71B? Any suggestions on where to find one?

Regards,

Arne

Re: HP-IL keyboard for 71B?

*Message #2 Posted by **Howard Owen** on 30 Jan 2006, 4:07 p.m.,*
in response to message #1 by Arne Helme

What I do is to use hpillink with Cristoph Klug's ISA HP-IL card for the PC. That gives me an 80-column by 40 line display, and use of my PC keyboard to control the 71.You can also upload and download files to the handheld, and single-step 71B BASIC programs. It's a very nice package, although it has its quirks. I run it under DOSEMU on Linux, but it should run in a DOS box in Windows.

If you don't have any ISA slots to put an HP-IL interface into, you can get the HP-IL/Serial interface. Then load the KEYBOARD lex file (or either the FORTH or HP-41 emulator ROM) and you can do KEYBOARD IS RS232: and DISPLAY IS RS232: . The trick there is getting the keycode mappings of a typical ANSI or VT100 PC terminal application to work with the ESC codes on the 71B. I got basic communication going with Linux terminal software, but I hadn't cracked the last problem before I found the hpillink solution.

Regards,
Howard

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Price !!!! :-)))))

*Message #1 Posted by **gileno** on 30 Jan 2006, 3:06 p.m.*

Ebay link

Re: Price !!!! :-)))))

*Message #2 Posted by **Howard Owen** on 30 Jan 2006, 4:09 p.m.,*
in response to message #1 by gileno

Wowzers!

I have to admit, I just don't see the appeal in that type of device, even when it is from HP. Perhaps it's the sticker shock. 8)

Edited: 30 Jan 2006, 9:38 p.m.

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Short & Sweet Math Challenge #13: Adding up to infinity

*Message #1 Posted by **Valentin Albillo** on 30 Jan 2006, 6:39 a.m.*

Hi all,

Just back from Xmas holidays, let's begin the year with a brand new S&SMC, this time lucky number #13, which though not particularly difficult, it's slightly 'busier' than usual so, to compensate for this, it comes with a 'prize' attached for all of you who can deliver, details at the end of this post.

Caveat emptor: since this is S&SMC #**13** you're hereby warned that failure to *at least try* will be considered disrespect to the number 13 and thus you'll suffer *a whole year of pretty bad luck*. You've been warned. :-)

The Challenge

You must write a program for your favorite HP (preferably) calc, which shall do the following:

1. For each one of the 8 infinite sums given below, it must compute *a numerical value S for the sum*. A correct value will be rewarded with 1 point.

2. Then, it must convert this value S to *rational form* and output the numerator N and denominator D of the resulting fraction, N/D, such that this fraction is in lowest terms, and is as simple as possible while correctly evaluating to S, allowing for slight rounding inaccuracies in the computed value S. For instance, if you obtain S = .666666666668, you're expected to produce **2/3**, *not* 166666666667/250000000000. A correct value will be rewarded with another point.

3. You must then state whether your resulting fraction is indeed the *exact* value of the infinite sum, in your opinion, or just an approximation, and in this last case, to how many digits do you think it is correct. If you're right, you'll be rewarded with yet another point.

   Example: Suppose you're asked to compute SUM(N = 1, N -> Inf, f(N)/2^N) where f(N) = N/3.

   First, your program finds that S = .666666666668, approximately. Then, your program converts this value to a fraction as stated, giving S = 2/3 And finally you confirm that, in your opinion, the exact value of S is indeed 2/3. All are correct, so you would get 3 points for this sample case.

Notice that despite there being eight different sums to compute, *they are similar enough that your program will be nearly the same in all cases*, you just need to additionally code the particular function being summed up. Of course, the code to convert to fractional form is the exact very same for all eight cases, and last but not least, your expert judgment about what the exact result should be requires no coding at all, just smarts and/or intuition on your part.

To give an idea of the magnitude of the task ahead, all in all, and supposing you were using an HP-71B for example, you should be able to code the infinite sum calculation in a couple of lines, the particular function being summed up in another two lines at most, and the real-to-fraction routine in some five lines, for a total of 9-10 lines of code for the very first sum, and 2-3 additional lines for each remaining case. Not much, if you know how to do it.

The particular infinite sums to compute for this challenge are the following:

1. **S = SUM(N=1, N -> Inf, f(2^N)/2^N)**

   where f(N) counts the number of *odd digits* (i.e.: 1,3,5,7,9) in N

   for example: f(2048) = 0, f(2718281828) = 3, f(3141592654) = 6

2. **Same as above but f(N) counts instead the number of *even* digits (i.e.: 0,2,4,6,8) in N**

   for example: f(2048) = 4, f(2718281828) = 7, f(3141592654) = 4

3. **Same as above, but f(N) = 1 if N has an *even* number of digits and 0 otherwise.**

   for example: f(2048) = 1, because 2048 has 4 digits and 4 is *even*
   f(777) = 0, because 777 has 3 digits and 3 is *odd*

4. **Same as above, but f(N) counts the number of *odd* digits in *odd* places in the decimal expansion of N**

(the 1st digit is the 1st digit to the left of the decimal point).

For example: f(901) = 2,
f(210) = 0, (the only odd digit, 1, is at an even place (2nd))
f(811) = 1

- **S = SUM(N=1, N-> Inf, f(N)/10^N)**

  where f(N) is the same as in the previous sum above.

- **S = SUM(N=1, N-> Inf, f(N)/2^N)**

  where f(N) = Integer part of (Pi/2 * N)

- **S = (SUM(N=1, N-> Inf, f(N))/5+1/10)^2**

  where f(N) = e^(-N*N/100)

(In this case you must *not* output a fraction but simply the decimal value of S, and must try and guess what the exact value of S is)

- **S = SUM(N=1, N -> Inf, f(N)/ 5^N)**

  where f(N) = Integer part of (N*e^(Pi/3*Sqrt(163)))

That makes a maximum of **23 points** if you correctly compute, convert to fractional form, and guess the exact value of the sum for all 8 cases.

The prize

Everyone whose solutions get **15 points** or more will be entitled to receive by e-mail the following, still *unavailable on-line* Datafile articles of mine, in PDF format, namely:

- **HP-71B Math ROM Baker's Dozen Vol. 2**

  Multidimensional integrals, solving systems of non-linear equations, computing all eigenvalues real and complex of arbitrary square matrices, and more

- **HP-71B Fantastic FOUR**

  Multiplying very large numbers fast by means of Fast Fourier Transforms

- **HP-71B Short & Sweet Sudoku Solver**

  Automatically solves any sudoku puzzle without user's intervention, by using advanced techniques such as recursion, bitboards, and boolean operations.

- **HP-71B Sudoku Solver Sublime Sequel**

Improved version of my Sudoku Solver, incorporating new criteria for much faster results. Includes Test Suite of 15 choice Sudoku puzzles, from the simplest to the most difficult.

- **Mean Matrices**

  Introducing a series of simple and small integer-valued randomly-generated matrices that nevertheless are nearly intractable by conventional means due to their extreme ill-conditioning. Several cases are discussed at length, with (discouraging) results for the 71B and exact results with Mathematica.

- **HP-71B Minimax Polynomial Fit**

  Computes the minimax polynomial fit to a given set of datapoints, a given function in an interval, or a dataset read from a file. The user can specify either the degree of the desired polynomial or else the maximum absolute error over the given dataset or interval and let the program compute the lowest-degree polynomial that meets the requirement.

  The resulting polynomial can be evaluated at any point, scanned for its maximum error over a given interval, and is guaranteed to have an absolute maximum error lower than any other polynomial fit, least-squares included.

The usual caveats apply, namely: (1) Do not post just solutions, actual code is mandatory and (2) Code must be for an HP (preferably) calculator; posting code written in Visual Basic, Java, FORTRAN, or any other PC language will be considered unpolite and disrespectful.

That's all. Hoping you'll like this challenge and waiting for your inputs,

Best regards from V.

Re: Short & Sweet Math Challenge #13: Adding up to infinity

*Message #2 Posted by **Mike T.** on 30 Jan 2006, 12:42 p.m.,*
in response to message #1 by Valentin Albillo

OK - I don't think I've got enough space left in my HP33C to actually solve any of these at the same time but when (if) I get round to it I could use the following to convert decimal fractions to rational form.

Unfortunatly I wouldn't get a point every time as I've just found a bug, but I think it is worth posting anyway as I probably won't get round to fixing it! I think it only affects the conversion when the 10th digit in the decimal value is greater than 5 - but it is obvious when it happens, so it is good enough for now. If you can fix it (on an HP33C) post you version here!

```
001 23 3     STO 3
002 15 32    g INT
003 23 2     STO 2
004 24 3     RCL 3
005 15 33    g FRAC
006 23 0     STO 0
007 0        0
008 23 1     STO 1
009 24 0     RCL 0
010 15 71    X=0
011 13 24    GTO 24
012 1        1
013 23 51 1  STO + 1
014 24 1     RCL 1
015 24 0     RCL 0
016 71       /
017 15 33    g FRAC
018 15 61    X<>0
019 13 12    GTO 12
020 24 1     RCL 1
021 24 0     RCL 0
022 71       /
023 23 0     STO 0
024 24 2     RCL 2
```

```
025 24 1     RCL 1
026 24 0     RCL 0
027 13 00    GTO 00
028 15 71    X=0
029 13 32    GTO 32
030 71       /
031 15 12    g RTN
032 22       R
033 15 12    g RTN


Uses R0, R1, R2, R3


<f PRGM>
Enter decimal number <R/S>
Denominator <R> (Round down)
Numerator <R>
Integer


eg
<f PRGM>
0.5 <R/S>
2 <R>
1 <R>
0


0.5 = 1/2 !!
```

Enjoy.

Mike T.

Edited: 1 Feb 2006, 7:07 a.m.

Re: Short & Sweet Math Challenge #13: Adding up to infinity

*Message #3 Posted by **Antoine M. Couëtte** on 30 Jan 2006, 4:06 p.m.,*
in response to message #1 by Valentin Albillo

Jan 30, 2005

Valentin,

Out of topic information request ... although indirectly related to your Challenge #13 post.

Given its features, I would guess that your "HP-71B Minimax Polynomial Fit" uses Chebyshev Polynomials Approximation (CPA) . CPA needs samples "evenly spaced on a circle", i.e. a more dense sampling at both ends of interval - sometimes a cumbersome constraint - BUT CPA achieves the smallest absolute error for a given degree of polynomial.

On the other hand FFT approximation simply needs evenly spaced samples BUT is generally NOT accurate and may give big (sometimes wildly varying) errors at interval ends.

I need to approximate a function which is known at evenly spaced points. I do not want to use FFT approximation because of its (gross) unreliability and unpredictability at interval ends. Could I easily use your "HP-71B Minimax Polynomial Fit" with evenly spaced samples without the need to (linearly) interpolate function values at the required "evenly spaced on a circle" points?

Thank you for your Kind Attention

Antoine

antoine.m.couette@club-internet.fr

Re: Short & Sweet Math Challenge #13: Adding up to infinity

*Message #4 Posted by **Valentin Albillo** on 31 Jan 2006, 7:01 a.m.,*
in response to message #3 by Antoine M. Couëtte

Hi, Antoine:

Antoine wrote:

"Given its features, I would guess that your "HP-71B Minimax Polynomial Fit" uses Chebyshev Polynomials Approximation (CPA)"

> You'd guess wrong, I don't use CPA. My program computes the *exact* minimax polynomial for the case of a given arbitrary dataset (x_i, y_i), where you can either select the degree of the minimax polynomial beforehand, or else specify a maximum absolute error and let the program select the lowest-degree polynomial that complies.
>
> For the case of some user-specified function f(x) in a given interval (which can be *anything*: a built-in function, an user-defined function, a function in some external ROM, including Math ROM's 'funny functions' Solve and Integrate, etc.), the function itself is firstly used to generate a discrete dataset, then my program fits an exact minimax polynomial to that dataset, which will very closely approximate the true minimax polynomial for the continuous function. Also, you can improve the accuracy of the approximation by simply generating more data points in the interval.

"I need to approximate a function which is known at evenly spaced points [...] Could I easily use your "HP-71B Minimax Polynomial Fit" with evenly spaced samples without the need to (linearly) interpolate function values at the required "evenly spaced on a circle" points?"

> Certainly. As stated, my program doesn't use CPA and it works with any arbitrary dataset as long as the x ordinates are in increasing value and there are no two equal x ordinates. Whether they're evenly spaced or not is irrelevant and, matter of fact, when a user-specified function f(x) is supplied, the program generates *evenly spaced* datapoints from it and fits the polynomial to that.
>
> Also, as discussed in some past posts (search for them in this forum), it's very easy to use my program to compute minimax polynomials having some desired peculiarity, such as only using odd or even powers of x, or forcing the coefficient of x to be exactly 1, say, etc.

Hope this answers your questions. Thanks for your interest, and

Best regards from V.

Re: Short & Sweet Math Challenge #13: Adding up to infinity

*Message #5 Posted by **Antoine M. Couëtte** on 2 Feb 2006, 5:01 a.m.,*
in response to message #4 by Valentin Albillo

Hello Valentin,

Thank you for your kind, courteous and extremely interesting reply.

Given your additionnal detailed information, I would keep thinking that your mathematical approach in your "HP-71B Minimax Polynomial Fit" is probably close in essence to the logic of Chebyshev Polynomials Approximation (CPA). Both methods claim that for a given polynomial degree, their maximum absolute error is the smallest one you can get ...

By the way, do you have a similar program for the HP41? I did write one for the HP41 which works very well for my use, with the constraints of having to interpolate function at specific sampling points "equally spaced on a circle".

I am willing to communicate more on this with you in order to compare my results on HP41X (you have HP41X from Hrast don't you ?) with yours obtained on your "HP-71B Minimax Polynomial Fit". However this forum is not an appropriate place to do so.

Would you be so kind as to send me an e-mail at my e-mail address " antoine.m.couette@club-internet.fr " so that I can give your more details on the function I am studying and on the way I currently represent it with CPA.

Best Regards from

Antoine

Re: Short & Sweet Math Challenge #13: Adding up to infinity

*Message #6 Posted by **Valentin Albillo** on 2 Feb 2006, 6:21 a.m.,*
in response to message #5 by Antoine M. Couëtte

Hi again, Antoine:

Antoine wrote:

"Thank you for your kind, courteous and extremely interesting reply."

> You're welcome.

"Given your additionnal detailed information, I would keep thinking that your mathematical approach in your "HP-71B Minimax Polynomial Fit" is probably close in essence to the logic of Chebyshev Polynomials Approximation"

> I don't think so, but anyway, each and every method that deals with the computation of minimax polynomials must address the same issues nevertheless, so they all share similar logics, in essence.
>
> But where CPA deals with an special kind of orthogonal polynomials with some weighting function involved, and then uses their equiripple properties to approximate true minimax, I do nothing of the kind, and I do not find approximate minimax polynomials but exact ones, to the limits imposed by finite accuracy arithmetic.

"By the way, do you have a similar program for the HP41?"

> No, because my approach is very computationally intensive and requires a large amount of RAM, so the HP-71B is about the minimal platform where it would run acceptably. The HP-41C would be far too slow and limited except for low degrees and small datasets.

"I am willing to communicate more on this with you in order to compare my results on HP41X (you have HP41X from Hrast don't you ?) with yours obtained on your "HP-71B Minimax Polynomial Fit".

> I'm willing to obligue but I don't have HP41X because I don't have any 48/49 models, matter of fact I can't stand RPL machines. Not to discourage others from liking or using them, of course, to each his own.

"However this forum is not an appropriate place to do so. Would you be so kind as to send me an e-mail at my e-mail address " antoine.m.couette@club-internet.fr " so that I can give your more details on the function I am studying and on the way I currently represent it with CPA."

I do not concur in this forum not being an appropriate place, as the topic is mathematical in nature ("Terms of Use") and does involve vintage HP machines (HP-41C and HP-71B), so it certainly belongs here and might well be of educational or practical use to others, but if there are any confidentiality matters involved or you aren't comfortable with discussing it here, you can e-mail me at my public e-mail address, which you can find at my web site
http://membres.lycos.fr/albillo/calcmain.htm

Best regards from V.

Re: Short & Sweet Math Challenge #13: Adding up to infinity

*Message #7 Posted by **PeterP** on 31 Jan 2006, 11:25 p.m.,*
in response to message #1 by Valentin Albillo

Valentin,

First, thanks for placing to us another challenge that will help us fill our day with more things that are fun and less things that put bread on the table ;-)

Secondly, the first sum is written as Sum(f(2^n)/2^n), for n=1 to infinity) yet then you go on to say f(N) counts the number of odd digits. So I presume - yet might be totally wrong - that you actually mean the first sum to be Sum(f(N)/2^N), for n = 1 to infinity. Not that I would have any better idea how to do this than what is written, just want to make sure I start on the right track...

Cheers

Peter

Re: Short & Sweet Math Challenge #13: Adding up to infinity

*Message #8 Posted by **Valentin Albillo** on 1 Feb 2006, 4:38 a.m.,*
in response to message #7 by PeterP

Hi, PeterP:

PeterP wrote:

"First, thanks for placing to us another challenge that will help us fill our day with more things that are fun and less things that put bread on the table ;-)"

You're welcome. It doesn't help me put bread on my table either, to spend time concocting these challenges ;-)

"Secondly, the first sum is written as Sum(f(2^n)/2^n), for n=1 to infinity) yet then you go on to say f(N) counts the number of odd digits. So I presume - yet might be totally wrong - that you actually mean the first sum to be Sum(f(N)/2^N), for n = 1 to infinity. Not that I would have any better idea how to do this than what is written, just want to make sure I start on the right track..."

Thanks for your interest and you've done the right thing by first clearing out any doubts you had but no, you're indeed *wrong* and the sum is exactly as written, i.e.:

```
 n->oo
-------
 \
  >      f(2^N)/2^N = f(2^1)/2^1 + f(2^2)/2^2 + f(2^3)/2^3 + ...
 /
-------             = f(2)/2 + f(4)/4 + f(8)/8 + f(16)/16 + ...
 n = 1
                    = 0/2 + 0/4 + 0/8 + 1/16 + 1/32 + 0/64 + ...


 as f(N) counts the number of odd digits (i.e.: 1,3,5,7,9) in N,
 so we have:


         f(2)  = 0    ("2" has no odd digits)
         f(4)  = 0    (ditto)
         f(8)  = 0    (ditto)
         f(16) = 1    ("16" has one odd digit, the "1")
         f(32) = 1    ("32" has one odd digit, the "3")
         f(64) = 0    ("64" has no odd digits)
         f(128)= 1    ("128" has one odd digit, the "1")
  etc.
```

I suggest you begin with sums 6, 7, and 8, which are easier, and then, overwhelmed by success, you go on to attack the remaining sums. I might even **increase** the prize by adding two other unavailable articles of mine, so there would be 8 articles for 8 sums.

As for the sums themselves, believe me this is *not* a boring, math-drudgery topic: the results are *awesome*, even surreal, you've never seen anything like this before !

Best regards from V.

Re: Short & Sweet Math Challenge #13: Adding up to infinity

*Message #9 Posted by **Chris** on 1 Feb 2006, 7:12 a.m.,*
in response to message #8 by Valentin Albillo

```
Valentin


I have tried the problems with my HP-49G+ using for the main program 'CHALLENGE'
<<
  CLEAR
  'SIGMA(N=1,10000, F(2^N)/2^N)'
  EVAL ->Q
>>
where F(N) defines the function, SIGMA is the summation symbol. This outputs the results as fractions.


A typical F(N), fore example, for  the first problem is shown below and stored in 'F'


<<
  ->STR
  'A' STO
  0 'B' STO
  1 A SIZE 1 - FOR I
    IF A I I SUB NUM 2 MOD 1 == THEN
      1 'B' STO+
    END
  NEXT
  B
>>


The answers I have (some I am a bit dubious about or just do not recognise) are


1. 1
2. 4
3. 0
4. 1
5. 1/9
6. 91720561 / 343614632 = 2.66929133856 (?)
7. 3.14159265837 (PI)
8.200100/1 (?)


Even if the results are not quite correct I have enjoyed the Challenge.


Thank you very much


Chris
```

Re: Short & Sweet Math Challenge #13: Adding up to infinity

*Message #10 Posted by **Arnaud Amiel** on 1 Feb 2006, 7:30 a.m.,*
in response to message #9 by Chris

I only got (3) for now and I get 114/1025 but I am not fully sure. In that case F is << XPON 2 MOD >>

Need to work a bit more now

Arnaud

Re: Your score up to now

*Message #11 Posted by **Valentin Albillo** on 1 Feb 2006, 7:41 a.m.,*

in response to message #9 by Chris

Hi, Chris:

First of all, thanks for your interest in my challenge and your great solutions. Here's some preliminary score for you:

```
1. 1        Wrong value
2. 4        Wrong value
3. 0        Wrong value
4. 1        Wrong value
5. 1/9      Wrong value


6. 91720561 / 343614632 = 2.66929133856 (?)


            Correct value save a few ulps, Wrong fraction
            (remember what I stated about 2/3 vs 166666666667/250000000000)


7. 3.14159265837 (PI)


            Nearly-correct value but you can refine it


8.200100/1 (?)


            Correct value, Correct fraction
            (Your value is integer, so Denominator = 1)
```

You do not clearly state what you think are the correct values for the sum, i.e.: you may have gotten some result but think the real value is some other) so I can't accurately score that.

You might consider having a second look at it in order to correct/improve the wrong/improvable values and/or fractions, and come to that, specifically state what are the actual values in your opinion. I'm sure you can easily improve your score ! :-) Anyway, thanks a lot for your interest and

Best regards from V.

Re: Your score up to now

*Message #12 Posted by **J-F Garnier** on 1 Feb 2006, 3:45 p.m.,*
in response to message #11 by Valentin Albillo

Just a short and fast try to answer question #6 with the HP-71:

```
10 DEF FNF(N)=IP(PI/2*N)/2^N
20 S=0
30 FOR N=100 TO 1 STEP -1
40 S=S+FNF(N)
50 NEXT N
60 DISP S;FRAC$(S)
>
 2.66929133858 339/127
```

FRAC$ comming from the JPC ROM. (If HP48/49 owners can use the ->Q function, I may use the JPC ROM one?)

J-F

Edited: 1 Feb 2006, 4:05 p.m.

Re: Your score up to now

*Message #13 Posted by **Valentin Albillo** on 1 Feb 2006, 6:13 p.m.,*
in response to message #12 by J-F Garnier

Hi, Jean-François !

Jean-François wrote:

"Just a short and fast try to answer question #6 with the HP-71:[...] 2.66929133858 339/127"

> Correct value and correct fraction. Care to state whether you think this fraction is the exact value of the infinite sum ?

"FRAC$ comming from the JPC ROM. (If HP48/49 owners can use the ->Q function, I may use the JPC ROM one?)"

> Of course, and very clever on your part to remember that such a convenient function is included in the JPC ROM. Anyway, I'll provide a conversion routine using only standard keywords as part of my solution, for the benefit of interested users.

Come on, Jean-François, be a sport and post equally clever solutions for the remaining sums ... it's actually pretty easy ! :-)

Thanks for your interest and pretty solution, and

Best regards from V.

Re: Your score up to now

*Message #14 Posted by **Chris Dean** on 1 Feb 2006, 7:37 p.m.,*
in response to message #13 by Valentin Albillo

```
Valentin
I have made a few changes to my code and have had another go. The main program 'CHALLENGE'
<<
  CLEAR
  'SIGMA(N=1,10000, F(N)/2^N)'
  EVAL ->Q
>>
where F(N) defines the function, SIGMA is the summation symbol. This outputs the results as fractions.
A typical F(N), for example, for  the first problem is shown below and stored in 'F'
<< 2 ^
  ->STR
  'A' STO
  0 'B' STO
  1 A SIZE 1 - FOR I
    IF A I I SUB OBJ-> 2 MOD 1 == THEN
      1 'B' STO+
    END
  NEXT
  B
>>


The answers I have now are


1. 4175734221719/556712812325 approx 3 / 4, 0.75
2. 614074 / 1615189 very approx 2 / 5, 0.4
3. 1 /1
4. 1089 / 1629256, 0.000668 approx 8 / 30000
5. 10 / 99
6. 91720561 / 343614632 = 2.66929133856
7. 3.14159265357  slightly better approximation of PI than last time
8. 200100000001 / 1000000 -> 200100


Any better?


Chris
```

Re: Your score up to now

*Message #15 Posted by **Valentin Albillo** on 2 Feb 2006, 6:54 a.m.,*
in response to message #14 by Chris Dean

Hi again, Chris:

Chris posted: *"I have made a few changes to my code and have had another go."*

> I'm truly glad you did and thank you for your continued interest. In view of the scarce number of entries this challenge is getting, I think maybe it's useful to separate mice from men, speaking from a programming-abilities point of view, of course; though I don't get why, it's actually very easy, the novelty lies in the highly unexpected results.

"The answers I have now are 1. 4175734221719/556712812325 approx 3 / 4, 0.75"

> Nope, wrong value.

"2. 614074 / 1615189 very approx 2 / 5, 0.4"

> Wrong value.

"3. 1 /1"

> Wrong value.

"4. 1089 / 1629256, 0.000668 approx 8 / 30000"

> Wrong value.

"5. 10 / 99"

> Correct fraction, thus correct value. Do you think this is the *exact* value of this sum ? Or else, how good an approximation ?

"6. 91720561 / 343614632 = 2.66929133856"

> Correct value within a few ulps, wrong fraction. Once again, remember the 2/3 versus 166666666667/250000000000 I mentioned in the preamble to the challenge, when trying to convert the approximate result 0.666666666668 to fractional form. The long fraction is of course the minimal fraction which will result in a value of 0.666666666668, but this is misleading, since that final "8" is just an artifact of finite precision. Your conversion to fraction must take these small inaccuracies into account and come instead with the simplest fraction that represents your result within a few ulps. That way you'll get the correct 2/3 instead of the artificious 166666666667/250000000000.

"7. 3.14159265357 slightly better approximation of PI than last time"

> Correct value. Do you think that Pi is the *exact* value of this sum ? Or else, how good an approximation ?

"8. 200100000001 / 1000000 -> 200100"

> Correct value, wrong fraction. The same comment as for #6 above applies. If you got S = 200100.000001, your conversion to fraction must consider, taking into account small inaccuracies, the "integer" fraction 200100/1 = 200100 is the lowest possible "fraction", not 200100000001/1000000
>
> And as always, would you say that your fraction (or integer value) is the *exact* value of this infinite sum ? And if not, just how close is it ?

Well, there's been some improvement. But you really need to work your functions definitions and/or your summation method for the first 4 sums because your answers are not even close to the true results. The conversion from (approximate) computed sum to lowest fraction also needs reworking.

Thanks again for your continued efforts, and

Best regards from V.

Re: Your score up to now

*Message #16 Posted by **Chris Dean** on 2 Feb 2006, 7:45 a.m.,*
in response to message #15 by Valentin Albillo

```
Valentin


Thank you for your comments I will re-try 1 to 4. J-F has noticed an error in my program which is possibly the problem
with my results. Also antoher problem I am possibly having is with the Hp-49G+ as it is the first time I have used it in
anger from a programming point of view.
With regards to my fraction values I am using the ->Q function which converts decimal values to the results as a
fraction.


From your comments 1 to 4 I will retry.


For 5 this is the result output from the HG49G+ and I assume is exact (although I have a suspicion that 1 /10 might be
the correct solution!)


For 6 I have 917207561 / 343614632, using a common factor of 2705627 gives me the fraction 339 / 127


For 7 possibly the accuracy is restricted to the accuracy of the HP49G+ but I would have to investigate further.


For 8 Point taken I used 200100 / 1 the first time round!


Thanks for the comments


Chris
```

Edited: 2 Feb 2006, 7:52 a.m.

Re: Your score up to now

*Message #17 Posted by **Arnaud Amiel** on 2 Feb 2006, 10:53 a.m.,*
in response to message #16 by Chris Dean

Using ->QPI sometimes provides "better" fractions.

I will have to try more that (3) and recheck it. Hopefully this weekend

Arnaud

S&SMC #13: Adding up to infinity

*Message #18 Posted by **Valentin Albillo** on 2 Feb 2006, 11:17 a.m.,*
in response to message #17 by Arnaud Amiel

Please do. And thanks a lot for your interest :-)

(By the way, both your value and fraction for #3 *are* correct. Would you state whether you deem the fraction to be the *exact* value for the infinite sum ? Perhaps computing some more extra digits would allow you to decide ? (hint, hint) ;-)

Have a busy and enjoyable weekend, keep up the good work, and

Best regards from V.

Re: S&SMC #13: Adding up to infinity

*Message #19 Posted by **Arnaud Amiel** on 2 Feb 2006, 5:46 p.m.,*
in response to message #18 by Valentin Albillo

A bit more work has been done. I will now try to follow your hint. In the mean time I hope this will help others to improve:

I have had a quick look and decided to use my 49G+.

The advantage of the 49G+ is that it is fast so I could use very inefficient algorithms.

I have up to now only looked at those not involving individual digits. I plan to do those this week end in ML as I believe it is the only way to properly deal with individual digits; and it is fun... so more results a bit later.

Anyway, here I go.

I use a program F to define f(N)
I use a program LOOP to loop infinitely (this is where I use the speed of the 49G+)
I use a LAUNCHER program to catch the error when LOOP underflows
I use the ->QPI function to give me the fraction as I found it usually works better than ->Q for approximate results

```
LAUNCHER
<< IFERR LOOP THEN DEPTH 1 - DROPN END >>
```

This works from an empty stack because LOOP always leave the sum on the top level.

For S3:

```
LOOP
<< 0 0 WHILE 1 REPEAT 1 + 2 OVER ^ DUP F SWAP / ROT + SWAP END >>


F
<< XPON 2 MOD >>
```

I find 0.111219512196 the 49 tells me it is 114/1025 I would however believe it would be 114/1024 because we are looking at sums of 2^N

For S6:

```
LOOP
<< 0 0 WHILE 1 REPEAT 1 + 2 OVER DUP F UNROT ^ / ROT + SWAP END >>


F
<< PI 2 / * IP >>
```

I find 2.66929133856 the 49 tells me it is 339/127 I would however believe it would be 342/128=171/64 because we are looking at sums of 2^N

For S7:

```
LOOP
<< 0 0 WHILE 1 REPEAT 1 + DUP F ROT + SWAP END >>


F
<< SQ neg 100 / EXP >>
```

After dividing by 5, adding .1 and squaring I get 3.14159265357 which the 49 tell me is PI, and which I somehow believe

For S8:

```
LOOP
<< 0 0 WHILE 1 REPEAT 1 + 5 OVER DUP F UNROT ^ / ROT + SWAP END >>

F
<< PI 163 SQRT 3 * / EXP * IP >>
```

I find .31250000512 the 49 tells me it is 3814696/12207027 somehow I don't trust numbers after so many 0s so I would tend to say 5/16.

Anyway, I will try to find the others by using an F written in ML and will look again at calculating or intuiting exact results on the paper a bit better this weekend.

Arnaud

Edited: 3 Feb 2006, 2:18 a.m.

Re: S&SMC #13: Adding up to infinity

*Message #20 Posted by **Valentin Albillo** on 3 Feb 2006, 4:36 a.m.,*
in response to message #19 by Arnaud Amiel

Hi, Arnaud:

Arnaud posted:

"In the mean time I hope this will help others to improve"

> *THAT'S* exactly the idea behind these challenges o'mine: that everyone can enjoy then, and that everyone can learn something useful. Me, I'm enjoying a lot the ideas and code posted here and learning new RPL tricks and techniques all the time. I'm sure many others do too, even if they simply 'lurk' without posting a thing.
>
> Matter of fact, I firmly believe that for every forum visitor who posts something, there are at least ten others that do never post anything, but nevertheless do enjoy the topics under discussion.

"I find 0.111219512196 the 49 tells me it is 114/1025 I would however believe it would be 114/1024 because we are looking at sums of 2^N"

```
Yes, but you have:  computed Sum = 0.111219512196
                    and 114/1025 = 0.111219512195
                    but 114/1024 = 0.11128125000
```

> so it all depends on how much you do trust your computed Sum. If you're certain that 11-12 digits are correct ... Perhaps getting some more digits would help you decide. Are there any multiprecision libraries available for your calculator ? They would probably be useful here.

"I find 2.66929133856 the 49 tells me it is 339/127 I would however believe it would be 342/128=171/64 because we are looking at sums of 2^N"

> Same argument here. It all depends on how much you trust your computed sum.

"For S8 [...] I find .31250000512 the 49 tells me it is 3814696/12207027 somehow I don't trust numbers after so many 0s so I would tend to say 5/16."

Double-check the sum definition and/or your code, because your result is way out.

"Anyway, I will try to find the others by using an F written in ML and will look again at calculating or intuiting exact results on the paper a bit better this weekend.

Great ! Have an enjoyable weekend and please, *do post* your ML code for others to see. It'll be most instructional to all of us, myself included. Thanks for your interest and

Best regards from V.

Re: S&SMC #13: Adding up to infinity

*Message #21 Posted by **Arnaud Amiel** on 3 Feb 2006, 3:59 p.m.,*
in response to message #20 by Valentin Albillo

Quote:

Are there any multiprecision libraries available for your calculator ? They would probably be useful here.

The 49 has the ability to deal with unlimited precision numbers which are built in. It is just a pitty that the functions themselves are not built in. There are however very good libraries to deal with those. I might try weather permitting.

Quote:

Double-check the sum definition and/or your code, because your result is way out.

Of course you are right, I miss read thedefinition of f(N) which should be << PI 3 / 163 SQRT * EXP * IP >> which gives me 200100.000001 which the hp tells me is 200100.

Now I have to work on the other ones

Arnaud

Re: S&SMC #13: Adding up to infinity

*Message #22 Posted by **Arnaud Amiel** on 4 Feb 2006, 5:45 p.m.,*
in response to message #20 by Valentin Albillo

I have had time to play around a little bit with ML. I jus coded the missing F. The other part is the same RPL

as above. I will try to comment enough for people not too familiar with Saturn ASM to understand.

Here we go:

For 1:

```
GOSBVL =POP1%  %We take real from the stack, save the context, put it in register A and set the processor
in BCD


mode
ASL.W          %We shift A left to align the first digit with the S (4 bits) field of the register
C=0.W          %C will be our counter
```

```
P=4             %P is one nibble which we will increase until it carries. There are 12 digits in the
mantissa of


A
{
SB=0            %The sticky bit is set when a shift operation loses a digit.
ASRB.S          %We shift the nibble in S by one bit to the right
?SB=0 { C+1.A }%If the sticky bit is still 0 we skip increasing the counter
ASL.W           %We shift A by one nibble to bring the next digit in the S field
P+1 UPNC        %We increment our counter P and go up to the first bracket if we haven't overflowed yet
}
%Pushing reals is a trouble so on a 49 we push a ZINT. Much easier
A=C.A P=3       %We copy our counter C in A which will be pushed - P holds the number of digits.
SETHEX          %We must always return in HEX mode not BCD
GOVLNG =PUSHzintLoop %We push the ZINT and return
@
```

This gives me .111111111108 which ->QPI tell me is 1/9 and which I believe to be exact.

For 2: First I believed it would be a straightforward copy of the above but it turned out not to be for two reasons.

1) There is no ?SB<>0 test
2) For small numbers the registers are full of zeros which are even digits

So after playing a bit I got this:

```
GOSBVL =POP1%  %Same as before
SETHEX          %We want to calculate how many digits we will look at to load P in HEX
B=0.A           %B will hold the result
B=A.P           %We get the LSD of the exponent of A stored in DCB
ASR.X           %We get the next digit in the P=0 field
?A=0.P { B+10.A } %If it is not 0 we add 10 - I only consider "small" numbers to < 1E13
LC 00F C-B.A P=C 0 %We set our counter initial value in C and move it to P
SETDEC          %We will count the digits in DCB
C=0.A           %As before
ASL.W
{
C+1.A           %As there is no ?SB<>0, we assume even
SB=0 ASRB.S ?SB=0 { C-1.A } %If we were wrong we decrement our counter
ASL.W           %The rest is as before
P+1 UPNC
}
A=C.A P=3
SETHEX
GOVLNG =PUSHzintLoop
@
```

This gives me 1.03160638597 which ->QPI tell me is 3166/3069. I just don't believe that Valentin would have us

looking for this fraction. So either my calculation is not accurate enough or there is something special about

this fraction that I don't know.

For 4 and 5:

By now I had gotten in the mood of writing ML, which I usually only do when Valenin posts his cahllenges. So I

figured out the best method for this one was different. Here we go.

```
GOSBVL =POP1%   %Same as before
LC 101010101010000 %We use a mask to get only the LSB of even placed digits
SB=0 ASRB.X ?SB=0 { CSL.M } %If the exponent is odd we shift the mask
A&C.W            %We AND everything
P=4              %We will go through the whole 12 digits
ASL.W            %We bring the first digit to the end of the register
{
ASLC             %We circularly shift the first digit to the beginning of the register
```

```
C+A.X           %Add it to our counter
A=0.X           %Clean the X field of the A register to avoid adding old digits
P+1 UPNC        %Same as before from here
}
A=C.X P=3
SETHEX
GOVLNG =PUSHzintLoop
@
```

This gives me 1.01010101008E-2 and .10101010101 which the calc tell me are 1/99 and 10/99 respectively which I

believe.

Now I still need to recheck a few of these sums to see if I can come up with something more reasonable. It is

time to recheck the manual for the extended precision libraries.

Hopefully a bit more information tomorrow.

Arnaud

Re: S&SMC #13: Adding up to infinity - Rechecked with more numbers

*Message #23 Posted by **Arnaud Amiel** on 5 Feb 2006, 7:43 a.m.,*
in response to message #22 by Arnaud Amiel

Up to now, I was happy that: S1=1/9
S4=1/99
S5=10/99
S7=PI
S8=200100

For the others, Valentin seemed to imply that getting more digits would help so I used the Longfloat library it is much slower but I got many more digits.

S3 was 0.1112195121951219512195..... so I am happy that S3 is 114/1025

S2 was 10316063859718040101220361779253392004437687402157981960542380195161838125925590758044055067926010 15.E-99 and however hard I try, I can not find a period in there.

S6 is 26692913385826771653543307086614173228346456692913385826771653543306993153860770080720989436591834 97.E-99 and there seem to be a period but it is quite large 669291.... this yields a long fraction: 29658792650918635170603675406824146981627/11111111111111111111111111111111111111111 Somehow it looks nicebut I still can't say that I am happy with it.

So unless a miracle happens before the end of the weekend, I lose 2 points for S2 and S6

And I am still wondering how Valentin got all these sums?

Arnaud

Edited: 5 Feb 2006, 7:45 a.m.

Re: S&SMC #13: Adding up to infinity - Rechecked with more numbers

*Message #24 Posted by **PeterP** on 5 Feb 2006, 2:11 p.m.,*
in response to message #23 by Arnaud Amiel

Nice work Arnaud! Seems that between you and J-F, the French own this challenge. I was hoping to learn again something magnificent from Markus or Ernst but they were notably abscence. So were all the other forum-prowling code magicians who write in RPN, I always hope to take a peek and learn some new trick from them...

And - at least from my low vintage point - Valentin is anyway in a different sphere...

However, I hope that he creates some challenges that are not only doable by my little-old-41 (albeit it carres a y in its name) yet also at least carry the change to win something for it as well, rather than those fabulous programs for the 71, which I do not have... How about a Sudoku solver for the 41, Valentin?

Can't wait to have the magician lift the curtain and tell the story about those sums. I bet there is some unifying theme between them, too many 1/9, 1/99, 10/99...

Cheers

Peter

Better than ->Q or ->Qpi

*Message #25 Posted by **Gene** on 2 Feb 2006, 11:29 a.m.,*
in response to message #17 by Arnaud Amiel

would be joe horn's amazing dec->frac routine, if you have that available. I think he's posted the routine to comp.sys.hp48 in the past.

Re: Better than ->Q or ->Qpi

*Message #26 Posted by **Arnaud Amiel** on 3 Feb 2006, 2:32 a.m.,*
in response to message #25 by Gene

I believe you are talking about PDQ. I was thinking about using it but decided to restrict myself to built in functions. I will give it a try if I have time this weekend.

Arnaud

Edited: 3 Feb 2006, 2:34 a.m.

Re: Your score up to now

*Message #27 Posted by **J-F Garnier** on 2 Feb 2006, 7:05 a.m.,*
in response to message #14 by Chris Dean

Chris,

I think you are calculating f(N^2) instead of f(2^N). I find totally different results on my HP71.

J-F

Re: Your score up to now

*Message #28 Posted by **Valentin Albillo** on 2 Feb 2006, 7:08 a.m.,*
in response to message #27 by J-F Garnier

Jean-François wrote:

"I find totally different results on my HP71"

And why on earth don't you post them, man !? :-)

Best regards from V.

Re: Your score up to now

*Message #29 Posted by **J-F Garnier** on 2 Feb 2006, 8:11 a.m.,*
in response to message #28 by Valentin Albillo

And why on earth don't you post them, man !? :-)

Ok, ok ... The programming task is quite simple, well maybe not the decimal->fraction conversion, but as we are using "high level" functions like ->Q or FRAC$...

No, the fact is that I'm unable to judge the results, especially for question #1 to #5. Personally, I prefer the questions #6 to #8.

About #7, here is my result and comment:

```
90 DEF FNF7(N)=EXP(-N*N/K)
100 S=0
105 K=100
110 FOR N=100 TO 1 STEP -1
120 S=S+FNF7(N)
130 NEXT N
135 S=(S*2+1)^2/K
140 DISP S
```

Result is: 3.14159265357 close to pi, as already posted.

Note that I rewrote the sum as

```
   S = ( (SUM( N=1, N-> Inf, f(N) ) * 2 + 1 ) ^2 ) / K
   where f(N) = e^(-N*N/K)   and K=100 in Valentin's problem
```

I get the same result (up to 11 digits) for K value from 100 down to 3. But for K=2, I get 3.1415926872. So my guess is that the sums are very good approximations of PI (but are not PI), and the limit when K -> Inf may be actually PI.

About question #8: with a similar program I found : 200100, also already posted. I have some doubt that the exact value is an integer, as it seems related to the famous exp(pi*sqrt(163)) number, which is close to an integer, but is not.

J-F

Edited: 2 Feb 2006, 11:08 a.m.

Re: Your score up to now

*Message #30 Posted by **J-F Garnier** on 2 Feb 2006, 12:57 p.m.,*
in response to message #28 by Valentin Albillo

Well, Valentin, here are my results for problems 1 to 5:

```
10  DEF FNF1(N)
20    C=0 @ P=1
30    WHILE N>=1
51      IF MOD(N,2)=1 THEN C=C+1 ! PB#1
52      ! IF MOD(N,2)=0 THEN C=C+1 ! PB#2
53      ! C=C+1 ! PB#3
```

```
54      ! IF MOD(N,2)=1 AND MOD(P,2)=1 THEN C=C+1 ! PB#4,5
60      N=N DIV 10
65      P=P+1
70    END WHILE
81    FNF1=C ! PB #1,2,4,5
83    ! IF MOD(C,2)=0 THEN FNF1=1 ELSE FNF1=0 ! PB#3
90  END DEF
100 S=0
110 FOR N=100 TO 1 STEP -1
120   S=S+FNF1(2^N)/2^N ! PB#1,2,3,4
125   ! S=S+FNF1(N)/10^N ! PB#5
130 NEXT N
140 DISP S;FRAC$(S)


Results:
#1: .11111111111 1/9
#2: 1.03160638645 3166/3069
#3:  .111219512195 114/1025
#4:  .010101010101 1/99
#5:  .10101010101 10/99
```

Results #1,4,5 are beautiful enough to be true, I don't know for #2 and #3...

Waiting for your final comments!

J-F

Re: Your score up to now

*Message #31 Posted by **Valentin Albillo** on 3 Feb 2006, 5:42 a.m.,*
in response to message #30 by J-F Garnier

Hi, Jean-François:

Jean-François posted: *"Results #1,4,5 are beautiful enough to be true, I don't know for #2 and #3 [...] Waiting for your final comments!"*

> Thanks a lot, you've done a great job. Your exact score, next Monday.
>
> In the meantime, I would never ask this of anyone else, but I know you're fully capable (you did once in a former challenge): *how about getting more precise results, say to 20 digits or more ?* That would probably help you refine your final judgment about the exactness of your results, right ? Or perhaps not ? :-)

Full answers and comments next Monday. Have a nice weekend, and

Best regards from V.

Re: Double precision [quite long]

*Message #32 Posted by **J-F Garnier** on 4 Feb 2006, 6:57 a.m.,*
in response to message #31 by Valentin Albillo

I had to take up this challenge!

```
Problems #1 to #5:
10  DEF FNF2(H,L)
20    C=0 @ P=1
30    WHILE H>0 OR L>0
40      IF MOD(L,2)=1 THEN C=C+1 ! PB#1
50      ! IF MOD(L,2)=0 THEN C=C+1 ! PB#2
60      ! C=C+1 ! PB#3
70      ! IF MOD(L,2)=1 AND MOD(P,2)=1 THEN C=C+1 ! PB#4,5
80      ! calculate [H,L] / 10
90      L=L DIV 10+MOD(H,10)/10*M0 @ H=H DIV 10
100     P=P+1
```

```
110   END WHILE
120   FNF2=C ! PB#1,2,4,5
130   ! IF MOD(C,2)=0 THEN FNF2=1 ELSE FNF2=0 ! PB#3
140 END DEF
150 S=0
160 H0=0 @ L0=2 ! integer number under test, start with 2.
170 M0=1.00000000000E+12 ! 1E12 limit between H0 and L0
180 H1=0 @ L1=0 ! real result
190 M1=.0000000001 ! 1E-10 limit between H1 and L1
200 FOR N=1 TO 100
210   X=FNF2(H0,L0)
211   ! X=FNF2(0,N) ! PB#5
220   ! calculate X/2^N in dble precison
230   H2=X @ L2=0
240   FOR J=1 TO N
250     H2=H2/2 @ L2=L2/2 ! PB#1,2,3,4
255     ! H2=H2/10 @ L2=L2/10 ! PB#5
260     X=MOD(H2,M1) @ H2=H2-X @ L2=L2+X @ IF L2>=M1 THEN L2=L2-M1 @ H2=H2+M1
270   NEXT J
280   ! add H2,L2 TO H1,L1
290   H1=H1+H2 @ L1=L1+L2 @ IF L1>=M1 THEN L1=L1-M1 @ H1=H1+M1
300   ! calculate [H0,L0] *2
310   H0=H0*2
320   IF L0>=M0/2 THEN L0=L0-M0/2 @ H0=H0+1
330   L0=L0*2
340   DISP H1;L1
345   IF H0>1.E+12 THEN EXIT N
350 NEXT N


Problem #6:
5   DEF FNF(N)=IP(PI/2*N)
150 S=0
180 H1=0 @ L1=0 ! real result
190 M1=.0000000001 ! 1E-10 limit between H1 and L1
200 FOR N=1 TO 100
210   X=FNF(N)
220   ! calculate X/2^N in dble precison
230   H2=X @ L2=0
240   FOR J=1 TO N
250     H2=H2/2 @ L2=L2/2
260     X=MOD(H2,M1) @ H2=H2-X @ L2=L2+X @ IF L2>=M1 THEN L2=L2-M1 @ H2=H2+M1
270   NEXT J
280   ! add H2,L2 TO H1,L1
290   H1=H1+H2 @ L1=L1+L2 @ IF L1>=M1 THEN L1=L1-M1 @ H1=H1+M1
340   DISP H1;L1
350 NEXT N


Results:
#1: .1111111111  1.11111111128E-11
  Last two digits are supposed to be invalid.
#2: 1.0316063864  4.50961225158E-11
  in line the 3166/3069 fraction, as can be checked with the HP71:
                                      1.0316063864450961225158
  3166/3069                      -> 1.031606386
  (3166-3069*1.03160638)/3069 ->          6.44509612252E-9
#3: .1112195121   9.51219512197E-11
  check:                      .111219512195121951219
  114/1025                  -> .1112195
  (114-1025*0.111219)/1025 ->       5.12195121951E-7
#4: .0101010101  1.01010101013E-12
#5: .101010101  1.0101010101E-11
#6: 2.6692913385  8.26771653543E-11
  check:                    2.6692913385826771653543
  339/127                -> 2.6692913
 (339-2.669291*127)/127  ->        3.38582677165E-7
```

With 20 digits, the fractions represent the sums accurately. Are they the exact values? I don't know. If I was a mathematician, I would write a 100-digit accuracy program (or use a PC Math software) and would consider spending some time on trying to prove it if the results still match. But I'm not a mathematician...

I was a little disapointed, because I expected that at least one result would invalidate the fraction approximation. Valentin insisted too much on getting our comitment on rational results! I'm really intrigued by problem #6, how a combination of the decimals of PI could make a rational number?

Valentin, we need you!

J-F

Re: Your score up to now

*Message #33 Posted by **Chris Dean** on 2 Feb 2006, 7:49 a.m.,*
in response to message #27 by J-F Garnier

J-F

You are right thanks for that. I might possibly get the correct answers now!

Regards

Chris

Re: Your score up to now

*Message #34 Posted by **Chris Dean** on 2 Feb 2006, 11:04 a.m.,*
in response to message #33 by Chris Dean

```
Valentin
Once again more results. You cannot fault me for trying!


1. 1 /9
2. 32 /31
3. 1 / 1. I am having problems with this one as I can also get the answer 0 if I change my program by adding an EVAL
statement after 2^N.
4. 1 / 99
5. 10 / 99 This is the result output from the HG49G+ and I assume is exact.
6. I have 917207561 / 343614632, using a common factor of 2705627 gives me the fraction 339 / 127
7. 3.14159265357 possibly the accuracy is restricted to the accuracy of the HP49G+ but I would have to investigate
further.
8. Point taken, I used 200100 / 1 the first time round!


Thanks for the comments


Chris
```

Edited: 2 Feb 2006, 11:18 a.m.

S&SMC #13: Adding up to infinity

*Message #35 Posted by **Valentin Albillo** on 2 Feb 2006, 11:34 a.m.,*
in response to message #34 by Chris Dean

Hi again, Chris:

Chris posted:

"You cannot fault me for trying!"

Indeed !! :-)

As for your new results:

- #1, #4, #5, #6 (the smaller fraction), #7 and #8 are Ok.
- #2 needs reworking: the fraction you give doesn't result in a value accurate enough.
- #3 is wrong.

Anyway, if you want to remain friends with me, you must abide by the challenge's regulations (see "Caveat emptor" in my original post), this is:

1. You *must* post your code. Posting just solutions won't do, and it's to be considered impolite. Share with your fellow forum visitors so that they can marvel at your code and learn how things are done !
2. For this particular challenge, please state your opinion on the exactness of the final results. Simply accepting some calculator's output without verification and jugdment is terribly bad practice. What would you do if I didn't comment on their correctness ? Would you trust anything important to these results ? You gotta be confident in what you get.

Enough ranting. Have a good weekend, I'll post my solutions next Monday, so you still have time to make it perfect.

Best regards from V.

Re: Short & Sweet Math Challenge #13: Adding up to infinity

*Message #36 Posted by **PeterP** on 2 Feb 2006, 12:13 p.m.,*
in response to message #8 by Valentin Albillo

Okay valentin, here are some initial tries, just to see if I am on the right track. Unfortunately I do not own a 71, so a) my code is for a 41, which I hope is still okay.

The main loop is the "Lbl S", where one chooses which function F(N) to use. It right now is set up only for the first few, where we have to divide by 2^n.

Also, I have not written a conversion to fraction routine, dont have a good idea how to do this yet...

Hence I have only the fractions here:

```
1) 0.11111111, 1/9 (I believe exact)
2) 1.031606386
3) 0.11219512
```

here is the code, I will add the other functions piece by piece and add it here if there is any interest.

```
lbl 'SSMC13


"----Place some heavily used constants in regs for speed"
CLRG
50
E3/E+
Sto 00
Sto 60
2
Sto 61
48
Sto 62


"----Place 2^n in regs 01-50"
Lbl 15
  Rcl 61
  Rcl 00
  Int
  y^x
  Sto Ind 00
  Isg 00
Gto 15
```

```
Lbl 'S "---- S for Start
clx
Sto 51
'What F?'
prompt
'F
Aint
Asto 63
Rcl 60
Sto 00


Lbl 'L "---- L for Loop
  View 00
  Rcl Ind 00
  Xeq Ind 63
  Rcl Ind 00
  /
  Sto+ 51
  Isg 00
Gto 'L


View 51
Stop
Gto 'S


Lbl 'F1 "--- Sum of odd digits
Cla
Aint
Clx
Sto 52
Lbl 02
  Atox
  x=0?
  Gto E
  Rcl 62 "-- 48"
  -
  Rcl 61 "-- 2"
  Mod
  St+ 52
Gto 02



Lbl 'F2 "---> Sum of Even digits
Cla
Aint
Aleng
Sto 52
Lbl 01
  Atox
  x=0?
  Gto E
  Rcl 62 "-- 48"
  -
  Rcl 61 "-- 2"
  Mod
  St- 52
Gto 01


Lbl E
Rcl 52
Rtn



Lbl 'F3 "--- 1 if even number of digits
Cla
Aint
Sign
Aleng
Rcl 61 "--- 2"
Mod
-
Abs
```

```
Rtn
```

Re: Short & Sweet Math Challenge #13: Adding up to infinity

*Message #37 Posted by **PeterP** on 2 Feb 2006, 1:50 p.m.,*
in response to message #36 by PeterP

Some more functions and results, yet still no fractions...

```
4) 0.010101010, 1/99, believe is accurate
5) 0.101010101, 10/99, believe is accurate
6) 2.669291339
7) 3.141592654, Pi, believe is accurate
8) 200100, believe is accurate
```

I also made some small changes to the main program, to accomodate more constants etc, but nothing major (e.g. depending on the function I need to preload r01-r50 with different values (2^n for 1-4, 6; 1^n for 7, 10^n for 5 and 5^n for 8). The other functions f(N) are below

```
Lbl 'F4
Cla
Aint
Clx
Sto 52
Lbl 03
  E
  Chs
  Arot
  Atox
  X=0?
  Got E
  Rcl 62
  -
  Rcl 61
  Mod
  St+52
  RAdel
Gto 03


Lbl 'F5
Rcl 00
Int
Cla
Aint
Clx
Sto 52
Gto 03


Lbl 'F6
Rcl 00
Int
Pi
*
Rcl 61
/
Int
Rtn


Lbl 'F7
Rcl 00
Int
x^2
Chs
Rcl 64   "---> 10
x^2
/
e^x
Rtn
```

```
Lbl 'F8
Rcl 00
Int
Rcl 65  "---> exp(Pi/3*sqrt(163))
*
Rtn
```

The fraction part I will try another day. Enough playing for one day...

Cheers

Peter

Re: Short & Sweet Math Challenge #13: Adding up to infinity

*Message #38 Posted by **PeterP** on 2 Feb 2006, 6:27 p.m.,*
in response to message #37 by PeterP

here is the fraction part (could not stop my curiosity).

```
1) 98/95
2) 1/9
3) 1/9 (OR 114/1025 depending on Valentins desired accuracy)
4) 1/99
5) 10/99
6) 8/3 (OR 339/127 depending on Valentins desired accuracy)
7) Pi
8) 200100/1


Lbl 'D
'Prec
prompt
Sto 70
1 E-10
Sto 75
Rcl 51 'That's the value to be fractionalized
Sto 71
Sign
Sto 73
Clx
Sto 74


Lbl 10
 Rcl 75
 Rcl 71
 Enter
 Int
 -
 x<=y?
  Gto 'X "===> Exit


 1/x
 Sto 71
 Int
 Rcl 73
 *
 Rcl 74
 +
 x<>73
 x<>74
 Rcl 73
 Rcl 51
 *
 .5
 +
 Int
 Sto 72
 Rcl 73
```

```
 /
 Rcl 51
 -
 Abs
 Rcl 70
 x<=y?
  Gto 10


Lbl 'X
View 72
Stop
View 73
Stop
Rcl 72
Rcl 73
/
View x
Stop


Gto 'S
```

Re: Short & Sweet Math Challenge #13: Adding up to infinity

*Message #39 Posted by **Chris Dean** on 3 Feb 2006, 1:50 p.m.,*
in response to message #38 by PeterP

Valentin

I apologise for not including code in my previous post. I now have further results for problems 2 and 3 (including code!). For each case I have used the main program shown below

```
<<
  CLEAR
  'SUM(N=1,10000, F(N)/2^N)'    EVAL
  ->Q
>>
```

Where
F(N) defines the function for each problem,
SUM is the HP49G+ summation function
->Q is the HP49G+ quotient function which converts decimal results as fractions.

2. F(N) is defined by

```
<<
  2 SWAP ^ DUP
   ->STR ‘A’ STO
  LOG 1 +  IP ‘B’ STO
  0 ‘C’ STO
  1 B FOR I
    IF A I I SUB OBJ-> 2 MOD 0 == THEN
      1 C = ‘C’ STO
    END
  NEXT
  C
>>
```

This gives a result of 3166 / 3069. I believe this to be accurate for the algorithm I am using yielding the decimal result 1.03160638645.

3. F(N) is defined by

```
<<
```

```
  2 LOG * IP 2 MOD
>>
```

This gives a result of 114688217 / 1031187916 = 0.111219512196. I believe this to be accurate for the decimal result that is produced. The algorithm is dominated in this case by the value of 2^-N which is having little affect on the result as N increases. Running the algorithm over 100 and 10000 iterations yielded the same results as those for 39 iterations. Considering the 44th iteration which is the next even result to be considered after the 39th, this result will add 5.68434188609E-14 to the previous sum. The value does not have any affect on the current sum 0.111219512196 on my calculator. Looking at, say, 114 as the denominator multiply by the result yields 1024.9999999999. It might 'safe' to assume that a reasonable estimate for the result could be 114 / 1025 which gives 0.111219512195. A close result to the previously calculated one but is it a valid?

Regards
Chris

Edited: 3 Feb 2006, 2:27 p.m.

Re: Short & Sweet Math Challenge #13: Adding up to infinity

*Message #40 Posted by **werner** on 3 Feb 2006, 5:40 p.m.,*
in response to message #1 by Valentin Albillo

Hi Valentin!
Well I want the prize, so I had better participate (and hope I'll pass the exam ;-)
I used the 49, for two reasons:
- Qpi to convert the answer to fractions
- long integer support allows me to run tests twice to see if the infinite sum really converges to the proposed fraction
for that I use the following program that (where possible) adds up the *exact* terms of the sum.

```
In: 2: f
    1: N
Out: 3: SUM(i=1,N,f(i)) (numeric)
     2: approximate fraction
     1: difference between exact and approximate fraction
@ INFS
\<<
  \-> F N
  \<<
    0
    1 N
    FOR I
      I F EVAL +
    NEXT
  \>>
  EVAL
  DUP \->NUM
  DUP \->Q\pi
  ROT OVER - EVAL \->NUM
\>>
@ F1 = odd(2^N)/2^N
\<<
  2 SWAP ^
  0 OVER \->STR
  DO
    DUP TAIL SWAP HEAD OBJ\-> 2 MOD ROT + SWAP
  UNTIL DUP SIZE NOT
  END
  DROP SWAP /
\>>
@ F2 = even(2^N)/2^N
\<<
  2 SWAP ^
  0 OVER \->STR
  DO
    DUP TAIL SWAP HEAD OBJ\-> 2 MOD NOT ROT + SWAP
  UNTIL DUP SIZE NOT
  END
  DROP SWAP /
\>>
```

```
@ F3 = evendigits(2^N)/2^N
\<<
  2 SWAP ^ DUP LENGTH 2 MOD NOT
  SWAP /
\>>
@ F4 = oddinoddplaces(2^N)/2^N
\<<
  2 SWAP ^
  0 OVER \->STR "0" SWAP +
  DO
    DUPDUP SIZE DUP SUB OBJ\-> 2 MOD ROT + SWAP
    1 OVER SIZE 2 - SUB
  UNTIL DUP SIZE NOT
  END
  DROP SWAP /
\>>
@ F5 = oddinoddplaces(N)/10^N
\<<
  0 OVER \->STR "0" SWAP +
  DO
    DUPDUP SIZE DUP SUB OBJ\-> 2 MOD ROT + SWAP
    1 OVER SIZE 2 - SUB
  UNTIL DUP SIZE NOT
  END
  DROP 10 ROT ^ /
\>>
@ F6 = Integer part of (Pi/2 * N)/2^N
\<<
  \pi 2. / OVER * IP R->I 2 ROT ^ /
\>>
@ F7 EXP(-N*N/100)
\<< SQ -100. / EXP \>>
eval with \<< 0. 50. 1. FOR I I F7 + NEXT 5 / 0.1 + SQ \>>
@ F8
\<< 163. \v/ 3. / \pi \->NUM * EXP OVER * IP R\->I 5 ROT ^ / \>>
results
                                  50     100    200    EXACT?
1. 0.111111111111 '1/9'        7e-15  1e-29  2e-59    Y
2. 1.03160638644  '3166/3069' 7e-15  1e-29  1e-32    N
3. 0.111219512196 '114/1025'   8e-16  9e-32  1e-31    N
4. 0.010101010101 '1/99'       3e-15  5e-30  8e-60    Y
5  0.101010101010 '10/99'      1e-51 9e-101 1e-100    N
6. 2.66929133858  '339/127'    7e-14  1e-28  2e-58    Y
7. 3.14159265357   PI                                 ?
8. 200100.         200100                             N


7: no idea. I guess not
8: 200100 is NOT the exact value of the sum.  It would be if exp(pi/3*sqrt(163)) were an integer (640320) but it isn't.
If it were, the infinite sum could be written as
640320*(1/5 + 2/25 + 3/25 + .. N/5^N) = 640320*S
when T = 1/5 + 1/25 + 1/125 then 5*T = 1+T, so T=1/4
Then S = T + T/5 + T/25 + ... = T*(1+T) = 5/16
so 640320*5/16 = 200100
Hope I'll pass!
```

S&SMC #13: My Solutions & Comments [LONG]

*Message #41 Posted by **Valentin Albillo** on 5 Feb 2006, 3:07 p.m.,*
in response to message #1 by Valentin Albillo

Hi, all:

First of all, I'm **absolutely** impressed with the quality & quantity of your posted solutions to this humble challenge of mine, it's been most enjoyable and unexpected.

Frankly, I thought for a while whether I should submit this particular challenge or some other easier one instead, because I feared people would consider it too difficult and too 'busy', what with eight different cases to solve. But then, on the other hand, the subject matter seemed to me irresistibly interesting, because these sums are truly weird, and the results are well-nigh *surreal*, so to say.

Why ? Well, most people knowledgeable in things mathematical have seen infinite sums (Taylor expansions, say) where each term is defined as some combination of

elementary functions, such as trigonometrics, exponentials, or logarithms, mixed up with powers and arithmetic operations. Even other non-elementary functions are sometimes included as well, such as Gamma or Bessel functions, or some integrals, things like that.

But what is one to do with functions such as the one featured in Sum #1, where f(n) *counts* the number of odd digits in its argument ? How can we deal with such a function by analytical means ? Does it have a derivative ? Can it be integrated ? Can it be extended to arbitrary, non-integer arguments, much like the factorial function can ?

Such weird functions, which deal more with their argument's *form* than with their argument's *value*, so to say, seem absolutely *intractable*, and there's no telling what an infinite sum of them could amount to. Math intuition would seem to suggest that it would be some weird no-name irrational value, not related to any well-known mathematical constants. *Yet the first sum comes to 1/9 !* A simple rational !! Exactly !!!

And our amazement can only increase when the second sum, which features the twin function who counts the number of *even* digits in its argument, also seems to evaluate to a rational argument, though this time a not-so-simple fraction, namely 3166/3069.

At the very least, 10-digit and 12-digit results exactly agree with this fraction. Jean-François Garnier took my hint and came up with a 20-digit sum still in perfect agreement with the fraction. Yet, the sum does *not* exactly evaluate to this fraction but comes *incredibly close*. Matter of fact, the sum isn't neither rational nor even irrational, but *transcendental*. An easily-defined, easily-computable transcendental number which is extremely close to the rational 3166/3069. Why this asymmetry between the odd case (sum = 1/9, rational, exactly) and the even case (sum = 3166/3069, extremely close approximation but actually transcendental) ?

Fear not: there's a deep mathematical reason for these unexpected evaluations, these weird counting functions *can* be treated analitically, and sums #6, #7, and #8 also have a suitable and easily understandable explanation, only this is not the place to explain it in detail, of course. Let's go instead for the solutions proper, plus assorted comments.

My Solutions

As usual, I'll give my solutions for the HP-71B, as they're easier to understand and to translate to the programming language of any other HP models, say RPN or RPL.

First of all, we do need some way of converting decimals to fractions. Jean-François Garnier used the FRAC$ function available in the HP-71B's JPC ROM, but that's hardly portable to most other HP machines so here's a 5-line **DEC2FRC** (Decimal-to-fraction) subprogram I wrote for the occasion which will do the conversion:

```
100 SUB DEC2FRC(X,N,D,W) @ IF X=0 THEN N=0 @ D=1 @ END
110 U=0 @ V=1 @ N=1 @ D=0 @ Y=INF @ Z=ABS(X) @ F=SGN(X) @ X=Z @ W=ABS(W)
120 C=INT(X) @ IF FP(X)=0 THEN N=N*F @ END ELSE X=1/FP(X) @ S=N @ T=D
130 N=N*C+U @ U=S @ D=D*C+V @ V=T @ R=N/D @ IF ABS(R/Z-1)<W THEN N=N*F @ END
140 IF R=Y OR MAX(N,D)>1.E+12 THEN N=U*F @ D=V @ END ELSE Y=R @ GOTO 120
```

This subprogram is based on the continued fraction expansion of the given decimal number, and it simply computes the subsequent approximants till the tolerance is met, returning the last one. It works for most any argument within range, regardless of its sign or value.

To use it, you simply call DEC2FRC, passing it the following parameters:

```
 X: passed by value,     is the decimal number to convert to fractional form
 N: passed by reference, is the variable where the numerator will be returned
 D: passed by reference, is the variable where the denominator will be returned
 W: passed by value,     is a tolerance value which lets you control the
                         relative error of the fraction so you can get smaller
                         fractions which still result in acceptable errors;
                         specifying this tolerance as 0 will return the most
                         precise fraction (smallest error) found
```

For example, let's convert -PI to fractional form calling DEC2FRC from the command line:

```
>CALL DEC2FRC(-PI,N,D,0) @ N,D,N/D,PI

   -1146408    364913   -3.14159265359    3.14159265359
```

so our fraction is -1146408/364913, which agrees with PI to 12 digits. Let's suppose that we don't want so close an approximation, but prefer instead a simpler fraction. We'll call DEC2FRC again, but this time we'll specify a tolerance of 0.00001 for the maximum relative error:

```
>CALL DEC2FRC(-PI,N,D,1E-5) @ N,D,N/D,PI
```

```
    -355        113      -3.14159292035    3.14159265359
```

and so this time our fraction is -355/113, which agrees with -PI to nearly 8 digits, far better than our tolerance would have us believe. So our subprogram does work, and you can freely use it in your own programs which require fraction output. As for the sums themselves:

Sum #1:

S = SUM(N = 1, N -> Inf, f(2^n)/2^n)

where f(N) counts the number of *odd* digits (i.e.: 1,3,5,7,9) in N

Our main program will be:

```
10 DESTROY ALL @ STD @ S=0 @ FOR N=1 TO 12/LGT(2) @ X=2^N
20 S=S+FNF(X,"13579")/X @ NEXT N @ CALL DEC2FRC((S),N,D,.000000001)
30 DISP USING "K,Z.10D,K,K,A,K";"Sum = ";S," = ",N,"/";D @ END
```

where FNF is a user-defined function that accept two parameters, the number whose digits will be counted, and a string argument specifying the digits to count. As we want to count the number of odd digits in N, we supply "13579" as the second parameter. Thus, FNF is defined so:

```
50 DEF FNF(X,D$) @ S$=STR$(X) @ C=0 @ FOR I=1 TO LEN(S$)
60 C=C+(POS(D$,S$[I,I])#0) @ NEXT I @ FNF=C @ END DEF
```

which you can test from the keyboard, if desired. This very same function will be re-used for Sum #2. Notice that the main program sums from N=1 to N=12/LGT(2). This is so because we don't want 2^N to be more than 12 digits in length, which is the maximum size for an exact integer argument in the 12-digit HP-71B's BASIC. Else, the count function would return *wrong* results.

Upon running the program we get:

```
>RUN

   Sum = 0.1111111111 = 1/9
```

This is indeed the *exact* result, a nice rational sum.

Sum #2:

S = SUM(N = 1, N -> Inf, f(2^n)/2^n)

where f(N) counts the number of *even* digits (i.e.: 0,2,4,6,8) in N

Our program and user-defined function are exactly the same, except in line 20 the string "13579" should be replaced by "02468".

Upon running it we get:

```
>RUN

   Sum = 1.0316063865 = 3166/3069
```

This result is only *approximate*, but *correct to 31 decimal digits* (!!)

Actually, we have:

```
   Exact value =  1.0316063864450961225154773541870 130310+
     3166/3069 =  1.0316063864450961225154773541870 031606+
```

and you can see that the true sum agrees with our fraction 3166/3069 to 31 decimal digits, but differs afterwards. Thus, the true sum for the even case is a *transcendental*

number, but extremely close to a simple rational. This is in contrast with the sum for the odd case, which is exactly rational.

Sum #3:

S = SUM(N = 1, N -> Inf, f(2^n)/2^n) = 114/1025

where f(N) = 1 is N has an even number of digits, 0 otherwise

Our main program is extremely similar to the one for #1 and #2, and the user-defined function is much simpler:

```
10 DESTROY ALL @ STD @ S=0 @ FOR N=1 TO 12/LGT(2) @ X=2^N
20 S=S+FNF(X)/X @ NEXT N @ CALL DEC2FRC((S),N,D,.000000001)
30 DISP USING "K,Z.10D,K,K,A,K";"Sum = ";S," = ",N,"/";D @ END
40 !
50 DEF FNF(X)=1-MOD(LEN(STR$(X)),2)
```

Upon running it, we get:

```
>RUN


   Sum = 0.1112195122 = 114/1025
```

Once again, this result is only approximate, but *correct to 30 digits* !

In fact, we have:

```
Exact value =  0.11 12195 12195 12195 12195 12195 12204 97+
   114/1025 =  0.11 12195 12195 12195 12195 12195 12195 12+
```

and so the exact sum, which begins mimicking a 5-digit period, actually ceases to agree with the nice fraction after 30 digits. The sum is also transcendental and, again, extremely close to a rational value. Computing to, say, 20 or 25 digit precision would led anyone to think that the 12195 period continued indefinitely, it's hard to believe that, *suddenly*, it *vanishes forever* upon reaching the 30th digit !

Sum #4:

S = SUM(N = 1, N -> Inf, f(2^n)/2^n) = 1/99 (exact)

where f(N) counts the number of *odd* digits in *odd* places in the decimal expansion of N.

In this case, our main program is exactly the same as #1, and the user-defined function is a simple variation of the one in #1:

```
10 DESTROY ALL @ STD @ S=0 @ FOR N=1 TO 12/LGT(2) @ X=2^N
20 S=S+FNF(X,"13579")/X @ NEXT N @ CALL DEC2FRC((S),N,D,.000000001)
30 DISP USING "K,Z.10D,K,K,A,K";"Sum = ";S," = ",N,"/";D @ END
40 !
50 DEF FNF(X,D$) @ S$=STR$(X) @ C=0 @ FOR I=1 TO LEN(S$) @ J=LEN(S$)+I-1
60 C=C+(POS(D$,S$[I,I]) AND MOD(J,2)) @ NEXT I @ FNF=C @ END DEF
```

Upon running it we get:

```
>RUN


   Sum = 0.0101010101 = 1/99
```

which is the *exact* result. This time the sum is, as in #1, exactly rational.

Sum #5:

S = SUM(N = 1, N -> Inf, f(n)/10^n)

where f(x) is the same as in Sum #4.

We only need to change these lines in our main program for #4:

```
10 DESTROY ALL @ STD @ S=0 @ FOR N=1 TO 12/LGT(2)
20 S=S+FNF(N,"13579")/10^N @ NEXT N @ CALL DEC2FRC((S),N,D,.000000001)
```

Upon running, it returns:

```
>RUN


   Sum = 0.1010101010 = 10/99
```

where most unexpectedly, as the function *is the very same* and the sum is very similar, the result is only approximate, but *correct to 99 digits* !!! The true results is, again, transcendental, but this time much closer to a rational value.

Why Sum #4 results in an exact rational (1/99) while the extremely similar Sum #5 results in a transcendental which agrees to 99 digits with 10/99 may seem as mysterious as the odd-even dissimilar results in Sums #1 and #2. Of course, the "10" period dissappears upon reaching the 100th digit, but anyone computing the sum to 10, 20, 30, ..., 70, 80, 90 decimals would be adamantly convinced that it would go on forever.

Sum #6:

S = SUM(N = 1, N -> Inf, f(n)/2^n)

where f(x) = Integer part of (Pi/2 * x)

The main program is a trivial variation, and the user-defined function is also trivial:

```
10 DESTROY ALL @ STD @ S=0 @ FOR N=1 TO 12/LGT(2)
20 S=S+FNF(N)/2^N @ NEXT N @ CALL DEC2FRC((S),N,D,.000000001)
30 DISP USING "K,Z.10D,K,K,A,K";"Sum = ";S," = ",N,"/";D @ END
40 !
50 DEF FNF(X)=INT(PI/2*X)
```

Upon running it we get:

```
>RUN


    Sum = 2.6692913385 = 339/127
```

and, again, this result is only an approximation to the real sum, which is transcendental. However, it's a very close approximation once more, this time *the fraction agrees with the true sum to almost 69 digits* !

```
Exact value = 2.669291338582677165354330708661417322834645669291338582677165354330 69931+
    339/127 = 2.669291338582677165354330708661417322834645669291338582677165354330 70866+
```

Sum #7:

S = ((SUM(N = 1, N -> Inf, e^(-n*n/100))/5+0.1)^2

The main program is very simple, no need to call DEC2FRC, and the user-defined function is trivial, too

```
10 DESTROY ALL @ STD @ S=0 @ FOR N=1 TO 50
20 S=S+FNF(N) @ NEXT N @ S=(S/5+.1)^2
30 DISP "S = ";S @ END
40 DEF FNF(X)=EXP(-X*X/100)
```

Unpon running it, we get

```
>RUN

   S = 3.14159265357
```

which makes us wonder if the exact sum would indeed be Pi. But lo and behold, *it isn't Pi* but another transcendental number which nevertheless *agrees with Pi to 428 decimal places* !! As my 13-year old daughter Laura put it: *"It looks like Pi, it smells like Pi, it tastes like Pi, but it isn't Pi"*

```
Exact value of the sum =


 3.14159265358979323846264338327950288419716939937510582097494459230781640628620
899862803482534211706798214808651328230664709384460955058223172535940812848111 74
502841027019385211055596446229489549303819644288109756659334461284756482337867 83
165271201909145648566923460348610454326648213393607260249141273724587006606315 58
817488152092096282925409171536436789259036001133053054882046652138414695194151 16
094330572703657595919530921861 46740+


while Pi =


 3.14159265358979323846264338327950288419716939937510582097494459230781640628620
899862803482534211706798214808651328230664709384460955058223172535940812848111 74
502841027019385211055596446229489549303819644288109756659334461284756482337867 83
165271201909145648566923460348610454326648213393607260249141273724587006606315 58
817488152092096282925409171536436789259036001133053054882046652138414695194151 16
094330572703657595919530921861 17381+
```

Sum 8:

S = SUM(N = 1, N -> Inf, INT(N*e^(Pi*Sqrt(163/9)))/ 5^N)

Again, an extremely simple main program and straightforward user-defined function:

```
10 DESTROY ALL @ STD @ S=0 @ FOR N=1 TO 18
20 S=S+FNF(N)/5^N @ NEXT N
30 DISP "S = ";S @ END
40 DEF FNF(X)=INT(X*EXP(PI*SQRT(163/9)))
```

Upon running it, we get:

```
>RUN

    S =  200100
```

and, as you may suspect by now, this neat integer value is too good to be true and it's only an *approximation* to the exact value of the infinite sum which is *transcendental*. However, there's no typing both values for you to see the difference, *because 200100 agrees with the exact sum to at least 500,000,000,000 (half a billion) decimal digits* !!!!

So it's doubtful you could use your arbitrary precision math package to empirically test this claim. Now, having such a simple sum return a result which *differs from an integer by less than 10^500000000000* is simply mind-boggling !

The Prizes

Everyone who posted their solutions and estimates did extremely well, with special mentions to Arnaud Amiel (who coded some of the functions in Saturn assembly language and later tried multiprecision), Jean-François Garnier (who not only got all solutions Ok but coded special double precision programs to compute results to double accuracy), Werner (who got all results Ok, plus gave some math insight as to why some of them couldn't be exact), Chris (who kept trying once and again till he got the answers), and PeterP (who did his best with his trusty 41C).

All of you, either explicitly mentioned above or not, will receive by e-mail whatever PDF articles you want me to send you, please contact me either via this web site (clicking on my name at the beginning of each post of mine) or else via my e-mail address which you can find at my web page. Please send a valid e-mail address plus a list of the articles you do want, and I'll send them to you at once.

Thanks to all of you posters and lurkers for your interest, and

Best regards from V.

Re: S&SMC #13: My Solutions & Comments [LONG]

*Message #42 Posted by **Chris Bennett** on 5 Feb 2006, 5:05 p.m.,*
in response to message #41 by Valentin Albillo

Valentin,

Although I didn't participate, I am once again blown away by this "humble challenge" of yours, and left absolutely breathless (stunned, even) by the mathematical elegance of the results.

Valentin wrote:

> Quote:
>
> ...there's a deep mathematical reason for these unexpected evaluations, these weird counting functions can be treated analitically, and sums #6, #7, and #8 also have a suitable and easily understandable explanation, only this is not the place to explain it in detail, of course.

I'd love to learn the mathematical reasoning you allude to. If not here, could you at least point me toward a reference that explains this numerical sorcery?

Chris

Re: S&SMC #13: My Solutions & Comments [LONG]

*Message #43 Posted by **PeterP** on 5 Feb 2006, 10:05 p.m.,*
in response to message #41 by Valentin Albillo

Valentin,

Thanks again for your wonderful challenge - seems my 41 did much better than me, getting all the results right yet my intuition being wrong... (about both which ones are accurate and what precision you would want the fractions to be. Was quite happy with my Dec2Frac program though, fast and using a similar method as yours)

Same as Chris I'd love to learn more about the analytical/mathematical way of handling those sums you alluded to in your post.

As for your articles, - I'd love to read your two Sudoku solvers, maybe I can find a way to translate them to the 41. Also the Fantastic Four would be great - still working on the last couple of SSMC's, one of which is the high precision arithmetic package for the 41, as well as the Mean Matrices, as this is something I often have to tackle at work. Would love to learn your insights here. If you'd be so kind and email it to me (click on my name), that'll be wonderful.

As usually you have inspired me (and us I'd say) a lot over the last few days. So my next question should be no surprise to you:

When is the next SSMC coming?

Cheers

Peter

Re: S&SMC #13: My Solutions & Comments [LONG]

*Message #44 Posted by **Valentin Albillo** on 6 Feb 2006, 4:44 a.m.,*
in response to message #43 by PeterP

Hi, PeterP:

PeterP wrote:

"Thanks again for your wonderful challenge - seems my 41 did much better than me, getting all the results right yet my intuition being wrong... (about both which ones are accurate and what precision you would want the fractions to be. Was quite happy with my Dec2Frac program though, fast and using a similar method as yours)"

> You're welcome, and it's always nice to see a 41C being used for these challenges. That machine's still got a lot of life on it.

"Same as Chris I'd love to learn more about the analytical/mathematical way of handling those sums you alluded to in your post [...] As for your articles, - I'd love to read your two Sudoku solvers [...] Also the Fantastic Four would be great [...] as well as the Mean Matrices [...] if you be so kind and email it to me (click on my name), that'll be wonderful.

> Of course, they'll be on their way at once.

"As usually you have inspired me (and us I'd say) a lot over the last few days. So my next question should be no surprise to you: When is the next SSMC coming?"

> Thanks for your kind comments and appreciation, it does wonders for me to justify the time and effort it all takes. As for the next challenge, I try not to overdo it, so I usually wait a month or so between challenges. Expect #14 by March, 5th or so.

Best regards from V.

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dumbed down

*Message #1 Posted by **e. young** on 29 Jan 2006, 1:57 p.m.*

If RPN is less common in engineering schools these days, is this a reflection of the dumbing down of society? Or maybe they now need, and are required to use a computer for everything. I find both to be sad if true.

Re: dumbed down

*Message #2 Posted by **Howard Owen** on 29 Jan 2006, 2:22 p.m.,*
in response to message #1 by e. young

I think the absence of RPN in general reflects two things. First and foremost, it's a result of the failure of HP in the calculator market. Fewer HP calculators means fewer RPN units in circulation. Second, it's a result of market research in the 1980s showing that RPN was a barrier to calculator sales. I don't know of any such studies specifically, but I infer their existence from two facts. First, that HP became more of a "market driven" as opposed to "engineering driven" company, and second, that they started to introduce algebraic models in the 1980s, gradually phasing out the RPN models. This may reflect the "dumbing down" of society, or it may just reflect the "dumbing down" of HP.

Of course, HP is *still* shipping an RPN calculator, and two models sporting the even more esoteric RPL operating and programming model. So their market research today must show there is a continuing, albeit small, market for smarty-pants calculators. Maybe their marketing department isn't so dumb after all?

Regards,
Howard

Edited: 29 Jan 2006, 2:24 p.m.

RPN v. AOS in '80s HP calcs ("dumbed down")?

*Message #3 Posted by **Karl Schneider** on 29 Jan 2006, 3:09 p.m.,*
in response to message #2 by Howard Owen

Howard posted,

> Quote:
>
> First, that HP became more of a "market driven" as opposed to "engineering driven" company, and second, that they started to introduce algebraic models in the 1980s, gradually phasing out the RPN models.

There did seem to be a revised product-design philosophy introduced with the Pioneer series in 1988. All mainstream calculator models preceding them -- even the business models -- were RPN-based. After the non-mainstream HP-71B, HP-75, and HP-28C were introduced, the extensive set of original Pioneer models can be categorized as follows:

```
                    Scientific      Business
```

```
Low-end             20S, 21S        10B

Mid-grade           22S, 32S        14B

High-end            27S, 42S        17B
```

Only the 32S and 42S were RPN-based; all others were AOS-based. Clearly, RPN was now being reserved for only "up-scale" scientific calculators, which had the highest model numbers. AOS-based scientifics had lower model numbers, and business calcs had the lowest model numbers.

RPN capability was restored to business models (by consumer demand?) with the introduction of the HP-17BII. The convenient (but non-RPN) equation editor from the HP-22S was ported to its "classmate" HP-32SII in 1991, making it the undisputed leader of the mid-grades. There was undeniably a "rhyme and reason" to the product design and positioning in that era.

NOTES:

- "low-end" models have 7-segment displays
- "mid-grade" models have low-resolution 1-line dot-matrix displays
- "high-end" models have high-resolution 2-line dot-matrix displays and IR tramsitters

As for "dumbing down", I did notice a decline in the quality of printing and verbiage in the Pioneer-series manuals, as opposed to the manuals for the Voyager series, HP-41, and HP-71B.

-- KS

Re: dumbed down

*Message #4 Posted by **Palmer O. Hanson, Jr.** on 29 Jan 2006, 11:38 p.m.,*
in response to message #2 by Howard Owen

In 1990 TI made a conscious business decision to pursue the student calculator market with graphing calculators. At the same time they stopped making the TI-74 which used BASIC and the TI-95 which used A.O.S. They mechanized what they dubbed the Equation Operating System (E.O.S.) with the graphing calculators. Educators liked it. I like E.O.S. because although it is a somewhat lower order methodology than BASIC or FORTRAN it is clearly a higher order methodology than A.O.S. or RPN. Some background follows:

As an undergraduate student in aeronautical engineering in the late 1940's I was exposed to the pencil-and-paper equivalent of today's spread sheets. What we did was take manometer measurements at various points of the surface of an airfoil, enter the measurements in the left hand column of a large piece of paper and proceed to process the data by moving to the right as we processed the data by a sequence of mathematical operations listed across the top of the page. We used slide rules for multiplication and division, log-log slide rules if raising to a power was required, and pencil-and-paper for addition and subtraction. One summer one of my friends worked as an intern at one of the large aircaft manufacturing firms. When he returned he told us that they had acres of junior engineers and technicians doing the same thing only they used log tables and mechanical calculators for increased precision. Don't try to tell me that the computerized spread sheet technology isn't a good thing.

After a tour in the Navy I returned to graduate school and took a computer programming course which used a Rem-Rand 1103 which filled a whole building. We programmed in machine language. I left graduate school and worked as a field engineer in inertial navigation systems for seven years. We had miniaturized drum machines for airborne use. We programmed in machine language and did scaling in ones and zeroes. In the late 1960's I moved in-house and took a course in BASIC which allowed me to use

the company computer network and took a course in FORTRAN which allowed me to use a large number-crunching company computer. No more messing around with ones and zeroes, or with octal and hexadecimal representations of machine language commands. I could enter equations just as I wrote them and didn't have to do my own scaling. With apologies to the memory of Martin Luther King, Jr. I found that I was "FREE AT LAST, FREE AT LAST, Thank God in Heaven, I was FREE AT LAST!"

A few years later someone tried to tell me that I needed to get an HP-25 and learn to use it. I looked at the methodology and said "Good God, it's back to machine language! Why would I want to do that?"

My personal experience

*Message #5 Posted by **Artur - Brasil** on 30 Jan 2006, 6:48 a.m.,*
in response to message #4 by Palmer O. Hanson, Jr.

Well, I'm talking from Brazil, where things happen different way. The vast majority of our public secondary schools don't have computers and, where I could see they have these machines, the teachers are not interested or prepared to use them.

About my life with calculators, I've started with one very simple 4 operations, used to help me with those long chemical calculations.

Since them I've been upgrading, but I have the luck to see a cousin of my friend using one HP41. Man, I was impressed with the power of that machine! He told me about cassettes, card readers, printers - a dream machine! So, I spent almost my mother's salary to buy my first HP: HP-11C. I was starting in University, and it took to me less than 4 hours to make my first finite integral program.

Well, the rest of my time I've studying, I used one HP calculator. For me, RPN logic was almost natural, I don't know why. For my coleagues, usally afraid of HP calculators just because the RPN logic, just 15 to 30 minutes and they were proficient HP users.

I must agree with makority posts in this thread: the problem was the HP marketing, or the lack of it.

Also, removing models like 15C and not keeping the HP42S line was two great mistakes. Not I don't like the 48/49 series, but because the portability and quality of those machines.

About using calculators at University, I have to say that there was nothing I couldn't do with HP calculators. When 48 series arrived, so, really nothing! Even litteral calculus!

This bring to me a problem - let's take the Algebra course. I was always interested in the mechanic of things. After that, I implemented a program and, well, the problems were transformed in just typing numbers in the calculator - thanks to my devoted HP 15C or 48GX.

Now, I assume that it would be important to take more care about the principles, the math basis, the theorems around each problem. Even today, a decade after, I'm always interested in making programs and relegate to a second plane the mathematic basis.

When I discovered this gold mine called HPMuseum Forum and was prompted for some ardue mathematics problems proposed on the "challenges", I could see the brilliant brains working on both hands: the mathematics basis and the applied solution unsing 15C, 41C or other machines!

I believe that my choices were wrong: I am actually a programmer (calculator programmer ;>), not a proficient one, neither a mathematician, probably worst than the programmer.

Best ragards and forgive the grammar mistakes...

Artur

Timely observation

*Message #6 Posted by **John Noble** on 29 Jan 2006, 2:56 p.m.,*
in response to message #1 by e. young

Not ten minutes ago my wife and I were talking about this very subject. She is a middle school teacher and something of a math geek and I am sort of a jack-of-all-trades engineer/programmer.

I see some of the same problems with technical professionals my own age (I'm 38) as my wife does with her students: intellectual laziness, coupled with a lack of intimacy with (in this case) numbers. "Math" as taught these days is largely data entry into a TI CAS screen, with the natural effect is that the student/victims never develop that essential intimacy with numbers required to know, at a glance, the answers to most problems within an order of magnitide or less *before* doing any actual calculations.

I know, I know: every generation carps like this about the generations that come after. Caeser tells us in his *Commentaries* that the Gallic Druids frowned on *writing* -- in part because they felt it was in intellectual crutch!

Still, I think anyone who can't function with what was available to the guys who ran the Manhattan Project (slipsticks, tables, pencils, paper) is nearly defenseless against the GIGO principle.

Re: Timely observation

*Message #7 Posted by **John Noble** on 29 Jan 2006, 3:17 p.m.,*
in response to message #6 by John Noble

Bah, sorry about the mutilated grammar above. The editing operation was successful, but the patient did not survive.

One thing that just occurred to me is that RPN is very similar to working through problems on paper ... which no one does anymore, hence the unpopularity of RPN.

Re: Timely observation

*Message #8 Posted by **Don Shepherd** on 29 Jan 2006, 3:26 p.m.,*
in response to message #6 by John Noble

> Quote:
>
> "Math" as taught these days is largely data entry into a TI CAS screen

I know there are a lot of people who would agree with this assessment, and I am not naive enough to believe that it never happens. However, I have been observing in middle school math classrooms for the past two years (and student teaching currently) and my experience is that kids are allowed to use calculators only after they have demonstrated a mastery of the underlying mathematical procedures. That has been true in every math class I have observed, and this includes schools in both rich and poor communities.

Let's not be so quick to write-off the kids and their teachers.

Re: Timely observation

*Message #9 Posted by **John Noble** on 29 Jan 2006, 8:09 p.m.,*

in response to message #8 by Don Shepherd

> Quote:
>
> I know there are a lot of people who would agree with this assessment, and I am not naive enough to believe that it never happens. However, I have been observing in middle school math classrooms for the past two years (and student teaching currently) and my experience is that kids are allowed to use calculators only after they have demonstrated a mastery of the underlying mathematical procedures. That has been true in every math class I have observed, and this includes schools in both rich and poor communities.

If your observations are true, then you are working in an elightened school district. I hope they continue to actually teach concepts rather than procedures.

> Quote:
>
> Let's not be so quick to write-off the kids and their teachers.

Far from it! As I mentioned, my wife is a teacher: BA in Human Development, MA in Special Education, and a growing list of credentials. I'm very proud of her and what she does, but she agrees with my assessment of public education as practiced here in sunny Southern California. It's not like she's in some benighted backwater, either: her school has been frequently presented as an educational technology leader by people like Bill Gates and newspapers like the Wall Street Journal.

As far as I can see, calculators/computers have *no* place in mathematics education, to limit to this one area. One needs nothing more than pencil, paper, a willing mind, and a good teacher to do everything from 2+2 to orbital mechanics. *After* someone has a good grounding in math ... well, computing devices are a godsend.

Good luck with your teaching career -- it really takes a special kind of tenacity and concern for children to be a success in today's school system.

Re: Timely observation

*Message #10 Posted by **Don Shepherd** on 29 Jan 2006, 8:23 p.m.,*
in response to message #9 by John Noble

Thanks John. I appreciate your feedback.

I don't know how enlightened the school system here in Louisville is. I have been lucky to have observed in the classrooms of some very sharp math teachers. I know all of them can't be that good. They probably pair us student-teachers up with the cream of the crop so we don't get so discouraged that we quit before we have even started!

I worked in the computer field for 28 years, and based upon how I have seen computers used in the schools so far, I tend to agree with you. I have not seen them used very effectively at all by the students. Some middle schools here even issue laptops (Apple iMacs) to each student, but 99% of the teachers do not even use them in their lessons, the kids just use them to play.

Regarding calculators in the classroom, I don't know. I can see them being of value in high school algebra, where a kid can do a graph of y=3x and see how it appears, then change it to y=.5x and see how the graph changes. But I agree, a kid would have to understand graphs and equations before being allowed to use them that way. I think they could help learning, but they could become a crutch too.

Ah, the challenges of education!

Don Shepherd Louisville, KY

Re: Timely observation

*Message #11 Posted by **Hal** on 30 Jan 2006, 2:23 a.m.,*
in response to message #8 by Don Shepherd

My son is in the accelerated 5th grade math program at his school, and is not allowed to use a calculator, even though they are throwing some pretty tedious numbers at him. Having known nothing else, however, he whips through them with pencil and paper pretty handily. I was going to approach his teacher about when he can start using a calculator to spare him the drudgery of taking 12.369 into 3.587 longhand, but after reading this thread, I'll hold my horses. When that time does come, I'll send an HP rpn machine with him (maybe even a vintage one), and see what kind of reaction that evokes from his classmates. My son's favorite machine is my old 29C, but I DOUBT I'll be sending that to school with him...
Best regards, Hal

Re: Timely observation

*Message #12 Posted by **Howard Owen** on 29 Jan 2006, 3:40 p.m.,*
in response to message #6 by John Noble

Feynman's talks about Los Alamos contain a lot of grist for that mill. His one-sided competition with Hans Bethe over who could get an answer the fastest, Feynman with a Marchant calculator or Bethe in his head. Bethe won about 6 in 7 of these contests. He did it by knowing his logarithms, and by recognizing proportions and relations between various numeric values. Feynman got pretty good at doing the same thing, as he relates later in his talk about a contest with an abacus salseman.

The second point that relates to John's post was the use of IBM machines to do large-scale computations at Los Alamos. Feynman was in charge of a group that took IBM machines that did discrete operations , such as addition, mechanically with punch cards, and ganged them together in an assembly line to do big problems very rapidly. It was a fascinating precursor to the digital computer. But the relevant bit is how Feynman got the job. The fellow who had the brainstorm of using the IBM machines fell victim to what Feynman called "the computer disease." This is probably well known to many on this list. I certainly recognize it. This fellow started designing clever programs to do things with his new "computer," like calculating tables of arctangents. He came up with very clever ways to do this after a lot of intense effort. Unfortunately, they already had completely fine tables of arctangents! He got lost in theoretically fascinating but completely useless activity, and neglected the problems he was supposed to try to solve with the machines.

So those certainly are cautionary tales for today's students. But they aren't the whole story. Doing number crunching on machines actually can free up your mind for higher level reasoning about mathematics, as long as you have obtained an appreciation for what the original meaning of the word "computation" was. Knowing the numeric shortcuts can help you reason about problems in applied math, as well, as it helped Bethe and Feynman think about Physics. But being able to get exact or approximate numeric results very quickly, or revealing symbolic transformations of a complicated expression must also be hugely helpful to that sort of effort too. (I don't do this sort of thing myself, but I watched the impact that Mathematica had on the Physics Department at UCSB where I ran the computing facilities. When Mathematica was released, the theoretical physicists burst into lyrical flights of praise for the software, and I was busy for weeks getting it on all their workstations.)

So computers obviously have great power to advance or retard learning, depending on how they are

applied. Let's not throw the analytical baby out with the computational bathwater!

Regards,
Howard

Re: Timely observation

*Message #13 Posted by **John Noble** on 29 Jan 2006, 8:35 p.m.,*
in response to message #12 by Howard Owen

> Quote:
>
> Feynman's talks about Los Alamos contain a lot of grist for that mill. His one-sided competition with Hans Bethe ...

Well, Bethe was a genius on several levels (his *How a Supernova Explodes* is an amazing piece of science writing), as was Feynman (*Surely You're Joking, Mr. Feynman*, etc. are wonderful). I had Feynman in mind when I made my original post, so I'm pleased you brought him up.

> Quote:
>
> The second point that relates to John's post was the use of IBM machines to do large-scale computations at Los Alamos. ...

I purposely ignored the use of computers at Los Alamos since the real issue is that the computers didn't do any calculations that Oppenheimer & Co. couldn't do backwards & forwards while standing on their heads in their sleep.

> Quote:
>
> So those certainly are cautionary tales for today's students. But they aren't the whole story. Doing number crunching on machines actually can free up your mind for higher level reasoning about mathematics, as long as you have obtained an appreciation for what the original meaning of the word "computation" was. Knowing the numeric shortcuts can help you reason about problems in applied math, as well, as it helped Bethe and Feynman think about Physics. But being able to get exact or approximate numeric results very quickly, or revealing symbolic transformations of a complicated expression must also be hugely helpful to that sort of effort too. (I don't do this sort of thing myself, but I watched the impact that Mathematica had on the Physics Department at UCSB where I ran the computing facilities. When Mathematica was released, the theoretical physicists burst into lyrical flights of praise for the software, and I was busy for weeks getting it on all their workstations.)

Spreadsheets were the original "killer app" for the personal computer, but I wonder if the net effect is positive or not after watching people fiddle them all day. There have been reports that over half of all "siginificant" spreadsheets used in business (i.e. they are used to justify financing or support significant business decisions) have "material" errors in them. I've witnessed a few instances of this, and I can't help but think their authors would be better off with a cocktail napkin and a pencil.

> Quote:
>
> So computers obviously have great power to advance or retard learning, depending on how they are applied. Let's not throw the analytical baby out with the computational bathwater!

Not a chance: I write software for a living and have been fascinated with computing devices ever since my uncle let me play Moon Lander on his shiny new HP-97.

Thanks for the thoughtful response!

Re: Timely observation

*Message #14 Posted by **Howard Owen** on 29 Jan 2006, 10:26 p.m.,*
in response to message #13 by John Noble

> Quote:
>
> I had Feynman in mind when I made my original post, so I'm pleased you brought him up.

I'm reading "Classic Feynman" which is a new edition by Ralph Leighton combining *Surely You're Joking, Mr. Feynman!* and *What do You Care What Other People Think?*. Most of the stories are transcribed from taped interviews Leighton did with Feynman in the 1980s. But the classic *Los Alamos From Below* is from a talk Feynman gave at UCSB (where I used to work, alas more than ten years later) on the occasion of the 30th anniversary of the Los Alamos bomb. That talk is included with the book on a CD at the back of the volume, and it's a wonderful thing. Both the story of Bethe's facility with mental calculation and the tale of what may be the first "geek tragedy" of the modern era come from that talk. There is also *The Value of Science* in which Feynman propounds his idea that freedom of thought requires "a satisfactory philosophy of ignorance." Looking around now at those who are forcing their beliefs down others throats, some even resorting to murder and torture, all in the name of certainty, I can only add a reverent *amen* to that!

> Quote:
>
> Thanks for the thoughtful response!

You're welcome. Feynman is my hero. I'm only too glad to write about him! 8)

Regards,
Howard

Re: Timely observation

*Message #15 Posted by **John Noble** on 29 Jan 2006, 10:52 p.m.,*
in response to message #14 by Howard Owen

> Quote:
>
> I'm reading "Classic Feynman" which is a new edition by Ralph Leighton ...

I glanced at this in the bookstore the other day and dismissed it as a reissue of books I already have, which appears to be only partially true. Thanks for the tip!

To the original poster: sorry to have hijacked your thread. I'll desist now. :-)

Re: Timely observation

*Message #16 Posted by **e. young** on 30 Jan 2006, 10:57 a.m.,*
in response to message #6 by John Noble

I have relatives who are math teachers and they comment on how things are being dumbed down in educating students. When I was in school in the '80's, we couldn't have a calculator in math class. Only in physics and chemisty class. I know that some will say, "well that's because they didn't have graphing calculators back then". Well I'm glad they didn't have them because you were forced to do it the hard way. A lot of things may be tedious to do by hand, but they are also an excellent way to learn, and they also develop the muscle that resides between your ears. The automation should come later when you are a competent professional in you field.

I didn't get turned on to HP calculators in college through HP marketing, but by word of mouth. It seems there are fewer mouths spreading the word now. If calculators with RPN are less popular in college now, I question if it is just because HP does a bad job marketing or if it is because there is an over-reliance on software solutions at the college level. It is not my goal to say that software should not be used in college, and that it is always inappropriate. No, not at all. It has a definite place and usefulness. But before you use it you should be able to do things by hand. You have to learn how to walk before you can run.

Being able to handle numbers with a pencil, paper, and calculator is a valuable skill. RPN is just better for this purpose than aos. One day, you might have to go into the field and do some calculating on the spot. I have. If you don't have a laptop, and can only solve problems using software, you are in trouble. Being able to solve a problem by hand, or at least being able to come up with a reasonable approximation by hand should be a pre=requisite for using software. Also, if you are weak in performing calcs by hand, how can you check your output?

My apologies for my spelling errors.

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Batteries for HP 12C

*Message #1 Posted by **Peter McKee** on 29 Jan 2006, 12:06 p.m.*

Does anyone know the battery part number and equivalents for a HP12C calculator. Do you know a source of supply?

Re: Batteries for HP 12C

*Message #2 Posted by **Hal** on 29 Jan 2006, 1:09 p.m.,*
in response to message #1 by Peter McKee

I'm using 1.5V 357 watch cells in my 15c and they work just fine. The manual (for the 15c) calls for A76, LR44, or 357 cells. I'm sure all the voyagers use the same batteries.
Best regards, Hal

Re: Batteries for HP 12C

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 29 Jan 2006, 1:27 p.m.,*
in response to message #1 by Peter McKee

Hi;

newer HP12C and all HP12C Platinum use a single 3V or 3.3V button type cell. You can see which is yours by removing the battery cover.

My newer HP12C and 12C Platinum use a Panasonic CR2032.

About suppliers, I guess that you can find them easily, wherever you are. Any electronic components supplier should have these for sale.

Cheers.

Luiz (Brazil)

Edited: 29 Jan 2006, 1:30 p.m.

Re: Batteries for HP 12C

*Message #4 Posted by **Dave Shaffer** on 29 Jan 2006, 7:39 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

The battery model numbers are given by the previous posters. These types of batteries are used in watches - so check the watch counter at your local favorite drug store, Target, Sears, Wallyworld, Radio Shack, etc.

Re: Batteries for HP 12C

*Message #5 Posted by **Don** on 30 Jan 2006, 12:14 a.m.,*

in response to message #1 by Peter McKee

I am using A76 (energizer) and LR44 (Maxell). Walgreens or a good camera store, or google it and there are jillions of sites.

Good luck

Don

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How to alphabetically sort an alpha XM-file (HP-41)

*Message #1 Posted by **Geir Isene** on 29 Jan 2006, 8:15 a.m.*

What is the best, most efficient way of alphabetically sorting an ascii exended memory file on the HP-41?

Re: How to alphabetically sort an alpha XM-file (HP-41)

*Message #2 Posted by **Raymond Del Tondo** on 29 Jan 2006, 10:40 a.m.,*
in response to message #1 by Geir Isene

Have you tried the SORTFL function of the CCD module?

Re: How to alphabetically sort an alpha XM-file (HP-41)

*Message #3 Posted by **Geir Isene** on 29 Jan 2006, 10:53 a.m.,*
in response to message #2 by Raymond Del Tondo

Good tip. Don't have the CCD (waiting for it). I would however need a routine that doesn't use functions outside a standard HP-41CX (to make my upcomming PDA program usable for most people).

Re: How to alphabetically sort an alpha XM-file (HP-41)

*Message #4 Posted by **Geir Isene** on 30 Jan 2006, 1:54 a.m.,*
in response to message #2 by Raymond Del Tondo

It seems the SORTFL function only sort data registers in XM.

Re: How to alphabetically sort an alpha XM-file (HP-41)

*Message #5 Posted by **Ángel Martin** on 30 Jan 2006, 7:11 a.m.,*
in response to message #4 by Geir Isene

That's right, SORTFL can only deal w/ data files (or matrix files if you've changed its file type previously). ASCII files are trickier in that each record can have multiple "registers" (7-words each), thus the file type change trick won't work in this case.

No substitute to plain old RPN programming in this case, or so it looks.

Best,

ÁM

Re: How to alphabetically sort an alpha XM-file (HP-41)

*Message #6 Posted by **Geir Isene** on 30 Jan 2006, 7:36 a.m.,*
in response to message #5 by Ángel Martin

Excuse my ignorance: Matrix files, what's that?

Re: How to alphabetically sort an alpha XM-file (HP-41)

*Message #7 Posted by **Valentin Albillo** on 30 Jan 2006, 8:20 a.m.,*
in response to message #6 by Geir Isene

Geir Isene posted: *"Excuse my ignorance: Matrix files, what's that? "*

> They're files created by the Advantage ROM, which can directly create and use matrices stored in extended memory. This way you use no numeric registers at all to store matrices, greatly simplifying most matricial programs.
>
> In some cases your program can run even using no numeric registers at all (and no 'synthetic' registers M,N, etc., either), this is, even with SIZE 000. See my 62-line, SIZE 000 **Nth-degree Polynomial Fit** program featured in my Datafile article Long Live the Advantage ROM !

Best regards from V.

Re: How to alphabetically sort an alpha XM-file (HP-41)

*Message #8 Posted by **Geir Isene** on 3 Feb 2006, 4:40 p.m.,*
in response to message #1 by Geir Isene

Here we go (sorts only ascii files with records of max 24 characters - that's all I need for the "HP-41: The Reminder"-program):

```
001 *LBL "FLSORT"
002  LBL 01
003  0
004  SEEKPT
005  SF 25
006  GETREC
007  SF 05
008  FC? 25
009  GTO 03
010  SF 25
011  LBL 02
012  ASTO 05
013  GETREC
014  FC? 25
015  GTO 03
016  5
017  ENTER
018  ASTO X
019  X>NN?
020  GTO 02
021  CF 05
022  DELREC
023  RCLPT
024  1
025  -
026  SEEKPT
027  INSREC
028  1
029  +
030  SEEKPT
031  GTO 02
032  LBL 03
033  FC?C 05
034  GTO 01
035  CLA
036  CLST
037  SEEKPT
038  END
```

Edited: 4 Feb 2006, 3:02 a.m.

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[OT]OpenRPN.org hacked, AGAIN

Message #1 Posted by . on 29 Jan 2006, 6:55 a.m.

Please see Here. It now says "::.HACKED BY iSKORPiTX (TURKISH HACKER).::"

This is ridiculous. Don't they know how to configure a server?

Re: [OT]OpenRPN.org hacked, AGAIN

*Message #2 Posted by **Geir Isene** on 29 Jan 2006, 7:20 a.m.,*
in response to message #1 by .

It is not about configuring a server, it's about choosing the right, secure CMS.

Ottoman Empire 1, OpenRPN 0

*Message #3 Posted by **Mustafa Kemal** on 29 Jan 2006, 9:41 a.m.,*
in response to message #1 by .

Cok guzel!

Vaporware like OpenRPN is almost deserving of something like this...

Re: [OT]OpenRPN.org hacked, AGAIN

*Message #4 Posted by **Hugh Evans** on 30 Jan 2006, 11:11 a.m.,*
in response to message #1 by .

The problem is postnuke and has only been a problem for the past few months. I agree that it is out of hand but it will take a bit of time for us to set up a more secure alternative.

Re: [OT]OpenRPN.org hacked, AGAIN

*Message #5 Posted by **Johnny** on 7 Feb 2006, 5:56 a.m.,*
in response to message #4 by Hugh Evans

Try DRUPAL. I hear it's a great CMS.

Re: [OT]OpenRPN.org hacked, AGAIN

*Message #6 Posted by **bill platt** on 8 Feb 2006, 10:24 a.m.,*
in response to message #1 by .

Maybe I'm just ignorant, but isn't the server supposed to be read-only to the outside world, with the exception of forum posts?

How can it be possible to "hack" a server like this?

Re: [OT]OpenRPN.org hacked, AGAIN

*Message #7 Posted by **Marcus von Cube, Germany** on 8 Feb 2006, 10:54 a.m.,*
in response to message #6 by bill platt

I'm not a specialist in this but I've read something about hacking of database applications on the web.

One possible problem is dynamic SQL: Normally, your posts are enclosed in some SQL statements to put them in to a database:

```
insert into mytable( poster, text ) values( '<poster>', '<text>' )
```

The values in angle brackets come directly from the input form. Now consider a poster named "badguy" enters something like this in the text field:

```
' );
update sometable( colum1, column2 ) values( 'bad value1', 'bad value2
```

Now lets combine the two:

```
insert into mytable( poster, text ) values( 'badguy', '' );
update sometable( colum1, column2 ) values( 'bad value1', 'bad value2' )
```

One can imagine that evil things can be done if the exact database structure is known (as is the case for many such systems.)

Marcus

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rubbed out 67

*Message #1 Posted by **Hal** on 29 Jan 2006, 1:47 a.m.*

Take a look at this HP67 auction. here Looks like the keyboard was cleaned with scouring powder and sandpaper...no markings below most of the numeric keys. I guess you could memorize the shifted functions... This almost rivals that bee-yoo-tee-ful 10c posted earlier.
Hal

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Preferred TI calculator???

*Message #1 Posted by **Namir** on 28 Jan 2006, 3:15 p.m.*

Ok, so we are HP-calculator nuts! I have two questions regarding TI calculators?

1. Which vintage TI calcultor did you use/own besides your HP beauty and what did you use that TI beast for?

2. Which graphics TI calculator do you use now and what tasks do you use it for?

Happy Programming!

Namir

Re: Preferred TI calculator???

*Message #2 Posted by **philippe** on 28 Jan 2006, 3:26 p.m.,*
in response to message #1 by Namir

Well.....

TI 58 TI 58C TI 59

By the way, who knows how to repair the card reader of the TI 59 I know this is not the correct place here, but I take the opportunity....

Re: Preferred TI calculator???

*Message #3 Posted by **Gene** on 28 Jan 2006, 3:37 p.m.,*
in response to message #2 by philippe

I was actually a TI user until the HP41c was announced.

TI: More memories (TI59 - 100, HP67/97 - 26?) and more program steps (960 vs. 224), which really DID allow for more complicated problems to be programmed at times in the TI machines...and they were so much cheaper for a poor student!

But, programming in AOS was really painful.

Then the HP41c was announced and I was transfixed. Alpha on a calculator! Redefined keys! Forgot TI even made calculators! :-)

The TI's I used until then were: SR-16II (my first), SR-51A, SR-52 (bought second hand for $70 in 1978), TI-58C.

Graphing TI model? Forget it. Have a TI-84plus in case my son has to use that specific model in HS math classes, but otherwise...

Re: Preferred TI calculator???

*Message #4 Posted by **Vassilis Prevelakis** on 28 Jan 2006, 4:16 p.m.,*
in response to message #3 by Gene

```
Gene wrote:
> TI: More memories (TI59 - 100, HP67/97 - 26?) and more program steps (960 vs. 224)
```

not "and". Unlike the HP-67/97 where you had 224 steps AND 26 registers, the TI-58/59 had a movable partition (like the HP-41) so you could change the split between program and registers. The default config was 480 steps and 100 registers, so with 30 registers you had 720 steps which *is* more than the 224 steps on the HP67/97, but the comparison is deceptive as the HP67/97 had more merged instructions (e.g. GTO A would take one step on the HP-67/97 but two steps on the TI-58/59.

All in all I'd say that the TIs could support programs twice as long as the HPs, which was a real advantage.

```
> and they were so much cheaper for a poor student!
```

Indeed, but they were of significantly lower quality. The keyboard in particular was horrible.

```
> But, programming in AOS was really painful.
```

Absolutely!

Though, you forgot to mention the printer (PC-100C). While the HP-97 beats the TI-59 + PC-100C hands down for quality, elegance, usability and looks, the TI approach allowed you to move up to a printing calculator when you could afford to do so while retaining the portability of a handheld calculator. With the HP-67/97 you need to have both of them (at a cost of more than $1000, serious money even nowadays).

For some strange reason, the PC-100C was a quality product. It was well built, solid, and was FAST! Boy was it fast! It had a row of thermal dots so it could print an entire line of dots at one time without moving the head (the paper moved against the print head).

Compared to the PC-100C, printing on an HP-97 gives you the impression that the 97 is doing you a favour :-)

**vp

Re: Preferred TI calculator???

*Message #5 Posted by **Gene** on 28 Jan 2006, 6:28 p.m.,*
in response to message #4 by Vassilis Prevelakis

good points...quite true!

Re: Preferred TI calculator???

*Message #6 Posted by **Palmer O. Hanson, Jr.** on 28 Jan 2006, 9:44 p.m.,*
in response to message #5 by Gene

My experience is that the PC-100A was a higher quality product than the PC-100C. The PC-100A was also quieter. To see the ultimate in what could be done with the TI-59/PC-100 combination go to Viktor Toth's site at www.rskey.org/, click on "The Library, click on "Texas Instruments", click on "PPC Notes" and click on "Volume 8 Number 2".

Re: Preferred TI calculator???

*Message #7 Posted by **Geir Isene** on 28 Jan 2006, 3:56 p.m.,*
in response to message #1 by Namir

1. My first calculator: TI-57. Then I borrowed a TI-59 from a friend (with a PC-100C printer). I used the 57 to learn to program and the 59 to perfect it. I used the 59 to create self-modifying/program generating code.

2. None. I was grabbed by the HP-craze after my TI affair :)

Re: Preferred TI calculator???

*Message #8 Posted by **John Noble** on 28 Jan 2006, 4:27 p.m.,*
in response to message #1 by Namir

The best TI calculators:

A) My wife's TI-92+, after it sells on eBay.

B) Any of them at 9.789 m/s^2. As you can see from the equation, the resulting improvement varies as the square of 's'.

Re: Preferred TI calculator???

*Message #9 Posted by **Howard Owen** on 28 Jan 2006, 5:28 p.m.,*
in response to message #1 by Namir

Going back to school in my early twenties, I used a succession of TI-30s and TI-35s for ordinary scientific calculations. They would break, and I'd buy another one - completely disposable. I wanted a TI-59 because one or two other students I knew had them. But before I could get enough money together out of tutoring wages, I saw the 41C in the bookstore. The alpha capability, and the expansion just floored me. I saved a while longer than I might have otherwise and bought the 41, then a couple of memory modules, then a quad memory module, then a card reader. That machine was stolen from me as I slept on the lawn after class one afternoon. (Laziness was ever my downfall) So I saved and bought a 41CV. Any thought of a TI calculator was banished by the 41.

I recently bought a TI-59 + PC-100C printer. The 59 lacks a battery pack or battery cover, or I might play with it more. I also bought a TI-92+ to see what the last generation's top-of-the-line was like. I intend to play with them both some more. However I still have lots of projects lined up on HP machines, so it may be a while until I get around to it.

Regards,
Howard

Re: Preferred TI calculator???

*Message #10 Posted by **Karl Schneider** on 28 Jan 2006, 6:42 p.m.,*
in response to message #1 by Namir

I received a TI-30 (original LED version) for Christmas 1978 (I think) and was quite delighted. I had been intrigued by some Casio models at the time, and had seen expensive HP models before, but the TI met my needs perfectly.

Unfortunately, it had a 9V rechargeable NiCd battery that quickly lost its ability to hold a charge. One had to plug the calc into a nearby wall socket to use it. I started using disposable 9V batteries, until one of those went dead in electronics class in 1980-81. I hooked up the calc to a regulated DC power supply at 9.0 V, but might

have done so backwards, as the display broke up and died.

The TI was replaced in Fall 1981 by a Casio fx-3600P (I hadn't the chutzpah to ask for a US$300+ HP-41C!), which I used until I bought an HP-15C in Fall 1983.

I bought a cheap TI-36X as a disposable for "old times' sake" in 2002 (or so), then got into HP collecting that year.

I'm intrigued by the TI-89, which seems to be an easier-to-use product with better firmware than the HP-49 series. Several of my younger colleages have TI-89's. However, I haven't yet committed to get one.

-- KS

Edited: 28 Jan 2006, 9:18 p.m.

Re: Preferred TI calculator???

*Message #11 Posted by **Garth Wilson** on 28 Jan 2006, 7:34 p.m.,*
in response to message #1 by Namir

I don't have any experience with any TI's newer than the 59, but I got an awful lot of good use from first the 58c and then the 59 before I had the HP-41cx. I also had the printer and used its alphanumeric capability a lot. I had four modules (the most valuable being the electrical engineering one), and a bunch of applications books, and a pile of users' group publications. My biggest program needed about 1500 bytes, so it would prompt for the appropriate cards if you'd call a part that wasn't in the memory at the time. That would of course mean overwriting another part; so if you needed that again before you were done, it would call for the other cards again. The major weaknesses of the 59 that immediately come to mind were the batteries' lasting less than four hours per charge, the memory's forgetting everything when you turn it off, only being able to hold one program at a time (unless multiple programs were planned around each other so they didn't require the same memory space and labels), only being able to hold one module at a time, the modules' only being able to hold user code, and the resulting slowness. There was no alpha capability without the printer, and the keyboard was cheap, and there were a lot of other less-major weaknesses; but the one thing that really drove me to the HP-41 was the fact that the TI had no I/O that could be interfaced to anything else. Still, the owner of the ti95.com website had the gall to say the TI-59 is the best calculator in the world. Go figure.

Re: Preferred TI calculator???

*Message #12 Posted by **Palmer O. Hanson, Jr** on 28 Jan 2006, 10:22 p.m.,*
in response to message #11 by Garth Wilson

The TI-59 was clearly the most powerful hand-held calculator during the three years from it's introduction in June 1977 until the introduction of the HP-41 in early 1980. It had more user memory than the HP-67, it had the Solid State Software modules which offered a wide range of subroutines which could be accessed by user programs, and it had a printer connection.

I didn't purchase an HP-41 when it came out because I couldn't afford it. When the time came that I could afford it the Radio Shack Model 100 had become available. I bought a Model 100 which offered a fourteen digit mantissa versus the ten digit mantissa in the 41, programming in a higher order language (BASIC) as opposed to the lower order language (RPN) in the 41, a built-in RS-232 connection, a built-in modem and a screen which supported graphics years before Casio offered the first graphing calculator.

Currently, I have a working HP-67, HP-28S, HP-41C, HP-41CV and HP-41CX all of which I purchased at thrift stores and garage sales. I got the CX and a fully functional TI-59 for two dollars each at a thrift store where they were being sold in the same bin with TV remote controls!

Using multiple modules with the TI-59

*Message #13 Posted by **Palmer O. Hanson, Jr.** on 30 Jan 2006, 11:41 p.m.,*
in response to message #11 by Garth Wilson

A company known as American Microproducts sold devices which allowed the user to connect multiple Solid State Sofware modules to the TI-59 calculator. I have one where the user manually switches the modules. I sort of remember that they also sold a unit where the user could switch modules under program control but I haven't found the reference.

Re: Preferred TI calculator???

*Message #14 Posted by **Massimo Gnerucci (Italy)** on 28 Jan 2006, 7:44 p.m.,*
in response to message #1 by Namir

> Quote:
>
> 1. Which vintage TI calcultor did you use/own besides your HP beauty and what did you use that TI beast for?

1A I presently own: SR50, SR52(3), TI58/58C/59(some) and PC-100, SR10, TI30, TI2550, 74S(3), TI68. But the only one with some "character" is the SR22, a nice calculator!
1B Neither I ever used them in the past nor I do today.

> Quote:
>
> 2. Which graphics TI calculator do you use now and what tasks do you use it for?

2 I only own a Voyage 200: tried it for a little while (since I once used Derive for DOS) and came back to HP.

Greetings,
Massimo

Re: Preferred TI calculator???

*Message #15 Posted by **Gerson W. Barbosa** on 29 Jan 2006, 12:27 a.m.,*
in response to message #1 by Namir

1. In 1983 as a Physics sophomore I used a TI-59, not that this was really needed but because I liked it. I remember I used it to evaluate a series for computing Pi I had 'discovered' using Fourier's series... a very very slowly convergent series first described at least two centuries before by a Fourier's countryman as I found out later... Oh, I used to use it at work too, as a military technician. My colleagues were amazed when I measured the diameter of a copper wire, enterered it on the calculator and it immediately displayed the AWG number :-).

The calculator seemed very powerful then, mostly when I remembered just four years earlier I did my calculations with the help of a logarithm table (calculators were just unaffordable then and slide rules didn't provide the accuracy I needed..., I didn't have one either). Too bad thieves broke into the house I lived with work colleagues then while we were at work and took it away... But then I would not have moved towards HP...

2. None. I just cannot get used to algebraic calculators any more. I always make mistakes when I try. I know there are people here who switch easily from one to another. Perhaps I should try harder... My inability to use the Windows calculator once made me (almost successfully) try to replace it:

My (brave) attempt to replace the Windows calculator

Regards,

Gerson.

Re: Preferred TI calculator???

*Message #16 Posted by **marais** on 29 Jan 2006, 4:29 a.m.,*
in response to message #15 by Gerson W. Barbosa

MY all-time favourite is still the Datamath!

Re: Preferred TI calculator???

*Message #17 Posted by **Marcus von Cube, Germany** on 29 Jan 2006, 11:49 a.m.,*
in response to message #1 by Namir

I started with TI calculators at school when I was 16. The only caculator I had ever seen before was the HP 35 (see my Memories). HPs were simply unaffordable back then so I went for an SR-51A. At that time my teacher just had an SR-50 while my classmates were still using logarithm tables and slide rules in the math and physics classes.

Still at school, I switched to my very first programmable, an SR-56, giving my SR-51A to my sister. I added the PC-100A printer (the one that could connect to three different calculators, namely the SR 52, the SR 56 and the TI58/59 series.) This combo was seriously tweaked as my programming workbench but nothing is left from that era.

Later at University, when I had just seperated from my girl friend, I had left some spare money originally saved for a vacation for two. I spent it on a TI-59 (kind of revenge: my former girl friend's new lover just had an SR-52!).

The TI-59 was my main computing device in the first few years at university. I wrote some software for it and even made one listing appear in the German computer magazine "Chip". When the HP 41 appeared it was too late: I soon switched to a "Home Computer" (EACA Video Genie, TRS-80 clone) in 1980 or 81. This made my interest in calculators fade and it was the starting point for my current profession - I'm a professional programmer for over 20 years now.

From time to time I picked up some interesting machines just to play around a little: Casio PB-700, TI CC-40, TI-74 Basicalc, TI-95 Procalc, Sharp PC-1261. I still like them all. My first genuine HP was the HP 200lx, my "brain substitute" for several years, until replaced by a Psion netBook.

Some time ago, eBay provided a chance to get back to all my old calculators which had either failed or were sold or given away since long.

Now I own a bunch of HPs (11C, 12C, 15C, 16C, 25(C), 28S, 33S, 35, 41C/V/X, 42S, 45, 48G, 49G+, 97, 200lx, 720), Casios, Sharps, an Epson HX-20, a TRS-80 Model 100, and, of course, many TIs. I still don't really *use* any of these but I love to play around with them, solving more or less complicated problems mentioned in this forum. (Thanks to Valentin and other contributors who have helpd to awaken my mathematical brain which had slept for so long!)

I have the following working TIs in my collection (in numerical order):

```
TI-25 (early LCD)
TI-30 (original red LED)
```

```
TI-30 (original red LED) transplanted in TI-45 case
TI-36 Solar (LCD)
CC-40 with peripherals (Quick-Disk, RS-232, plotter, 80 column printer) and modules
(Pascal, Math)
SR-50 (first scientific LED, no parentheses)
SR-51A (early LED, statistics, still no parentheses)
SR-51 II (2nd generation LED)
SR-52 (first programmable) with PC-100 (the original TI printer & security cradle!)
TI-56 (LCD)
TI-57 (3rd generation LED)
TI-57 II (LCD)
TI-58C
TI-59 with PC-100C and additional statistics module
TI-66 (LCD), made by Toshiba
TI-74 (S & Basicalc) with peripherals (PC-Interface, small printer) and some modules (math,
statistics, finance, Deutsche Bank Leben)
TI-81 (first graphics)
TI-84 Plus
TI-85
TI-86
TI-89
TI-92 Plus
TI-95 Procalc, sharing the peripherals with the TI-74, and some modules (8k RAM, Math,
Statistics)
Voyage 200
CBL & CBR, Calculator Based Ranger and Calculator Based Laboratory  with some probes for
connection to the graphics calculators.
```

Many of the LED machines have such a bad keyboard that I barely use them. The older machines (50, 51, 52, 56) are better then the later models (30/57/58/59).

From the next generation, I like the TI-95, the last keystroke programmable from TI, and the Basic programmables. Playing around with the old peripherals is pure fun.

On the more modern side, I like the TI-92 Plus. This machine is solid like a brick, has a QUERTY keyboard and a huge display. I mainly use its connection to the CBL and/or CBR. The latter are educational devices, not serious lab equipment, but they provide a well designed link between the calculators and the "real world". You can have the CBL collect temperature and lighting data during 24 hours and have the calculator graph the results the next day. CBL can be operated on external power which saves on batteries.

CBL and CBR work well with most of the other graphics machines (except 81, rexstricted on 85). Software is available for free, mostly written in TI user code (sometimes referred to as "TI-BASIC" which it isn't.)

The Voyage 200 has the same operating system as the TI-92 Plus but more memory in a smaller footprint. I don't like the keys which are a little too tiny. While the TI-89 has the same CAS and is even more pocketable, its keyboard layout isn't very well suited to the vast functionality.

From the non-CAS graphics I prefer the 85/86 series for which production and development has sadly stopped, in favour of the less capable 81/82/83/84 line. The latter have only one-letter variable names and a less capable programming model while the former have long variable names and a more complete programming dialect. I like the 85/86 menu system better then both the systems in the simpler series and the CAS machines.

Marcus

Re: Preferred TI calculator???

*Message #18 Posted by **John Smitherman** on 29 Jan 2006, 3:31 p.m.,*
in response to message #1 by Namir

> Quote:
>
> Ok, so we are HP-calculator nuts! I have two questions regarding TI calculators?
>
> 1. Which vintage TI calcultor did you use/own besides your HP beauty and what did you use that

TI beast for?

2. Which graphics TI calculator do you use now and what tasks do you use it for?

Happy Programming!

Namir

---

1. None. I gave up on older TI's after purchasing an HP-34c in 1980.

2. Non-graphing: My 12 year old son uses a TI-34II periodically to check his pre-algebra homework. His teacher doesn't allow calculators in the classroom. The 34II is a nice machine and I found it on sale at Office Depot for $2.97.

Graphing: I have a TI-83+ Silver Edition that I use from time to time to graph functions, manipulate matrices and calculate statistics.

Regards,

John

Re: Preferred TI calculator???

*Message #19 Posted by **Bob** on 30 Jan 2006, 1:22 p.m.,*
in response to message #1 by Namir

My favorite TI is whichever of the many TI36X solar-powered units that I have picked up at a local flea market.

I have written several times about buying them for $6-7 each when buying several of them at once. They are still selling around here for about $19. I go back to that well every now and then for more.

For that price, I can give them away, drop them, travel with them, or loan them out without worry. Just pull the drawer open, pull out another unit, and open the blister pack.

While the key feedback is not great, they are dependable, have plenty of computing power most of the time, and have a hard case. If I need more power, I pull out one of my 48GX's or turn around to the PC.

Re: Preferred TI calculator???

*Message #20 Posted by **Ron Ross** on 30 Jan 2006, 2:42 p.m.,*
in response to message #1 by Namir

I used a Ti-55 before switching over to an Hp15c. Ti even exchange my old 55 for a newer Ti-55ii, but its keyboard still sucked! I had purchased an Hp15c when the keyboard of the Ti-55 was shot, then heard about the exchange program that Ti had. Until I got my new Ti-55ii, I was thinking about what a dope I was to buy a $100 calculator so quickly. That thought changed when I got my hands on the new Ti-55ii. Yep! Same Ti keyboard, glad I have an Hp, is what went through my head.

A friend of my bought the new Ti-66 and was really happy with it. Years later, I bought a Ti-66 and can see why (of course the Ti-66 was really made by Tosiba).

I have a good representation of the Ti graphics line, basically one of each family. I really have a dislike of the Ti-83/84 line as it is crippled in so many areas (but that is by design as Ti can sell another graphics, when you out grow this model). It does work as a general purpose graphics calculator. Shamefully, Hp followed suite

with the Hp38/39G family as well.

I myself like the Ti-86, simple, yet powerful, with an easy to read screen. The Ti-89 may be far more powerful, but I find its units conversions awkward to use in comparison to the Ti-86, the screen very difficult to read, and its keyboard layout is awful (second shifting the trig functions).

Re: Preferred TI calculator???

*Message #21 Posted by **Palmer O. Hanson, Jr.** on 30 Jan 2006, 11:27 p.m.,*
in response to message #20 by Ron Ross

One of the real problems with the TI-82 and T-83+ is that there are some instances where the devices fail to calculate determinants properly. I have seen two instances where my TI-82 and TI-83+ calculate the determinant of a matrix as zero but my TI-85 calculates the determinant properly.

The first case appeared last year when I was investigating the ability of various machines to find the determinants of sub-Hilbert matrices from order 7 to 10. The TI-83+ and TI-85 gave identical answers for orders 7 through 9. For order 10 the TI-85 gave the answer 2.207089...E-53 where the decimal equivalent of the exact answer obtained from the HP-49G is 2.164179...E-53 . The TI-83+ gave zero. I did not have a TI-82 at the time.

The second case appeared this year when working with the following linear equation problem proposed by Valentin Albillo:

1.3 x1 + 7.2 x2 + 5.7 x3 + 9.4 x4 + 9.0 x5 + 9.2 x6 + 3.5 x7 = 45.3
4.0 x1 + 9.3 x2 + 9.0 x3 + 9.9 x4 + 0.1 x5 + 9.5 x6 + 6.6 x7 = 48.4
4.8 x1 + 9.1 x2 + 7.1 x3 + 4.8 x4 + 9.3 x5 + 3.2 x6 + 6.7 x7 = 45.0
0.7 x1 + 9.3 x2 + 2.9 x3 + 0.2 x4 + 2.4 x5 + 2.4 x6 + 0.7 x7 = 18.6
4.1 x1 + 8.4 x2 + 4.4 x3 + 4.0 x4 + 8.2 x5 + 2.7 x6 + 4.9 x7 = 36.7
0.3 x1 + 7.2 x2 + 0.6 x3 + 3.3 x4 + 9.7 x5 + 3.4 x6 + 0.4 x7 = 24.9
4.3 x1 + 8.2 x2 + 6.6 x3 + 4.3 x4 + 8.3 x5 + 2.9 x6 + 6.1 x7 = 40.7

where the system has the unique solution:

x1 = x2 = x3 = x4 = x5 = x6 = x7 = 1.0

The exact determinant of the matrix is 1E-07. My TI-85 gave 0.990927530944E-07. Both my TI-82 and TI-83+ gave zero. This is not an easy problem. Determinants yielded by some other machines were

```
HP-41 Math Pac  -86.31E-07
HP-28S            0.0703238892937E-07
TI-59             1.024890772918E-07
TI-95             1.002914557528E-07
```

Rodger Rosenbaum modified Valentin's problem by changing A(3,7) from 6.7 to 6.8, changing A(7,7) from 6.1 to 6.0, and changing B(3) from 45.0 to 45.1. The exact determinant of the matrix becomes 798.9713675. The TI-82, TI-83+ and TI-85 calculate the value 798.97136749978 . Determinants from some other machines were

```
HP-41 Math Pac    798.9713752
HP-28S            798.971367542
TI-59             798.9713674893
TI-95             798.971367499
```

Rodger's changes have essentially dumbed-down the problem so that almost any machine can solve for the determinant and get reasonable answers.

If one goes ahead and solves the linear equations using X = INV A * B then the solutions from the TI-82,

the TI-83+ and TI-85 are exactly the same. If one uses the simultaneous equation function of the TI-95 one get a slightly more accurate solution.

The TI-82, TI-83+ and TI-85 all use a fourteen digit mantissa so it is not surprising that the three machines get the same results when they are asked to do the same thing. I can't explain the occasional improper evaluation of a determinant.

Re: Preferred TI calculator???

*Message #22 Posted by **Valentin Albillo** on 31 Jan 2006, 5:39 a.m.,*
in response to message #21 by Palmer O. Hanson, Jr.

Hi, Palmer:

Palmer wrote:

"Rodger Rosenbaum modified Valentin's problem by changing A(3,7) from 6.7 to 6.8, changing A(7,7) from 6.1 to 6.0, and changing B(3) from 45.0 to 45.1. The exact determinant of the matrix becomes 798.9713675."

> I fail to see how changing the original problem so that you can then get 798.9713675 as the determinant's value with utmost ease has any relevance at all to finding the original determinant's value which is 0.0000001 instead.

"Rodger's changes have essentially dumbed-down the problem so that almost any machine can solve for the determinant and get reasonable answers."

> This sentence is almost surreal. This is not 'dumbing-down' the problem, this is changing it altogether. Now any machine can solve for the determinant and get a "reasonable answer", namely 798.9713675 when the true answer to the actual problem is 0.0000001 !! Must be a joke, isn't it ? You're not serious, right ?

Speaking of jokes, this whole situation strongly reminds me of this well-known joke:

> "A man who has lost his keys in the dark on one side of the street searches for them under a lamppost on the other side. When asked why he is looking over there, he says, "There's better light here."

This man would do well to search for his keys where he lost them, if he's to find them out.

The moral is clear: if your solving methods or machines can't deal with the original problem, you'd do well to change your methods and/or machines, as solving *another* problem simply won't do. You'll never find your keys that way.

Best regards from V.

P.D: By the way, never mind TI's, my SHARP PC-1475 has no problem at all solving the original problem, what with its 20-digit double-precision math. You see, I changed the computing device, not the problem.

Re: Preferred TI calculator???

*Message #23 Posted by **Palmer O. Hanson, Jr.** on 31 Jan 2006, 2:31 p.m.,*
in response to message #22 by Valentin Albillo

Valentin:

I admit that I don't really comprehend where we are going with all of this. I have been following Rodger's lead trusting that I will learn something in the process.

If you go back and review some of the threads covering Rodger's work with your original problem and with modifications to it you will find that his first two modifications only involved changes to single elements of B. Only fourteen digit machines delivered reasonable results. Other machines delivered X elements which were an order of magnitude in error and of the wrong sign. Rodger's third modification involved the changes mentioned to A(3,7), A(7,7) and B(3) previously mentioned. All machines then got excellent results, even my Model 100 operating in single precision mode which then has a mantissa of only six digits.

Re: Preferred TI calculator???

*Message #24 Posted by **Mark A. Ordal** on 31 Jan 2006, 11:26 a.m.,*
in response to message #1 by Namir

In answer to Namir's two questions:

1. Which vintage TI calculator did you use/own besides your HP beauty and what did you use that TI beast for?

My first TI was an SR50. I had wanted the HP35 when they first came out, but $395 for a calculator remained too high a price for me for quite a long time. When TI came out with the SR50, I perceived it as a cheaper, but equally capable, alternative to the HP35. I knew before buying it that it was a lesser quality machine than the HP35, but the SR50 was still a huge advancement over my Casio "Minuteman III" 4-function calculator. I waited for the SR50 to drop to $140 in 1975 (March?) before buying one. (I was first made aware of the SR50 when they sold for $170.)

I was pretty pleased with the SR50 for most of Spring quarter. (It was particularly exhilarating to have it for a Fluid Mechanics course I took that term!) Then it developed charging problems. I made it through final exams with it and then sent the SR50 in for warranty repairs. The charging problem reappeared during the summer. (Later I realized it wasn't a charging problem as such but weak contacts between the calculator and the battery pack---just bending the flat spring contacts out a little further generally made the problem go away, at least for a while.)

In August of 1975, I saw an advertisement for an HP25C in Time magazine. I decided right then to buy one. The idea of programmability in a calculator had always fascinated me, but having to type the program in again every time you turned the machine off made no sense to me! (A Physics Professor of mine had one, so I knew about the HP65 and its little magnetic cards, but $800 for a calculator way beyond anything I could imagine buying at the time.)

My HP25C arrived in the middle October of 1975 and I was very content with it for quite a while.

NOTE: currently, the HP Museum site incorrectly lists the introduction of the HP25C as 1976. (I've emailed David Hicks about this issue.)

I will admit I was tempted by the HP29C when it came out, but I managed to resist the urge to upgrade. My HP25C was my "good" calculator and my TI SR50 was my "loaner" calculator. I knew my two calculators were on borrowed time when I encountered the HP41C in graduate school. I held out until the 41CV came out! After becoming addicted to my 41CV, I sold the 25C to a friend. I threw the SR50 in the garbage!

I later sold the HP41CV to help pay for an HP75C. In the spring of 1984, I traded my "HP-IL to Centronics Parallel" adapter for a new HP41CX. (The adapter was of little interest to me after I purchased the HP-IL version of the HP "Thinkjet" printer.)

For a brief period, I had the habit of buying whatever the newest and most expensive HP scientific calculator was and selling my previous one. That practice started with the HP28C and lasted through the HP28S and HP48SX. (I kept the 41CX all along as my "loaner" calculator.) Later I bought the HP48G, HP49G and the HP49G+.

2. Which graphics TI calculator do you use now and what tasks do you use it for?

I use the TI Voyage-200 for just about everything. Of the graphing calculators I still own (including the TI-85, TI-84 Plus SE, HP48SX, HP48G, HP49G and HP49G+), it is the only one I actually use for graphing. I use it routinely for working out solutions to homework problems for my Physics classes.

I bought a TI-84 Plus SE mainly for working with TI's CBL ("Calculator Based Laboratory") data acquisition device, but I haven't had time yet to do anything with the CBL.

I realize that students need to worry about the QWERTY keyboard of the Voyage-200 (and its predecessors the TI-92/92+) because some standardized tests ban anything with a QWERTY keyboard. So the TI-89 is sometimes allowed while the same calculator with a QWERTY keyboard is not. Others just prefer the TI-89 form factor.

For old eyes, I find the TI-89 and TI-89 Titanium hard to use. Calculations aren't so bad, but just try setting the preferences! The text on the preferences screen is so microscopic that I need to take off my glasses to read it! (I'm very nearsighted so taking off my glasses is almost like using a magnifying glass!)

One further thing to note about the TI-89/92/Voyage-200 models is that they finally allow the user to write their own "functions" (as opposed to "programs"). On these TI models a "function" is a user-written program that can be called by other user written programs or used in a calculation. Being able to call my own program from another of my programs is a capability I just took for granted from my HP experience. Finding that I couldn't do that on the TI-85 was a real disappointment at the time I got that calculator.

--Mark

HP25c introduction date...

*Message #25 Posted by **Gene** on 31 Jan 2006, 4:12 p.m.,*
in response to message #24 by Mark A. Ordal

Mark wrote:

"My HP25C arrived in the middle October of 1975 and I was very content with it for quite a while. NOTE: currently, the HP Museum site incorrectly lists the introduction of the HP25C as 1976. (I've emailed David Hicks about this issue.)"

Gene: Actually, in this case, you are incorrect. :-) The HP25C was introduced on July 1, 1976.

This was covered in the 1976 issues of the PPC Journal. I guarantee that the 1975 issues of the PPC Journal do not mention the HP25c introduction in that year. It was introduced in 1976.

Link to July 1976 PPC front page in PDF format

(Note: I took this page from TOS)

And, Craig Finseth's excellent dump of HP calculator information also lists the date as 1976.

Craig Finseth's HP25c page

So, very much more likely that somehow you've got the year's mixed up.

Re: HP25c introduction date...

*Message #26 Posted by **Mark A. Ordal** on 1 Feb 2006, 10:25 a.m.,*
in response to message #25 by Gene

I can't help you on your publications Gene. The dates I cited are correct! That Fluid Dynamics course I mentioned was Spring quarter 1975; I saw the advertisement for the 25C in August of 1975; and I received my 25C in October of 1975.

I can't explain the discrepancy with your sources.

--Mark

Re: HP25c introduction date...was July 1976, not October 1975.

*Message #27 Posted by **Gene** on 1 Feb 2006, 11:26 a.m.,*
in response to message #26 by Mark A. Ordal

I know you believe you are correct, but multiple sources contradict your memory.

I believe probability suggests that your memory is the one that is not correct. That explains the discrepancy. Sorry!

The HP25C was introduced July 1976, not in 1975.

Any other HP users believe it was 1975?

Re: HP25c introduction date...was July 1976, not October 1975.

*Message #28 Posted by **Tom F** on 1 Feb 2006, 11:33 a.m.,*
in response to message #27 by Gene

The HP Journal indicates, along with other information on this site, that the HP 25 was introduced in 1975. The HP-25C was, in fact, introduced in 1976. Perhaps that is where the confusion or foggy memories come to play.

http://www.hpmuseum.org/journals/journals.htm

http://www.hpmuseum.org/adverts/adverts.htm

Tom

Re: Preferred TI calculator???

*Message #29 Posted by **GE** on 1 Feb 2006, 11:40 a.m.,*
in response to message #24 by Mark A. Ordal

Interesting thread.

A small remark to begin with : the TI85 and all others can call programs from within programs : just type the target program's name and voilà ! it's called.
Now back to the questions :

1. Which vintage TI calculator did you use/own besides your HP beauty and what did you use that TI beast for?

After a wonderful Radofin 2660 that my dad offered to his amazed son "a few" years ago, I got a TI30, the legendary LED one. It served me faithfully through high school, but those machines were not really mandatory at the time. Math teaching rarely involved long strings of calculations, it was more theoretical. During later studies, my parents offered me (again) a TI58C, because of its powerful function set mixed with the constant memory, a must. At that time funding was extremely low and I knew HP only by name. Honestly I was not impressed : machines 4 times more expensive had to offer 4 times more 'things', and obviously it was not the case. I never had quality problems with my TI, maybe because I knew that the price of my beauty was very high from my point of view, so I was taking *real* care (I wonder if some quality problems on TI57/58/59s are not due to bad care - granted some later TI models were low low quality). I was using this machine for school related subjects, and for programmming the usual fan stuff : multiprecision, tricks, prime factors, special functions...

2. Which graphics TI calculator do you use now and what tasks do you use it for?

The TI I use now is a TI83-family member, because when commuting I can't always take good care of my machine, so these are considered expandable. Also, it seems they are quite easy to program, speed is reasonable and the function set is enough for my stuff.
My interets now are number theory things, like finding how to factor (3+7*sqrt(5)), (quickly) calculating the Mascheroni constant, what is the value of the infinite sum of i^p/i! for a given p, what is the curve limiting the domain of (n,p) for which the Comb(n,p) < 10^500, why the continuous fraction representation of the square root of any integer is periodic, ...
For this kind of problems CAS machines are completely unusable, so I need higher end models only for pure calculating power, and actually the game is to use better algorithms instead of brute force. So low-end machines are OK, provided they are easy to program.
As a mater of fact, no current machine fits that bill :
- HP49G+ : uses RPL... yuck
- TI89 : functions can't access global variables !!!
- ClassPad 300 : functions can only be a single mathematical expression (this one is the most wounded of all)
- other graphical machines : no local variables, can't pass parameters
- vintage Basic machines : some could be good, but we got accustomed to big screens. Granted, I like the HP71B and the TI74 which have real functions / procedures. If the 71B had a 4-lines screen, it would be in my pocket all day.

Re: Preferred TI calculator???

*Message #30 Posted by **Marcus von Cube, Germany** on 2 Feb 2006, 2:49 a.m.,*
in response to message #29 by GE

GE,

> Quote:
>
> - TI89 : functions can't access global variables !!!

From a theoretical (information technology) point of view this is a desirable feature! Why? These functions cannot have side effects, the output is completely defined by the input. If you really need side effects, just write a procedure that acts on global variables.

> Quote:

> If the 71B had a 4-lines screen, it would be in my pocket all day.

That would be equally true for the TI-74. As a student I was looking for such a beast and came across the Casio PB-700. Nice screen, reasonable keyboard but way to slooooooooow.

Another very interesting machine is the Casio PB-2000C which is programmable in a C dialect (pre ANSI, no switch/case).

(All links go to Viktor Thot's excellent RSKEY site: http://www.rskey.org).

Marcus

Re: Preferred TI calculator???

*Message #31 Posted by **GE** on 2 Feb 2006, 4:30 a.m.,*
in response to message #30 by Marcus von Cube, Germany

There are many cases when those side effects are desirable.
For example a function :
1. based on a table of coefficients
2. which returns many results
3. which output trace information
4. which is defined based on itself and can be accelerated by storing the result of previous calls
5. very deeply recursively defined, overflowing the built-in subroutine stack
6. which needs some input at some point (yes, this one is weird)
7. not numeric, but handling the user interface (example CreateWindow()...)

By the way, procedures cannot access the caller's local variables either, and there is NO EXCUSE for this.
TI-ish discussion, so OT.

Functions() and Global Variables

*Message #32 Posted by **Marcus von Cube, Germany** on 2 Feb 2006, 8:55 a.m.,*
in response to message #31 by GE

GE,

It's no at all OT, because this is a general programming question.

Just to keep other readers informed what our discussion is all about:

> Functions (as implemented on certain machines) must not have side effects by modifying global variables or states while programs are allowed to do so but cannot return values easily.
>
> I think it is a good idea to restrict functions in this way but GE complains.

GE, let me answer some of your points:

>> There are many cases when those side effects are desirable.
>> For example a function :

>> 1. based on a table of coefficients

Put them in a { list } and pass them as an argument.

>> 2. which returns many results

Return a { list }.

>> 3. which output trace information

I agree, that's a real problem if you cannot write to the environment outside the function.

>> 4. which is defined based on itself and can be accelerated
>> by storing the result of previous calls

You still need a way to initialize such a function. If you just call it with arbitrary parameters, how do you know the current state?

If you really need state inside a function it is better to write a program instead and have it return a value (you can pass a variablename as a string and store the result into it or you can create some global variables in a special directory an modify these.)

>> 5. very deeply recursively defined, overflowing the built-in subroutine stack.

That can probably be better handled by unrolling the recursion into a loop.

>> 6. which needs some input at some point (yes, this one is weird)

You'll need to rewrite it as a program. It's better to collect al input beforehand and pass the values to the function.

>> 7. not numeric, but handling the user interface (example CreateWindow()...)

Again better suited to a program instead of a function.

>> By the way, procedures cannot access the caller's local variables either,
>> and there is NO EXCUSE for this.

There is an excuse! At least for functions which are called from somewhere but are defined elsewhere. How should these functions ever know about local variables defined in the *calling* function or program? I agree partly in that it is very restrictive that even local programs cannot access the local variables of their defining program.

There is a paradigm called "Functional Programming" (Wikipedia) which relies totally on side effect free coding. Everything is treated as a function!

Marcus

Edited: 2 Feb 2006, 9:06 a.m.

4-line displays (was Re: Preferred TI calculator???)

*Message #33 Posted by **Valentin Albillo** on 2 Feb 2006, 9:43 a.m.,*
in response to message #30 by Marcus von Cube, Germany

Marcus wrote:

" hat would be equally true for the TI-74. As a student I was looking for such a beast and came

across the Casio PB-700. Nice screen, reasonable keyboard but way to slooooooooow."

> The SHARP models PC-1350, PC-1360, PC-1600, and PC-E500/E500S, among others, all have 4-line, dot-matrix quality graphical displays. And none of them is 'slow', quite on the contrary the SHARP PC-E500 is among the fastest vintage handhelds you can find. It's really fast, some 4 times faster than an HP-71B.
>
> Nevertheless, as I have as many as four or five SHARP PC-1350 models, all acquired *en-masse* in eBay for peanuts from a seller that was clearing some obsoleted surplus military equipment (which used preprogrammed PC-1350 for artillery computations), I use one of them all the time, as an all-use, scratch machine, and it's as comfortable, easy to use, and powerful programming and calculator environment as it gets.
>
> I did enter several very short programs I specifically wrote to compute integrals (Gauss), solve for roots (enhanced Newton) and do matrix inversion, and I can do with it most anything I want or need, very fast, and still got 12 Kb or so for one-shot programs or variables.
>
> And the extreme usefulness and ease of programming afforded by the 4-line screen can't be stressed enough, a real pleasure. Getting back to the 22-char, 1-line display of the HP-71B feels unbearably cramped in comparison.

"Another very interesting machine is the Casio PB-2000C which is programmable in a C dialect (pre ANSI, no switch/case)"

> I do own a Casio PB-2000C. It features a pretty good, standard C language, with filesystem and all, but unfortunately it always runs interpreted instead of compiled, so if you're used to fast, compiled C programs you'll find it slow in comparison. It also accepts plug-in modules, and one of them does provide BASIC language programming so you get the best of both worlds in a single machine.
>
> Matter of fact, I'd rather prefer HP had issued a **C/Assembler ROM** for the HP-71B instead of the actual FORTH/Assembler ROM. After all, there's also a full FORTH-language system in the 41C Translation ROM, so who needs two incompatible, distinct FORTH implementations ? :-)

Best regards from V.

Edited: 2 Feb 2006, 9:52 a.m.

Preferred TI calculator??? Oxymoron right? 8-)

*Message #34 Posted by **Matt Kernal (US)** on 31 Jan 2006, 12:43 p.m.,*
in response to message #1 by Namir

Preferred TI calculator??? "Does not compute", said the mechanized female voice (known only as "computer") from the original 60's Star Trek episodes. j/k :-)

Matt

ps. OK, I'll admit I had a TI30 in middle school in the seventies. Currently have a TI Programmer (also from the 70's), a TI ProCalc95 w/ printer, a TI92, and a TI Voyage200. Anyone interested in any of these (trades for HP's preferred)?

Re: Preferred TI calculator??? Oxymoron right? 8-)

*Message #35 Posted by **Palmer O. Hanson, Jr.** on 4 Feb 2006, 10:53 p.m.,*
in response to message #34 by Matt Kernal (US)

I have a like new made in the USA HP-12C in a slip case with a spiral bound manual. Is your equipment in working order? I don't need the TI-30.

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Your preferences between the 10, 41 and pioneers

*Message #1 Posted by **Joe Edwards** on 27 Jan 2006, 3:05 p.m.*

Hey folks, Sorry to be "hogging" the board this week, but you folks are the only resource I really can find regarding the HP calcs. This question isn't so much about the capabilities, per se, of the calcs, but instead about your preferences between the models.

It seems that the 10 (voyager?) and the pioneers series have a strong following. It seems the 41 series does as well. I am curious about why folks would prefer on over the other - not necessarily based on capabilities alone.

This really isn't research, but just information gathering for my personal interest. Thanks.

Re: Your preferences between the 10, 41 and pioneers

*Message #2 Posted by **Garth Wilson** on 27 Jan 2006, 3:51 p.m.,*
in response to message #1 by Joe Edwards

The one thing that made me move from the TI-59 to the HP41cx was the 41's I/O capability. I wanted a hand-held controller. I already had a calculator-- not that the TI-59 was as good a calculator, but it was acceptable for my work.

Re: Your preferences between the 10, 41 and pioneers

*Message #3 Posted by **Namir** on 27 Jan 2006, 4:12 p.m.,*
in response to message #1 by Joe Edwards

The HP41C/CV/CX is my all time favorite. It was the fit HP calculator to use an LCD display AND support alphanumerics. Writing programs that prompt you for input was a major improvement. Continuous memory was also a big plus.

The HP41 has also 4 ports that allowed connecting the calculator to a variety of devices and plugging in all kinds of HP and custom-made modules.

The RPN programming was very good an flexible. The memory was very good at the time it was introduced. I used the HP-41C as a graduate student and in technical testing labs to process statistical data. The HP41 had an adequate number of registers to store my data and allow me to process it in diferent ways.

So there is my 2 cents worth of answer. I still own a few HP41CX that I bought from eBay. My original HP41CX died a few years ago when I spilled coffe on it in my office.

Namr

Edited: 27 Jan 2006, 4:13 p.m.

Re: Your preferences between the 10, 41 and pioneers

*Message #4 Posted by **Joao** on 27 Jan 2006, 4:25 p.m.,*

in response to message #1 by Joe Edwards

Well, my favourite is still the 15c: it fits in my pocket, does everything I need a calculator to do... and it is beautiful!

Re: Your preferences between the 10, 41 and pioneers

*Message #5 Posted by **Chan Tran (USA)** on 27 Jan 2006, 4:32 p.m.,*
in response to message #4 by Joao

Between the 3, I prefer the 41. Unlike a lot of people here, I don't care for any of the voyager. The Pioneer's are OK, and unlike a lot of people I don't care for the 42s either. The 32SII is kind of interesting but for real use it's not that hot. I do like the 48 series but I am not sure that they are considered Pioneer.

HP-41 vs. HP-11/15/32 as calculator

*Message #6 Posted by **Karl Schneider** on 28 Jan 2006, 3:39 a.m.,*
in response to message #5 by Chan Tran (USA)

Chan Tran posted,

> Quote:
>
> ...I prefer the 41. Unlike a lot of people here, I don't care for any of the voyager...

I know, I know, "To each his own"... But here are several practical sample problems worked out on a 41 and on a Voyager:

Problem 1:

Show that arcsin (- sin (x + pi radians)) = x, if -90 deg <= x <= 90 deg)

1. Enter an angle in degrees
2. Convert it to radians
3. Set to radians mode
4. Add pi
5. Take the sine
6. Change sign of result
7. Set to degree mode
8. Take the arcsine

The result should be exactly (or almost exactly) the original angle within the specified range.

```
HP-41C/V/X:                    HP-10C/11C/15C:

(set degree mode if necessary:)

[XEQ][ALPHA]D E G[ALPHA]       [DEG]

(enter the angular value)

[XEQ][ALPHA]D - R[ALPHA]       [->RAD]
[XEQ][ALPHA]R A D[ALPHA]       [RAD]
[PI]                           [PI]
+                              +
[SIN]                          [SIN]
```

```
[CHS]                          [CHS]
[XEQ][ALPHA]D E G[ALPHA]       [DEG]
[SIN-1]                         [SIN-1]
```

[bracketed] keywords are keyboard functions; shift keys are not shown. Which is quicker and easier?

Problem 2:

A lottery game requires the player to correctly pick six unique numbers from the set 1 to 40 to win the jackpot. What are his chances of doing so?

Answer: 1 in COMBination (40, 6) = 3,838,380.00

```
HP-41C/V/X:                    HP-11C/15C:

40                             40
[ENTER]                        [ENTER]
[ENTER]                        6
6                              [Cy,x]
-
[LASTx]
[XEQ][ALPHA]F A C T[ALPHA]
[x<>y]
[XEQ][ALPHA]F A C T[ALPHA]
*
[x<>y]
[XEQ][ALPHA]F A C T[ALPHA]
[x<>y]
/
```

(Of course, this HP-41 procedure could be quickened by assigning the FACTorial function to a key. Unfortunately, this procedure will not work if any argument to FACT exceeds 69. A more-robust algorithm will require the user to write a program.)

Which would you rather have at your disposal during a one-hour probability/statistics exam?

> Quote:
>
> The 32SII is kind of interesting but for real use it's not that hot.

Hmm? It's got all those built-in mathematical functions the 41 is lacking, and it's six times as fast. Built-in SOLVE, INTEG, algebraic expressions, and fractional-number support, as well. Also, it's got microcoded versions of the 41's Math ROM complex-number functions. This allows the creation of real-world solution programs like **this one**.

-- KS

Re: Your preferences between the 10, 41 and pioneers

*Message #7 Posted by **Vassilis Prevelakis** on 27 Jan 2006, 5:01 p.m.,*
in response to message #1 by Joe Edwards

I started with a TI-59 (complete with the PC-100C printer). Neat combination, good specs on paper. But then the 59's keyboard started missing keystrokes and then the card reader had problems, so I got rid of it and switched to an HP-41C (early model with the upright keys and all the bugs). I still have it and it works apart from the 1 key that does not click any more. Throughout the 80s and most of the 90s it was my PDA and alarm clock (then I got a cellphone!).

So I can say that I am an HP-41 fan, but I *really* adore the HP-97. This machine is sooooo beautiful, I have one on my desk right next to my keyboard. This machine has it all.

**vp

Re: Your preferences between the 10, 41 and pioneers

*Message #8 Posted by **Geir Isene** on 27 Jan 2006, 5:07 p.m.,*
in response to message #7 by Vassilis Prevelakis

The problem with most modern PDAs or cell phones is the poor battery life. Anything portable with less than a month battery life just doesn't cut it :)

... Although I also adore the HP-97. It is welded to my desk.

Re: Your preferences between the 10, 41 and pioneers

*Message #9 Posted by **Diego Diaz** on 27 Jan 2006, 5:04 p.m.,*
in response to message #1 by Joe Edwards

Well, what can I say, I'm not a good mathematician, but I love engineering, and from a hardware point of view HP-41 is an "open system" more than a calculator.

This feature allows a whole range of developement choices that goes far beyond its calculator abilities (not short indeed).

No other device in its class can cope with that, many surpass it in speed or math functionality though, but its posibilities are only limited by your imagination and ingenuity, and some people here are certainly very "imaginative"... ;-)

Cheers.

Diego.

Re: Your preferences between the 10, 41 and pioneers

*Message #10 Posted by **Geir Isene** on 27 Jan 2006, 5:04 p.m.,*
in response to message #1 by Joe Edwards

For the most types of work I do with a calculator: HP-41CX. It is my PDA, my alarm clock, my statistics analyzer, my note-keeper and my programming environment for all sorts of programs from games and role-playing character creation to equation programs.

For work, I use the HP-97. It is my most sturdy calculator. I use it for statistics, business decisions, quick calculations - it has the convenient built-in printer.

For quick business calculations at work, I use the HP-38E.

Not had much interest in the Voyagers or the Pioneers.

Had high interest for the HP-48, but that sort of faded.

Re: Your preferences between the 10, 41 and pioneers

*Message #11 Posted by **Howard Owen** on 27 Jan 2006, 5:06 p.m.,*
in response to message #1 by Joe Edwards

I don't think anyone here will fault you for asking that we give our opinions about vintage HP calculators. We do it all the time without being asked! 8)

As a calculator enthusiast first, and a collector second, my favorite among the three is the HP-41. This is partly because that was the first machine I learned to program on, partly because it was very advanced for its day, containing lots of computer-like features, and partly because continuing interest in the machine means there are lots of options for obtaining *new* hardware to do cool and interesting things. I'm thinking mainly of the MLDL (Machine Language Development Lab) add-ons like Clonix/NovRAM and MLDL2000. These allow the user to load practically any add-on ROM module ever built for the 41C, provided the bits are available. Most old modules are available as compuer files, so we get to enjoy add-ons that used to be rare and expensive, like HEPAX, CCD, AECROM, PPC ROM and others. And we also get to use *new* ROMs built by other enthusiasts with the MLDL add-ons. There's also the fact that 41C machines and peripherals are plentiful on eBay and elsewhere.

The other two models you mention have their virtues too. For programmability, I prefer the HP42S, which was the top of the line Pioneer scientific. It represents the zenith of the RPN keystroke programming model. I've coded a 1500 line program on that machine, and enjoyed (almost) every minute of it. The Voyager series has the best form factor of any calculator ever made, in my opinion. the 11C, 15C and 16C all have special characteristics that appeal to me.

But the HP-41 still wins. It's my sentimental favorite, and it has a vibrant and productive community behind it right now. For me, the combination is hard to beat.

Regards,
Howard

Re: Your preferences between the 10, 41 and pioneers

*Message #12 Posted by **Richard Garner** on 27 Jan 2006, 5:11 p.m.,*
in response to message #1 by Joe Edwards

My first HP was a 41CX, then I got a 15C as a backup if something happened to the 41CX during class. The 15C is a very capable device, but it is not as versital as the 41CX. I later got a 42S and really fell for it. The 42S had program compatability with the 41CX and it fit nicely in the shirt pocket. I have sense gotten a 48GX because of the unit conversion, but my faverates are the 42S first and then the 41CX. If HP made a new version of the 42S with more memory, the 48G unit conversions and a PC interface, I would buy at least 3. 1 for home, 1 for office and 1 always in my pocket.

Re: Your preferences between the 10, 41 and pioneers

*Message #13 Posted by **e. young** on 27 Jan 2006, 6:06 p.m.,*
in response to message #1 by Joe Edwards

For me, my favorite has been the 32SII (a Pioneer). I haven't needed a lot of power in my calculator like many of the others here. Mostly I am doing lots of chain calcs with relatively simple terms. I really like the equation capability. I have an equation in it that dierectly calculates the area of steel for reinforced concrete-a huge time saver for me. I also like the solver. I was also a fan of the 11C, but I prefer the 32SII because it is faster. My prefered design is the voyager series, I really like the landscape layout.

My ideal calc would be if you combined a voyager and a pioneer. Give me the form factor of the voyager and the functionality of the pioneer and I will buy MANY.

Re: Your preferences between the 10, 41 and pioneers

*Message #14 Posted by **Jim Creybohm** on 27 Jan 2006, 7:10 p.m.,*
in response to message #1 by Joe Edwards

Like many others posting, I have tried all three types of calculators. Me, I prefer the 41 for many of the same reasons cited. The alphanumeric capability was a BIG help when packing many small programs for field calculations. The addition of I/O and external storage didn't hurt either. Adding the Petroleum Pac and for a petroleum engineer you had much joy. I would have liked more built in math functions, but this could be solved using the Math Pac.

The Voyagers never really appealed to me, primarily because I had trouble getting used to the vertical Enter key and I couldn't program the prompts like the 41. But I did like the form factor, and much preferred the display to the robotic 41.

I used the 32 and really enjoyed its speed. I would say that in order of preference mine was the 41, then the 32S and then the 11/15. Since that time I have also started using the 48, and while it is powerful, it also suffers from a convoluted menuing system (locating the percent key for example is a circus) and a poor display (mine is the blue display - I have been told that the black display is much better).

Re: Your preferences between the 10, 41 and pioneers

*Message #15 Posted by **blurdybloop** on 27 Jan 2006, 9:33 p.m.,*
in response to message #1 by Joe Edwards

I'm gonna be an old fart here. In all fairness, "your mileage *will* vary..."

I feel that perfection was achieved in the HP-35.

The HP-35 did everything that I have ever needed out of a calculator. It had an incredibly clean key layout. It had standard mode display, with a 10 digit mantissa even when there was an exponent. It completely replaced a slide rule.

I disliked the HP-45 from the onset. First and foremost, they took away standard display when they added SCI and FIX. Second, too many things were shifts. I notice that today HP-45 commands a much lower price on eBay than HP-35.

The HP-65 is, of course, special because it's programmable.

In the next series they took away two digits from the mantissa. The current models (HP-30S, HP-33S) give you 10 digit mantissas again, but both have cluttered, poorly-designed key layouts and the HP-30S is algebraic (ugh) and the HP-33S has that hideous chevron.

The Voyagers have a nice form factor, but are still cluttered and have the 8 digit mantissa. I haven't really used an HP-15c enough to judge its capabilities fairly, but the HP-16c has proven useful to me when programming.

Re: Your preferences between the 10, 41 and pioneers

*Message #16 Posted by **Don** on 27 Jan 2006, 9:57 p.m.,*
in response to message #15 by blurdybloop

The 41CX. My first HP programmable was the 41C. My HP41cx, as well as 41C sit on my desk and I use them daily. The thing that sets the 41 series apart for me is how they feel in my hands. They just feel so natural. And I learned to program with the 41....it has the card reader on it but no longer use that. The calculator I use most though is the HP10B. The very best financial calculator for the money and I have lots of other HP financial calculators.

Best wishes

Don

Perfection achieved in the HP-35?

*Message #17 Posted by **Karl Schneider** on 29 Jan 2006, 3:09 a.m.,*
in response to message #15 by blurdybloop

"blurdybloop" posted,

> Quote:
>
> I feel that perfection was achieved in the HP-35.
>
> The HP-35 did everything that I have ever needed out of a calculator. It had an incredibly clean key layout. It had standard mode display, with a 10 digit mantissa even when there was an exponent. It completely replaced a slide rule.

You can't be serious!

OK, let's define the objective as a basic, straightforward, non-programmable scientific calculator. Granted, the HP-35 was a revolutionary product and a very impressive first effort. But, where might it fall short of perfection?

- Most keys are too small, even though plenty of space is available on the faceplate.
- Most (early) keys did not contrast very well with the faceplate.
- No radians or gradients angular mode.
- No % or delta-% functions.
- STO disables stack push unnecessarily.
- x^y may be visually intuitive, but not in usage.

We won't even begrudge its power-hungry LED display and lack of continuous memory, because the technology of the time did not permit better. It had only one memory register, but didn't really need more.

> Quote:
>
> I disliked the HP-45 from the onset. First and foremost, they took away standard display when they added SCI and FIX.

What's wrong with those? They use less battery power, and reduce clutter by showing the user only the meaningful digits. It's nice that FIX and SCI were unshifted -- very convenient.

As for "standard display", that was restored in the Pioneer models as the "ALL" display format.

> Quote:
>
> The HP-65 is, of course, special because it's programmable.

But a poor, impractical programming paradigm (which unfortunately got carried over to the HP-10C and HP-12C). The HP-67's was much better; it was carried over to the Spice and the other three Voyager models.

> Quote:
>
> In the next series they took away two digits from the mantissa...
>
> The Voyagers have a nice form factor, but are still cluttered and have the 8 digit mantissa.

The full mantissa (without exponent and sign) can be viewed on the HP-34C using "MANT" and on Voyyagers using "CLEAR PREFIX".

I think that the Voyager faceplate/keyboards were quite well organized, even if function-packed with two shift keys. But, if simplicity is synonymous with "uncluttered", the 10C's single shift key made for a clean layout. If only it were nonprogrammable, and had a few more functions...

-- KS

Re: Perfection achieved in the HP-35?

*Message #18 Posted by **Joe Edwards** on 29 Jan 2006, 9:14 a.m.,*
in response to message #17 by Karl Schneider

While I appreciate your love of your machines, I would hate to see this thread turn to a flame-war due to a misunderstanding. Leave that for some of the lesser forums. :)

We are interested in folks reasons for using the calcs, not bashing them due to their choice. Everyone has their own personal preferences. Let's leave them to enjoy those preferred machines.

HP-35 "perfection": Not my intent...

*Message #19 Posted by **Karl Schneider** on 29 Jan 2006, 3:32 p.m.,*
in response to message #18 by Joe Edwards

Joe --

Sorry if the tone was a bit direct, but some assertions were made that called for challenge, IMO. Nobody is being "bashed" -- and "blurdyploop"'s posts have been pretty good, as I remember.

First efforts rarely achieve perfection, as I think almost all of us would agree. HP had valid and practical reasons for changing "x^y" to "y^x"; for adding FIX, SCI, and ENG; for making keys larger and rectangular; and for retaining stack push on STO.

All those changes improved practical usability, inspired by customer experience and input. It was part of the maturation process of the product.

Regards,

-- KS

Re: Your preferences between the 10, 41 and pioneers

*Message #20 Posted by **Les Bell** on 27 Jan 2006, 9:49 p.m.,*
in response to message #1 by Joe Edwards

The alpha display of program steps on the 41C was the killer leap forward. The form factor isn't as pocketable as the voyager series, but the availability of application modules, solutions books, the software library and of

course the peripherals and I/O much more than compensate.

41, all the way!

Best,

--- Les
[http://www.lesbell.com.au]

Re: Your preferences between the 10, 41 and pioneers

*Message #21 Posted by **Karl Schneider** on 28 Jan 2006, 2:12 a.m.,*
in response to message #1 by Joe Edwards

Hello, Joe --

As a fairly-accomplhished collector of what I consider the "golden era" of HP calc's, I have to weigh in...

> Quote:
>
> It seems that the 10 (voyager?) and the pioneers series have a strong following. It seems the 41 series does as well. I am curious about why folks would prefer on over the other - not necessarily based on capabilities alone.

Voyagers:

I have the complete line, at least one of each model: 10C, 11C, 12C, 15C, 16C. The 12C is a financial model, and the 16C is a special-purpose computer-science model. The 15C is the premier advanced scientific model, eclipsing the 10C and 11C.

Pioneers:

The only RPN scientific models are the 32S, 32SII, and 42S. I have one of each. The 42S is the most capable, and can run most 41C/V/X RPN programs. However, the 32S and 32SII are easier to read and use.

41C/V/X:

I have one of each, perferring the older (1979-85) "fullnut" desing for their sharp displays and crisper keys.

COMPARISONS:

The 41's excel in their plug-in expandability, many supported I/O devices, and the most-advanced RPN programmability (shared with the 42S). As pure calculators, though, they can be somewhat cumbersome.

The 15C beats any 41 hands-down as a pure calculator, and cost considerably less, as well. I bought mine new in 1983, after having coveted the unaffordable 41C several years prior. The 15C features four kinds of built-in, easy-to-use advanced functions:

- matrices and linear-system solution
- complex-number mathematics,
- numerical rootfinding
- numerical integration

Every function is on the keyboard -- no spelling or menus -- and the 7-segment display is large, crisp, and legible. The 10C and 11C have the same attributes, but lack the advanced functions, and have diminished

programming capabilities.

The four kinds of advanced functionality were available on the 41C only by installation of plug-in modules.

The 32S and 32SII excel for their user-friendly programmability and Saturn-processor speed (12x that of a 15C; 6x that of a 41C/V/X). Their alphanumeric dot-matrix displays are nearly as legible as the 7-segment display of the Voyagers. The 42S is amazingly capable, but suffers primarily from a poorly-legible display and extensive menuing of functions.

MY VERDICTS:

The 15C is the best-designed pure scientific calculator of the bunch -- the one I'd want to use during an exam that did not require or allow pre-programmed subject-matter application software.

The 32S and 32SII are the ones I'd want at my desk -- as long as a PC with Matlab was available when needed for matrix and complex-number functions.

The 41C/V/X is the best lab or field calculator, to expand with advanced programs that can be securely archived.

-- KS

Edited: 28 Jan 2006, 3:54 a.m.

Re: Your preferences between the 10, 41 and pioneers,

*Message #22 Posted by **marais** on 28 Jan 2006, 5:25 a.m.,*
in response to message #21 by Karl Schneider

No need for excuses, it's our favourite question!

At home I most often use the 12C and the 97. Although I'm an engineer, I nowadays need financial calculations more often than scientific stuff. The 97 is great for its printer, but I admit that it's also a nice and decorative item to have on ones desk.

At work I need complex arithmetics (I'm an EE), but my 15C has become too precious, so I keep a 28C in my desk drawer. I like its alpha display, and appreciate its programming capability for a couple of small programs I can take everywhere. I also keep the IR printer in my drawer, but I only use it for program listings, which means once a year. I consider the 28C keyboard an improvement over the 41, and also much better than the 32/42's keyboards and all that followed.

I find the 41 clumsy, and never felt the need for a full-fledged controller. Even at the time, I found the Casio FX602P superior to the 41.

Oh yes, and my first HP ever was the 16C, which served me well for many years a long time ago, but now rests idle in a special place.

You see how a reply to such a question always turns into a rant...

Andreas

Re: Your preferences between the 10, 41 and pioneers

*Message #23 Posted by **Garth Wilson** on 28 Jan 2006, 7:54 p.m.,*
in response to message #21 by Karl Schneider

> Quote:
>
> It's got all those built-in mathematical functions the 41 is lacking, and it's six times as fast.

You just need the Advantage module. I got my 41cx when they were giving that module out free with it. It's my understanding that they called it that because the 41 was losing the advantage with the 12c having the financial functions, the 15c having the complex-number, matrix, root-finding, and other such functions, and the 16c having things like the base conversions, ANDing and ORing, etc.. So for the 41 to gain back the advantage, they put all this in the Advantage module (although admittedly the 41 is still a little more clumsy at handling complex numbers). I've never had a 15c, but I've read that the 41 with the Advantage module can invert a matrix twice as fast as the 15c. I measured it to be about 25 times as fast as my TI-59 could do it, IIRC. To me, the 41 is generally better as a calculator than the 71 (which does better as a computer), but when I want to do complex-number crunching, I reach for the 71.

41 Advantage ROM vs. Voyager models

*Message #24 Posted by **Karl Schneider** on 28 Jan 2006, 9:46 p.m.,*
in response to message #23 by Garth Wilson

Hello, Garth --

> Quote:
>
> You just need the Advantage module. I got my 41cx when they were giving that module out free with it.

I do, in fact, have one Advantage ROM for my 41C, 41CV, and 41CX (all purchased used since 2002). I also have each of the Voyager models, but only the 15C did I buy new from the store, in 1983.

The Advantage ROM is a 12kB chip with some of its routines as microcoded programs (e.g., SOLVE, INTEG, base conversion functions, and most of the matrix functions), but many others are slow RPN keystroke routines. Still, it is the best HP-made ROM for the 41-series, IMO -- a "must have" for the collector.

SOLVE and INTEG are very well-done, and the library of powerful microcoded matrix routines is impressive. However, the user is still burdened with having to remember the names of the extra routines, and to endure the clumsiness of the RPN routines (e.g., the complex-number functions).

No, "added on" in a handheld calculator is not as good as "built in". Much of the added functionality, moreover, represents only a sample or a limited set of what the respective "dedicated" models offer.

The intuitivity and ease of use of the matrix-math and complex-number functionality on the HP-15C just isn't equaled on the HP-41 Advantage ROM -- trust me. This can be very important on collegiate examinations.

BTW, it's interesting that the Advantage ROM was a "throw in" when you bought your 41CX. One of my colleagues has a 41CX and Advantage Pac from his college days in 1988, but I think he paid for the Pac.

-- KS

Edited: 29 Jan 2006, 3:27 a.m.

Re: Your preferences between the 10, 41 and pioneers

*Message #25 Posted by **Joe Edwards** on 28 Jan 2006, 10:22 a.m.,*
in response to message #1 by Joe Edwards

Wow, I am overwhelmed at the support for the various machines mentioned in this thread. Since posting this thread, I have started to read the Memoirs section of the Museum (interesting stuff). I greatly appreciate all the information and hope to read more.

From '88 to 2003, I owned the 32s (purchased at the University of Texas at Arlington), but never really used it for more than just an RPN calculator. The programming aspect seemed unnecessary during my time in the military. Hence, my 32s acted as a device to balance my checkbook. :(

In 2003, I found this site and was overwhelmed by the variety and history of the HP machines. Since then I have bought and sold several of the models, trying to get a feel for which ones would be the most useful for my return to university (I don't really "need" a graphing). So far my useage has included the following, 32s, 42s, 41cv, 41cx, 11c, 15c, 16c, 20s and my coveted 27s.

While I realize the construction of (eaiser disassembly too) the Voyager series seems more robust and the LCD is very easy to read, I find the layout a bit difficult to use. Maybe this lies with my first calc being the Pioneer model 32s. The 41c models are a special case in that they just have a special "panache" about them. They are harder to use compared to the voyager set, no doubt. The typing in of the functions can get old fast, but it is still a beautiful (if not clunky) machine.

Strangely enough, the 27s has become my "baby". While is is Algebraic, is has a stack and SO MANY FUNCTIONS. And this is where I become confused. The 27s has a SOLVER that lets you input a formula/equation and solve for any variable. Is this any different than the 15c? I have yet to play with the 15c to any extent (just recently giving it a second chance). The 32s SOLVER seems more like the 27s SOLVER.

So, it comes to progammability. How important is it, when compared to the ability of the 27s. I have compared the 15c, the 32s and 27s and it seems that for standard equations, the 27s is the alpha wolf. So where does the strenght of the programming come into play versus just using the SOLVER on the 27s. I have an idea of the differences, but it would be nice to get more details from those who use them. By the way, does anyone here use the 27s?

Thanks.

Joe

Exploiting the 27S Equation editor and SOLVE history

*Message #26 Posted by **Karl Schneider** on 28 Jan 2006, 6:17 p.m.,*
in response to message #25 by Joe Edwards

Joe --

I think that your main question is how to fully exploit the capbilities of the equation editor on the HP-27S and other models. You should get the "HP-27S/19B Technical Applications" book, scanned on the MoHPC CD #1 or DVD. I wish I had a paper copy...

Regarding SOLVE capabilities, here is some history:

The original numerical-iteration SOLVE function was introduced for programmable RPN calculators on the HP-34C in 1979. It requires the user to program a function f(x) as a labeled RPN keystroke routine that takes a value "x" from the stack x-register and leaves f(x) is the output in the x-register. The user provides two first-guesses x_1 and x_2 in the x- and y-registers to SOLVE, wheich then executes the function

repeatedly to obtain the answer.

The SOLVE function was implemented, apparently unmodified, in the HP-15C in 1982, and was adapted with minor changes for the HP-41 Advantage Pac in 1985. The same mathematical algorithms of SOLVE were later adapted with some changes to operating paradigm for the RPN HP-32S, HP-32SII, and HP-42S.

The algebraic HP-17B, HP-17BII, HP-18C, HP-19B, HP-19BII, and HP-27S do not have keystroke programmability. However, these high-end Pioneer-series models do have high-resolution multi-line dot-matrix displays that provide up to six alphanumerically-legended softkey menu items in the bottom row of the display.

SOLVE on these algebraic models is the same: The user must define the function to be solved as an algebraic expression. SOLVE will validate and parse the expression, and provide a convenient means via the menu for the user to initialize the fixed variables and select the variable to be solved. A direct algebraically-derived (instead of numerically iterated) solution will be returned if the calc deems possible.

The algebraic HP-22S has a coarse one-line dot-matrix display that does not support the alphanumeric legends for menus. However, a less-sophisticated expression-entry capability with SOLVE was provided. This was later ported to the HP-32SII, complementing its RPN-keystroke programming capabilities.

SOLVE on the HP-33S has all the capabilities of the HP-32SII, with the addition of the algebraic direct-solution logic.

Some additional info about SOLVE (primarily for RPN models) is available in **my MoHPC article**.

Regards,

-- KS

Edited: 29 Jan 2006, 3:32 p.m.

Re: Exploiting the 27S Equation editor and SOLVE history

*Message #27 Posted by **bill platt** on 31 Jan 2006, 10:59 a.m.,*
in response to message #26 by Karl Schneider

Hi Karl, Nice summary :-) Regards,

Bill

Re: Your preferences between the 10, 41 and pioneers

*Message #28 Posted by **bill platt** on 31 Jan 2006, 10:58 a.m.,*
in response to message #25 by Joe Edwards

I have a 27s and I do use it. I like the solver and large memory along with scientific functions. It is great for anything that can be solved with a solvable equation. But I use the voyagers/pioneers mostly, for their keystroke programming which is useful for keyboard shortcuts and programs that streamline repetetive tasks.

I also have a 17bii which is nearly identical in functionality except that it is RPN and missing the scientifics. The one notable difference in operation between the 17bii and the 27s is that in the 27s, there is no "swap" function. This is unfortunate. It means that you have to store, roll down, recall, instead of swapping. Interestingly, the swap on the 17bii works whether it is in "Alg" or RPN. (of course the Alg on the 17bii is not alg--it is simple infix with no precedence) .

The other great thing on both the 17b(ii), the 19b(ii) and the 27s is the "STAT" (27s) also known as "SUM" (17b) which makes the whole process of going through a checking account while not at a comuter so much easier!

Regards,

Bill

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Strange problem with Nov32 / Hepax

*Message #1 Posted by **giastar** on 27 Jan 2006, 7:59 a.m.*

I use my Nov-32 with Hepax to store Focal programs, executing them within Hepax. I've been working in this way for several months without problems.

Last night I allowed the batteries to run down (forgot I'd executed "ON"). This morning the batteries were flat. The Hepax contents were all there thanks to the Nov-32. I cleared the HP41 memory to be safe, and started work...

Now the strange bit: The Focal programs in Hepax cannot be directly executed as before. They have not been corrupted: if I COPY to main memory they run as expected. But when I attempt to run a program in Hepax it returns immediately, without any error message but without executing any of the program. BUT, if I GTO that program and press R/S it runs correctly!

It seems to be only the ability to execute Hepax programs directly that has been affected. This applies both to my original programs and a test program I just created and saved to Hepax. Any ideas, before I resort to reprogramming the Nov32 from scratch?

Re: Strange problem with Nov32 / Hepax

*Message #2 Posted by **giastar** on 27 Jan 2006, 10:33 a.m.,*
in response to message #1 by giastar

More info:

I have tried the Nov32 in a different HP41, with the same results, so the problem appears to be corruption of the Nov32 contents.

If I manually execute a program in Hepax memory using GTO xx followed by R/S then programmable key assignments to labels in that program don't work but show an XROM code, e.g. XROM 63,12.

Re: Strange problem with Nov32 / Hepax

*Message #3 Posted by **Diego Diaz** on 27 Jan 2006, 2:19 p.m.,*
in response to message #2 by giastar

Hi,

Certainly, this is a weird behavior. Not so strange due to the fact that the system has been brought to an unpowered state in very irregular way: i.e. leaving the batteries runnig out overnight.

NoV-32 is not designed to face such situation and, although not harmful to the hardware itself, it may well have led NoV-32's RAM contents to a corrupted state.

With this in mind, I'm affraid that your better choice is to erase NoV-32's RAM pages and reload the programs. Sorry for the bad news.

As you're handling FOCAL programs you could move them to main RAM and use a card reader to avoid re-typing.

Please let us know about the results.

Cheers.

Diego.

Re: Strange problem with Nov32 / Hepax

*Message #4 Posted by **giastar** on 27 Jan 2006, 4:10 p.m.,*
in response to message #3 by Diego Diaz

Thanks, Diego. I'll try this later. No time at the moment as I'm working to a deadline, and fortunately the Focal programs I'm using for this job will fit (just!) in main memory.

This is indirectly related to the fact that Nov32 doesn't like the auto-off function of the HP41. So I normally manually execute "ON" to be safe - this time I forgot to switch off and the charger wasn't plugged in either. Ooops.

Is there any way to support auto-off or is this a fundamental limitation of the HP41's expansion bus?

Peter

Re: Strange problem with Nov32 / Hepax

*Message #5 Posted by **Diego Diaz** on 27 Jan 2006, 4:52 p.m.,*
in response to message #4 by giastar

Hi again,

I'll need a while to check my code database, but I think I fixed the auto OFF bug, both for NoVRAM and NoV-32!! At least I'm positive I did for the NoVRAM code, but I may have forgotten updating the NoV-32 code, oops sorry if this was the case...

For the records, this was not a limitation of the 41 I/O interface whatsoever, on the contrary, PWO and SYNC lines perfectly define the HP-41 power state in any case. However, as NoV's are designed to minimize power drain, I leave PIC processor into sleep as soon as PWO goes low, thus, handling the SYNC line to detect Auto OFF, msut be done via interrupt to allow PIC "wake-up".

It took a nice code compression effort to make enough room for the interrupt handling routine that allows such handling. I finally got the time to rethink the power management and write the appropriate line by '05 3rd quarter, while I was dealing with NoV-32 developement.

In any case, you won't need to execute "ON", should your 41 goes to Auto OFF, just unplug NoV-32, plug it again and turn your calc ON. It won't lose a single bit, granted.

Best wishes.

Diego.

Re: Strange problem with Nov32 / Hepax

*Message #6 Posted by **giastar** on 27 Jan 2006, 5:12 p.m.,*
in response to message #5 by Diego Diaz

> I think I fixed the auto OFF bug, both for NoVRAM and NoV-32!!

That's excellent news! This was the only problem I had with the otherwise excellent Nov32. It's made the HP41 much more useable - no need to mess around with card reader etc except for occasional backups.

Unfortunately the unplug/plug/power-on routine didn't work reliably for me, occasionally resulting in a high-current state in the Nov32 which would pull down the supply and corrupt the HP41 memory. That's why I usually execute ON to be safe. (we discussed this by email a few weeks ago: I'm peter at giastar com.) So support of auto-off is very useful.

I'll download the latest Nov32 firmware before continuing with this. Perhaps you could confirm when/whether the auto-off fix is included in the Nov32 firmware - I don't mind waiting for this, my NOV32 is still working fine as a non-volatile memory, I just have to COPY any stuff I'm using to main memory first.

Peter

Edited: 27 Jan 2006, 5:13 p.m.

Re: Strange problem with Nov32 / Hepax

*Message #7 Posted by **Howard Owen** on 27 Jan 2006, 6:35 p.m.,*
in response to message #5 by Diego Diaz

Hi, Diego,

Does the latest Nov32 code have the sleep mode fix? I'm still using the original version I got with the module, and it has the problem with deep sleep on the mainframe.

Regards,
Howard

Re: Strange problem with Nov32 / Hepax

*Message #8 Posted by **Diego Diaz** on 28 Jan 2006, 6:57 p.m.,*
in response to message #5 by Diego Diaz

Hi,

I've had to dig a bit into my "old versions" directory to find out what happened to the *Auto-OFF bug free* version of "NoV-32-H.asm".

Finally I manage to re-create the "crime scene" :-)

- I wrote the code for NoV-32 based on NoVRAM (obviously), this code was intended to provide enable/disable features at page (4k) level.

- Then I modified the NoVRAM code to fix Auto-OFF bug.

- Modify the NoV-32 code in the same way

- At this point page enable/disable feature revealed unreliable and I rush to correct that.

- I modified NoV-32 again to allow "block" (16K) swapping... but (here it the point) I did it on

the file that wasn't been modified with the code to fix Auto OFF bug... Ouch!!

Please accept my apologise, I'm confident I can rebuild a bug free version for NoV-32 along next week.

Best regards.

Diego.

Re: Strange problem with Nov32 / Hepax

*Message #9 Posted by **giastar** on 29 Jan 2006, 9:04 a.m.,*
in response to message #8 by Diego Diaz

Ooops! Anyway, it's really good news that auto-off will soon be working on the Nov32. This module has transformed my HP41, which is still the calculator I reach for when I want to do serious work.

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HP-92 ac charger

*Message #1 Posted by **Don** on 26 Jan 2006, 8:21 p.m.*

Just got an hp-92 as a gift and it doesn't have the ac charger. The battery pack looks nearly new and there is no corosion inside the battery compartment. Any idea where I can get the ac charger or possibly modify a charger? Any suggestions would be appreciated.

Re: HP-92 ac charger

*Message #2 Posted by **Gene Wright** on 26 Jan 2006, 10:03 p.m.,*
in response to message #1 by Don

the HP92 uses the same charger as the HP97, HP91, HP19C, and the HP peripheral printer, cassette drive and HPIL printer.

These are fairly easy to find, since they were used for so many machines.

Best place might be either the classifieds here or on ebay.

Good luck! Gene

Re: HP-92 ac charger

*Message #3 Posted by **Don** on 26 Jan 2006, 11:22 p.m.,*
in response to message #2 by Gene Wright

Thanks Gene & Eric, will try E-Bay and maybe someone in classifieds will see this and respond.

Best wishes

Don

Re: HP-92 ac charger

*Message #4 Posted by **Eric Smith** on 26 Jan 2006, 10:21 p.m.,*
in response to message #1 by Don

The US adapter went through several versions. Look for HP part number 82059B through 82059D. The adapters for other countries are the 82066 (220V Europe), 82067B (230V UK), 82068 (220V Australia), and 82069 (not sure where?).

Re: HP-92 ac charger

*Message #5 Posted by **Don** on 26 Jan 2006, 11:42 p.m.,*
in response to message #4 by Eric Smith

Went to E-Bay and found one for $14.94 delivered to my mailbox, so I bought it. Thanks to both of you

for sharing your knowledge.

Best wishes

Don

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Gene Wright's Book

*Message #1 Posted by **Charles Howlett** on 26 Jan 2006, 4:26 p.m.*

Gene, are you out there? Tried to order the following from Amazon, but they say it's no longer available from any of their sources. Any help would be appreciated, thank you.

Gene Wright "Quantitative Analysis For Business: The Time Value of Money and Basic Business Statistics Using a Business Calculator, 3rd Edition"

Re: Gene Wright's Book

*Message #2 Posted by **Gene Wright** on 26 Jan 2006, 10:02 p.m.,*
in response to message #1 by Charles Howlett

Lol. It is back on Amazon now. I had let it fall off the listings. Oops.

Re: Gene Wright's Book

*Message #3 Posted by **Marcus von Cube, Germany** on 27 Jan 2006, 7:35 a.m.,*
in response to message #2 by Gene Wright

Hi Gene,

I just tried to order your book but Amazon refuses to ship to Germany. Any ideas?

Marcus

Re: Gene Wright's Book

*Message #4 Posted by **Gene** on 27 Jan 2006, 8:07 p.m.,*
in response to message #3 by Marcus von Cube, Germany

Hi Marcus. Email me and we'll work it out. :-)

Re: Gene Wright's Book

*Message #5 Posted by **Charles Howlett** on 27 Jan 2006, 6:57 p.m.,*
in response to message #2 by Gene Wright

OK -

I just placed the order through Amazon, again. Thanks for your timely response.

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Bee-yoo-tee-full 10C on eBay

*Message #1 Posted by **Howard Owen** on 25 Jan 2006, 11:31 p.m.*

And only $59.00. Makes me queasy just looking at the pictures.

10C, only $59.00 BIN

Edited: 25 Jan 2006, 11:32 p.m.

Re: Bee-yoo-tee-full 10C on eBay

*Message #2 Posted by **Vassilis Prevelakis** on 25 Jan 2006, 11:51 p.m.,*
in response to message #1 by Howard Owen

at least there is no doubt that the pictures are original :-)

**vp

Re: Bee-yoo-tee-full 10C on eBay

*Message #3 Posted by **David Smith** on 26 Jan 2006, 1:01 a.m.,*
in response to message #2 by Vassilis Prevelakis

I don't know... looks like another person ripping off HPMUSEUM photos to me ;-)

Re: Bee-yoo-tee-full 10C on eBay

*Message #4 Posted by **Hal** on 26 Jan 2006, 12:05 a.m.,*
in response to message #1 by Howard Owen

Looks like it was (well) used in the space program...as a blast deflector. Or perhaps it spent some time on the bottom of the space shuttle (like during a re-entry). Hal :)

Re: Bee-yoo-tee-full 10C on eBay

*Message #5 Posted by **Namir** on 26 Jan 2006, 1:20 a.m.,*
in response to message #4 by Hal

Hal,

You are on to something .... perhaps it was used to collect comet dust (shown in the eBay picture) for the probe that just came backto earth???? If that's true, this baby can be worth millions!!!!!!!!!!

Re: Bee-yoo-tee-full 10C on eBay

*Message #6 Posted by **Gerson W. Barbosa** on 26 Jan 2006, 8:38 a.m.,*
in response to message #5 by Namir

If such is the case, isn't it a real V'ger?

Re: Bee-yoo-tee-full 10C on eBay

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 26 Jan 2006, 12:53 a.m.,*
in response to message #1 by Howard Owen

This babe deserves a better place to rest... in 'pieces'. (sig)

<|8^[

Luiz (Brazil)

Re: Bee-yoo-tee-full 10C on eBay

*Message #8 Posted by **Namir** on 26 Jan 2006, 1:24 a.m.,*
in response to message #1 by Howard Owen

The folks at CSI HP say that the 10C in that auction has lepracy!

Re: Bee-yoo-tee-full 10C on eBay

*Message #9 Posted by **Howard Owen** on 26 Jan 2006, 6:47 a.m.,*
in response to message #1 by Howard Owen

Well, someone bought the poor thing.

It's odd, the case looks like it's been through hell, but the buttons are clean. And he claims it passes the self tests. Tsk.

Re: Bee-yoo-tee-full 10C on eBay

*Message #10 Posted by **Paul Brogger** on 26 Jan 2006, 12:04 p.m.,*
in response to message #9 by Howard Owen

I'm guessing an extended period of exposure to moisture (high humidity perhaps?) or maybe something caustic. It looks like the aluminum faceplate is extensively oxidized, with loss of ~50% of the black background. Someone has tried to fix that with a marker. (I recognize *that* from my own attempt to hide scratches on the face of the first HP-48 I disassembled -- oooops!)

If that is the case (very punny!), it's not surprising that the keytops look relatively unaffected. (What *is* surprising, however, is that it still works -- if indeed lots of moisture is the culprit.)

Re: Bee-yoo-tee-full 10C on eBay

*Message #11 Posted by **bill platt** on 26 Jan 2006, 10:30 a.m.,*
in response to message #1 by Howard Owen

Somebody, please archive these pictures somewhere!

It is a great example of the indestructibility of the voyagers...fantastic!

He even displays the self-test results--- a "10" in the middle of the display.

Edited: 26 Jan 2006, 10:30 a.m.

Re: Bee-yoo-tee-full 10C on eBay

*Message #12 Posted by **Les Bell** on 26 Jan 2006, 10:40 p.m.,*
in response to message #1 by Howard Owen

Looks like the worst case of youthful acne I've ever seen. Still, in a few years, it should grow out of it.

Best,

--- Les
[http://www.lesbell.com.au]

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What is the newest HP 49g+ model

*Message #1 Posted by **Joe Edwards** on 25 Jan 2006, 10:25 p.m.*

As per the subject, what is the most current iteration of this HP 49g+ calculator? I looked at a couple of units, but I couldn't find any identifying marks. Serial number? Packaging?

How does the HP 48GII compare? The serial port seems to be rather archaic compared to the 49g+'s USB port. The 48GII looks better, but that isn't really important. :)

Thanks in advance.

Joe Edwards

Re: What is the newest HP 49g+ model

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 25 Jan 2006, 11:06 p.m.,*
in response to message #1 by Joe Edwards

Hi, Joe;

I own one of each, and my HP49G+ seems to be from the the first lote or close to it. After uploading the newer, 2.0 OS version, it seems to me it is more stable, more reliable. It used to miss keys frequently, I don't remember having this happening enough times to bother me after the upgrade.

About the HP49G+, what I actually take as big advantages over the HP48GII are:

1 - memory space - more than 1MBytes available, expandable through SD card; the HP48GII reduces the user RAM to about 80KBytes;
2 - upgradable OS;
3 - larger LCD - the HP49G has extra lines (don't recall how many), enough to show 7 stack levels (medium font size) against 5 in the HP48GII.

As you mentioned, the HP49G+ has USB connection against RS232 in the HP48II. If you are using old computers, they all have RS232 and you should add extra hardware plus drivers to add connectivity support for the HP49G+, while it is easier to the HP48GII. Interesting: both share the same connector, meaning you can use ones cable in the other. Not necessary to mention that it does not mean one connecting through the other door...

I also agree with the look.

Others will surely add their impressions.

Cheers.

Luiz (Brazil)

Edited: 25 Jan 2006, 11:20 p.m.

Re: What is the newest HP 49g+ model

*Message #3 Posted by **GE** on 26 Jan 2006, 4:14 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Thank you for some light on this subject. What is the best way to determine the 'generation' of an HP49G+ from the outside (prior to buying) ?

Re: What is the newest HP 49g+ model

*Message #4 Posted by **Joe Edwards** on 26 Jan 2006, 9:39 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

I also appreciate the detailed information, but I'm still at a loss as to determine which interation of the 49g+ is which from the outside blister pack. Thanks.

Joe

Re: What is the newest HP 49g+ model

*Message #5 Posted by **Tim Wessman** on 26 Jan 2006, 9:48 a.m.,*
in response to message #4 by Joe Edwards

The latest models have a silver sticker on the back with a serial number. Anything without the sticker will be from older stock.

TW

Re: What is the newest HP 49g+ model

*Message #6 Posted by **Joe Edwards** on 26 Jan 2006, 10:05 a.m.,*
in response to message #5 by Tim Wessman

Thanks. I will check out the units at my bookstore today. Must remember...silver sticker.

Take care.

Re: What is the newest HP 49g+ model

*Message #7 Posted by **GE** on 26 Jan 2006, 12:05 p.m.,*
in response to message #6 by Joe Edwards

As sawn at my "dealer" : not sticker = no sale
Only 199 Euros, too !!!
Maybe next year when Europe is no longer an aftermarket for remains of other more lucky countries.
HP calc distribution in a severe state of distress.

Re: What is the newest HP 49g+ model

*Message #8 Posted by **Wayne Brown** on 26 Jan 2006, 10:05 a.m.,*
in response to message #1 by Joe Edwards

Quote:

> The serial port seems to be rather archaic compared to the 49g+'s USB port.

In my opinion, other than the *marginally* better looks, the serial port is the only thing the 48GII has going for it.

Re: What is the newest HP 49g+ model

*Message #9 Posted by **Joe Edwards** on 26 Jan 2006, 6:00 p.m.,*
in response to message #8 by Wayne Brown

I guess I should ask this question to clarify my confusion. The the serial/usb connections on the 48GII and 49g+ hardware specific to the calculator or is the only difference the cable? Also, is it correct that the 49GII isn't firmware upgradeable? Thanks.

Joe

Re: What is the newest HP 49g+ model

*Message #10 Posted by **Gene Wright** on 26 Jan 2006, 10:50 p.m.,*
in response to message #9 by Joe Edwards

1) Different port connectors - so the internals of the calculator are different.

2) The serial port hp48gII is not firmware upgradable.

Re: What is the newest HP 49g+ model

*Message #11 Posted by **Joe Edwards** on 27 Jan 2006, 8:21 a.m.,*
in response to message #10 by Gene Wright

> Quote:
>
> 1) Different port connectors - so the internals of the calculator are different.
>
> 2) The serial port hp48gII is not firmware upgradable.

Thanks for the update, Gene. I am bit confused behind HP's decision to design a (large calc) practical twin of the 49g+ without an upgradeable firmware. If they could foresee a need to upgrade the 49g+, how did they expect to fix the same problems on the 48GII, other than by just fixing the firmware with the next version. Doesn't make any sense.

Re: What is the newest HP 49g+ model

*Message #12 Posted by **Ron Ross** on 27 Jan 2006, 8:58 a.m.,*
in response to message #11 by Joe Edwards

I hate to second guess Hp, but I am going to blame Marketing.

The Hp48Gx was extremely popular and there was still a demand for an RS-232 port. Hence Hp marketing decided that they could still sell such a machine, only problem, Hp didn't still make one. No problem, can the Hp49G+ platform do this while not robbing sales of their great new wonderful high end platform? Why YES! YES, it can!

Now that Hp was going to market such a machine, and yet not rob sales from the 49G+, Hp

marketing, then decided they had to reduce features (never mind that the original intent was to offer an Hp48GX replacement).

If you have any experience with large corporation decisions you can certainly imagine how it went from there.

The final calculator has a crippled RS-232 that can't drive any RS-232 devices, but only hook up to a Pc RS-232 port (heck, that aint any better than the USB aside from an easier transfer routine). The RAM was also reduced to 80K(probably should have been 256K or 512K fixed). Since the ROM isn't flash upgradable, it can't keep current with any software improvements either (such as the new eqw library which is now missing from this 48g line). None of these really cost any more than the existing line, just decisions to avoid overlapping or robbing sales from the Hp49G+. In the end, you end up with another Pink elephant on the shelf.

I end my rant. I am also only speculating on this, it is probably worse.

Re: What is the newest HP 49g+ model

*Message #13 Posted by **Joe Edwards** on 27 Jan 2006, 2:22 p.m.,*
in response to message #12 by Ron Ross

You know I could accept the lesser memory, the serial port (even though I don't see a use since it only hooks to a PC port), and the smaller screen, but the lack of a flashable firmware seems like it would just cost HP money in the long run as folks will just avoid the 48GII and buy the upgradeable 49G+. I don't see the cost savings, but I am not a market "expert". :)

Re: What is the newest HP 49g+ model

*Message #14 Posted by **Ron Ross** on 27 Jan 2006, 3:06 p.m.,*
in response to message #13 by Joe Edwards

That non feature has already cost Hp million$$$ and some extra egg on their faces, though maybe none of you noticed. Bo)

The first Hp48Gii's had Rom 1.22 installed. This contained a major battery Drain bug that resulted in a supposed total recall. Owners of the Hp49G+ simply upgraded their ROM to 1.23 and THAT problem went away.

Re: What is the newest HP 49g+ model

*Message #15 Posted by **Guest** on 28 Jan 2006, 8:39 p.m.,*
in response to message #8 by Wayne Brown

Since it doesn't seem absolutely clear, the communication ports on the 48gii and the 49g+ are the same. Only the cables are different. A 48gii can connect to a pc with a usb cable from an mp3 player.

Re: What is the newest HP 49g+ model

*Message #16 Posted by **Vieira, Luiz C. (Brazil)** on 28 Jan 2006, 10:58 p.m.,*
in response to message #15 by Guest

Hey, Guest;

I'm confused: I was curious enough to test the HP48GII cable in the HP49G+ and opposedly, and I did

so (should not mention that, though...). I did not succeed connecting them to the computer with the changed cables (and ports...). Using the corresponding cable, both worked perfecty fine in the same computer running the same connectivity software. One thing I actually did not get, though: based on what you mention in your post, should both the HP48GII and HP49G+ communication ports support either USB or RS232 signals and protocol? I am not aware of that.

In time: both the newer HP39G and the HP49G+ share both the same cable and USB hardware/protocol; is there a chance that you confused?

Cheers.

Luiz (Brazil)

Edited: 28 Jan 2006, 11:03 p.m.

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HP 45 Charger

*Message #1 Posted by **Neil J Strickland** on 25 Jan 2006, 10:06 p.m.*

I recently purchased a HP45 with a charger made for the US. I have a charger for the HP67 made for Australia. It says "INPUT: 172 to 254V AC, 50HZ, 5Watts - OUTPUT: 50MA, 4.2V, 4V, 150MA". Does anybody know whether I can safely use this with the HP 45 or am I likely to fry it? Thanks

Re: HP 45 Charger

*Message #2 Posted by **Hal** on 25 Jan 2006, 11:32 p.m.,*
in response to message #1 by Neil J Strickland

Hi Neil,

Both of those machines (67 and 45) use the same battery pack. The chargers should be interchangable. If your Aussie charger will fit the receptacle on the 45, this is further assurance of compatability. However, just to be sure, please wait for confirmation from another one of the fine individuals who posts regularly on this forum, which I'm sure will be forthcoming.
Best regards, Hal

Re: HP 45 Charger

*Message #3 Posted by **Tony Duell** on 26 Jan 2006, 5:53 a.m.,*
in response to message #1 by Neil J Strickland

The HP67 and HP45 use the same chargers. And the outputs you've quoted will are right for the 45 too.

Re: HP 45 Charger

*Message #4 Posted by **Neil J Strickland** on 27 Jan 2006, 9:34 p.m.,*
in response to message #1 by Neil J Strickland

Thanks Hal and Tony for your help!

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Re: 49g+ DROP Error ([originally] humor) ; retrieved from Archive 15

*Message #1 Posted by **Ed Look** on 25 Jan 2006, 11:34 a.m.*

A bit of good news about my HP48G!

In this thread I just fished out of the archive bin, I had posted that after dropping it on its upper left corner, while still in its soft gray nylon case, on the floor, I had a blank line across the display in the third stack level position. To remedy it, I used a simple kluge: a thick rubber band across the top of the calculator where the logo is.

However, after a couple of months of rubber banding it, I removed it just a few days ago and the display is restored and appears to be staying that way. Of course, this is after some normal use and making sure the 48G does not impact anywhere anymore. I now carry it in a 49G+ case, which appears to be more protecting. Even so, I will be more cautious with it while not in use (or even in use!).

Probably, the rubber band forced the case and LCD module to be in their proper relative positions and the normal daily vibrations due to use and transporting (in my briefcase, generally) caused them to settle in these positions while being held so. I hope it remains this way!

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82162A Printer contrast

*Message #1 Posted by **Tom F** on 25 Jan 2006, 9:58 a.m.*

I have an 82143A and 82162A printer. The 82162 printer functions OK but the print quality is not the same as my 82143 printer. The 82143 printer prints very nicely on fresh Office Max thermal paper with very dark printing in the DARK setting. The printing starts to 'bleed out' a bit at that setting so it is too dark and I usually print at about setting 3. The 82162 printer prints much lighter. When set to the highest setting, the print intensity of the 82162 is more equivalent to the #1 setting ,or less, of the 82143 printer. The physical condition of the 82162 is excellent and mechanically operates quite well with no unusual noises. Also, there is not a great deal of difference between any of the settings for intensity on the 82162. In fact, it appears to be the same intensity on settings 1, 3, and 5. It is ever so slightly lighter on settings 2 and 4 which also appear to be about the same between the two. One more thing to note is that the rightmost character position is lighter than the rest.

Is there anything to be done about print intensity of the 82162?

Can I (should I) swap the print head or mechanism form the 82143 into the other as I prefer to use the IL version? Is that terribly difficult/risky?

I searched through the archives and found some info suggesting that the platen backing up the paper might be able to be adjusted to increase the print density of the outermost characters and I was curious if this could be a fix here? I looked at that and it appears to float nicely behind the printhead much like it does on the 82143 but that is all I have to compare to I don't know if it should have more pressure. Does anyone know of any electronic reasons for this difference? Are there any adjustments to the circuitry possible? All the pixels are present and of equal intensity. I haven’t taken anything apart yet to look furhter. I was looking for some sage advice first.

Thanks, Tom

Re: 82162A Printer contrast

*Message #2 Posted by **David Smith** on 25 Jan 2006, 10:37 a.m.,*
in response to message #1 by Tom F

Thre were two types of print mechanisms used in these printers. One type had the timing wheel on the left, the other on the right. The motherboards were different. If both your printers are the same type, you should be able to swap them, but most 163's were one type and 143's the other.

Re: 82162A Printer contrast

*Message #3 Posted by **Eric Smith** on 25 Jan 2006, 12:48 p.m.,*
in response to message #2 by David Smith

Are you certain that there are some 82162A units with the 82143A print mechanism? I didn't think there were any, because part of the reason for the mechanism change was that it was necessary for the improved graphics capability (reduced line spacing) of the 82162A.

Re: 82162A Printer contrast

*Message #4 Posted by **David Smith** on 26 Jan 2006, 12:10 p.m.,*
in response to message #3 by Eric Smith

I dont know for sire if there are any 163's with 143 printers, but I do know there are 143's with 163 printers.

Re: 82162A Printer contrast

*Message #5 Posted by **Tony Duell** on 26 Jan 2006, 6:13 a.m.,*
in response to message #1 by Tom F

The print intensity control switches resistors in a potential divider circuit that's part of the feedback loop in the printhead power supply.

If it doesn't work properly, you might try removing the PCB and cleaning the contacts, and then getting 'my' schematic either from the Australian Site or on the HPCC CD-ROM, and checking the switch, the connections to RP4, the resistors inside RP4, and so on. Make sure the printhead voltage (VHead on the diagram) increases as you go to higher intensity settings.

Re: 82162A Printer contrast

*Message #6 Posted by **Tom F** on 26 Jan 2006, 10:26 a.m.,*
in response to message #5 by Tony Duell

I was able to look at the sevice manual for the 143 and have deduced from the trouble shooting guides and schematic for that printer that the problem is most likely the print head power supply, assuming the switch and resistors are functioning properly. Of course, this is based on the electronics of the 143. As you have mentioned, VH should be measured to determine for sure. The voltage listed in the 143 manual is a range from 13V to 18V. Assuming the power portion of the schematic between the two are similar, I should be able to measure. However, I do not know exactly where to measure VH on the 162. I have a couple of ideas I'll look into tonight. I did disassemble the 162 and inspected the contacts. They appeared in good condition but I cleaned them anyway with no effect. The question I have now is; If the Print Head Power Supply is the problem, is there a suitable replacement to be found and could the PS from the 143 be used?

Also, can you point me to the Australian site you mention? And is the schematic availible there? OR is it only availible on the CD. I appologize that I am not familiar with all of the choice sites yet as I have just recently revived my interest in HP41 things.

Thank you very much for your help.

Tom

Re: 82162A Printer contrast

*Message #7 Posted by **Tony Duell** on 27 Jan 2006, 6:28 a.m.,*
in response to message #6 by Tom F

I'm not sure if I can mention the URL for the Australian Site here, but to get it, just change the .org in this site to .net .

And yes, there's a reverse-engineered schematic of the 82162 there, along with stuff for a lot of other larger machines.

From what I remember, the power circuitry of the 82162 and 82143 is very similar. The 82162 is more complicated because it has the ability to be turned on/off over the HPIL loop, but once you get past the

power switching, the power converters, etc are much the same.

Re: 82162A Printer contrast

*Message #8 Posted by **Tom F** on 27 Jan 2006, 8:10 a.m.,*
in response to message #7 by Tony Duell

Thanks. I had found the site and your schematics last night as I searched the internet. I find it interesting that the site is not on the Links page for this site.

I measured the VH voltage and it comes up a bit short at 12.8V on settings 1,3, and 5. and right around 12.2V or so on settings 2, and 4. All of which are below the minimum stated in the service manual for the 143 at a range of 13V to 18V. What I am unsure of now is if this is a power supply problem or a problem with the control circuitry feeding into it. Namely, is it being told to be the voltage it is providing, or is it being told to control to the correct V and is unable to comply. I still need to track down the intensity control resistors and check them if possible. I guess I should have paid more attention to my EE for nonbeliever's class while I was getting my ME degree many years ago.

Re: 82162A Printer contrast

*Message #9 Posted by **Vassilis Prevelakis** on 27 Jan 2006, 4:50 p.m.,*
in response to message #8 by Tom F

silly question probably, but it has to be asked

You are using a good batery, right? check the voltage level of the batery during printing to see how low it gets when load is applied to it.

**vp

Re: 82162A Printer contrast

*Message #10 Posted by **Tom F** on 27 Jan 2006, 6:17 p.m.,*
in response to message #9 by Vassilis Prevelakis

That is a reasonable question. Sometimes it's easy to overlook the obvious. I have a newly built battery that I put together for the 143 that I have been using. With the brand new cells, the battery voltage runs just over 5 volts. I should note that there is no difference in the symptoms if the charger is plugged in or not. I also used the same roll of paper in both. Having two printers really helps to trouble shoot that problem. Like I mantioned before, I wish my electronic skills were a bit better. Right now I hope to characterize the thing as best I can and try to determine the best path forward. So far the info I've gotten here has been helpful but I was hoping someone else has had a similar problem as mine that I could build from. I'll post more findings when I complete more measurments.

Re: 82162A Printer contrast

*Message #11 Posted by **David Smith** on 26 Jan 2006, 12:11 p.m.,*
in response to message #1 by Tom F

One thing you might try is removing the print head and gently cleaning it with alcohol.

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HP9825 lights and drive wheels

*Message #1 Posted by **Eugene Royer (USA)** on 24 Jan 2006, 9:21 p.m.*

Previously, I have contacted Etienne Victoria with thanks for a method of refurbishing the drive wheel of the tape recorder. Where I work we have a number of HP 9825's and most have the sticky wheel problem. His method is good but with the addition of a Dremel routing table to hold the drill and glueing the sandpaper to a square piece of wood, the necessary sizing can be accomplished. Material to shape can be pressure cones (slip joint washers) for toilet tank water supplies or electrical grommets with almost any size preselected. I used a 932 dremel grinding stone to hold the slip joint (Danco STK no 38805B or 38808B), since the 9825B cleaned wheel was very close to 3/8 of an inch of the stone. A finely divided metal ruler and patience (don't try to rush) in shaping does the job. I don't have a web site yet to post linking pictures (but am willing to send JPGs of what I did, but give me an indication of the resolution you would like). The final dimensions (in inches) are: ID = 0.375 OD = 0.410 and width 0.150. Dremel has other dimensions of stones or a larger one could be dressed down to hold the proper ID. I thought I would have mine well tested by now, but I noticed no light in the tape transport. To make a long story short, I discovered that not all 9825's have a visible light. This one had an infrared diode (part number F5D1) which I thought was an incandescent bulb (with part number F501) when I emailed Etienne Victoria. So be careful, not all nonvisible lights are burnt out. I also found out my digital camera can take a picture of the active diode and shows up pink in the picture. I have not tried yet (discovery was today Jan. 24, 2006) to detect the IR in an assembled 9825. Oh, the 9825Bs with the diode also have an 82 ohm resistor connecting it to the +5 volt supply thereby limiting the current to about 45 milliamps. Tony Duell may want to show this on his schematics if it not sown there already. I have ordered them but they have not yet arrived. If anyone has replaced an incandescent bulb I would be interested to know if the hole size is different than the F5D1 (T0-48 package) made by Fairchild. I also have taken many pictures during the disassembly process.

Eugene Royer

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Repairing 9120 (and possibly other) printer platens

*Message #1 Posted by **David Smith** on 24 Jan 2006, 8:00 p.m.*

I added a short piece in the article section descriing the PERFECT material for rebuilding the paper advance roller in the HP-9120 printer. This same stuff would probably work in your 9810, etc.

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Directional Drilling Programs

*Message #1 Posted by **B Douglas** on 24 Jan 2006, 4:21 p.m.*

Does anyone have or know where to get directional drilling software for the hp49g+.

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32SII Not Responding to any key strokes

*Message #1 Posted by **Paul Gilles** on 24 Jan 2006, 1:57 p.m.*

Help! I recently bought a 32SII which only displays EQN LIST TOP no matter what you do. I have tried all the reset techniques in the manual, shorted out the battery contacts, left the batteries out for 2 days. When any key or combination is depressed, the ! shows up at the bottom of the display until the key is released, and the display returns to EQN LIST TOP. I think its time for surgery. How do you open up a 32SII? Thanks. prg

Re: 32SII Not Responding to any key strokes

*Message #2 Posted by **jeff** on 24 Jan 2006, 2:08 p.m.,*
in response to message #1 by Paul Gilles

It might be the keyboard contacts, try lightly squeezing the front and back together just below the display and using the keyboard at the same time. carefull not to squeeze too much or it could dent the bezel.

Re: 32SII Not Responding to any key strokes

*Message #3 Posted by **Jeff O.** on 25 Jan 2006, 12:54 p.m.,*
in response to message #1 by Paul Gilles

Info on opening the 32SII (and all pioneers) can be found here and here. It sounds like you have a problem in the keyboard itself. Access and repair to this part of the calculator is not for the faint of heart. That said, I believe that Paul Brogger (author of the two linked articles) has had success with such repairs.
Good luck!

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ENTER key on HP 33S

*Message #1 Posted by **e. young** on 24 Jan 2006, 12:26 p.m.*

I think HP has revised the 33s again and is now getting away from using an "ENTER" key. I just bought a backup 33s and it has an "ENTFR" key. That's right, ENTFR. Serial number CNA 524xxx. Quality control appears to be an on-going struggle, but at least the key responds no matter how off-center I hit the key. The typo isn't too big of a deal, since I certainly do not appreciate the 33s for its looks but for its function. Oh well. Bought it at Wal Mart, and there were still lots of older CNA 4xxx units on the shelf with the old bad display.

If it wasn't for this forum, I would never have known that HP had fixed the display on the newer 33S's, and I would have written it and HP off forever after getting my first 33s with the bad display and bad keyboard.

Thank you HP Forum!

Re: ENTER key on HP 33S

*Message #2 Posted by **Namir** on 24 Jan 2006, 1:58 p.m.,*
in response to message #1 by e. young

I have an HP33s wth SN CNA527xxx and the ENTER key **is spelled correclty**. Care to post an image of your HP33s?

Re: ENTER key on HP 33S

*Message #3 Posted by **bill platt** on 24 Jan 2006, 2:24 p.m.,*
in response to message #2 by Namir

Mine is spelled correclty too :^)

Re: ENTER key on HP 33S

*Message #4 Posted by **John Noble** on 24 Jan 2006, 3:56 p.m.,*
in response to message #2 by Namir

Same here - CNA527XXXXX.

Re: ENTER key on HP 33S

*Message #5 Posted by **Stephen Easterling** on 24 Jan 2006, 3:17 p.m.,*
in response to message #1 by e. young

I wonder if this will suddenly make it more of a collector's item!

Re: ENTER key on HP 33S

*Message #6 Posted by **Namir** on 24 Jan 2006, 8:04 p.m.,*
in response to message #5 by Stephen Easterling

I'd really like to see a picture. I do have my doubts about the typo.

Re: ENTER key on HP 33S

*Message #7 Posted by **e. young** on 25 Jan 2006, 8:56 a.m.,*
in response to message #6 by Namir

I assure you that it is spelled ENTFR on my calculator. I'm at work and really can't take a picture and download it because I keep this calculator at home. Please take my word for it that the lower horizontal leg of the E is not present and the result is ENTFR. The word is not blurred or off-center on the key. The other letters look fine.

Re: ENTER key on HP 33S

*Message #8 Posted by **Namir** on 25 Jan 2006, 10:25 a.m.,*
in response to message #7 by e. young

I am asking you to confirm it visually, so I can look for that typo when I visit WAL-Mart and other stores that carry newer versios of the HP-33s.

What you have in your possession sounds like a spcific batch with a typo-error key, since many of the newer HP-33s have ENTER spelled correctly. Kinpo has corrected the dislay to make the decimal more visible.

Namir

Edited: 25 Jan 2006, 10:27 a.m.

Re: ENTER key on HP 33S

*Message #9 Posted by **Jan** on 25 Jan 2006, 7:59 a.m.,*
in response to message #1 by e. young

This is yet another sad example showing that the good old days in personal electronic equipment may be gone and that, in denial of their tradition, HP makes no exception in this respect. The scale and severeness of the problems with the 33S as I got to know them from this forum is truly unprecedented in the history of HP calcs. Although the role of the handheld calculator may be different than, let's say, 20 years ago, this may not be an excuse to bring products on the market that are simply mediocre and sometimes even bad. HP are you listening! I even wonder if the new corporate "philosophy" of HP supports the manufactoring of professional products at all as they did in the old days. Being the true heirs of the old company that Bill Hewlett and Dave Packard founded, maybe Agilent could find itself a market for calculators for the professional. After all, these profs know who and what is behind the brandname Agilent and what this company stands for. They don't need a well known name from a once great company to make up their minds about which product to buy as long as the product is excellent, so from the marketing point of view I see no objections, just benefits.

Re: ENTER key on HP 33S

*Message #10 Posted by **e. young** on 25 Jan 2006, 9:11 a.m.,*
in response to message #9 by Jan

The quality of current HP calc's is no match for the "old days" to be sure. I also think the cosmetics of the 33s are seriously flawed, and the fact that the 33s was released for sale with a horrible display and keyboard is outrageous. However, now that the display and keyboards have been fixed, I am satisfied with the functionality of the 33s. I still don't like the cosmetics though. In its current form (with the fixes) it is an acceptable calculator. Since it's based on the 32sII it almost has to be. I'm not saying that it's perfect by

any means, but I think the quality problems it had with the initial models have poisoned many people against, understandably so. Once I accepted that the HP that we knew and loved is gone for good I was able to appreciate the fixed 33s for the qualities that it does have. It is still the only programable RPN scientific on the market. Hopefully HP will address some of the continuing shortcommings in a latter version.

If you need a basic RPN scientific with some programming capability, and don't want to pay over $150 for something for an old 32sII on ebay, then I recommend the 33S. Just make sure that you get one that has a serial number CNA 5XXXX or latter. I think that the one I just purchased is just a manufacturing fluke. Although the older HP's were designed much better, I'm sure that occaisionally a lemon slipped through the cracks. However, I agree that in the old days they would never have released a calculator for sale that had an unreliable keyboard or had a dsiplay with a decimal point that was indistinguishable from the number 2. I still find that mind boggling.

Re: ENTER key on HP 33S

*Message #11 Posted by **John Noble** on 25 Jan 2006, 10:59 a.m.,*
in response to message #10 by e. young

I agree with both the preceeding posts: I wish Agilent would make a 33sii (Voyager layout, 33s display and functionality, and some kind of I/O -- SD card?), but I have actually been enjoying my 33s in the few short days I've had it.

Yeah, the 33s is ugly. The keyboard is Good Enough(tm), though, and RPN programming is a boon. I don't mind the limited number of labels as long as I have a lot of memory to burn on strings of X=0? or FS? statements.

[Rant!] Re: ENTER key on HP 33S

*Message #12 Posted by **Thomas Radtke** on 25 Jan 2006, 11:54 a.m.,*
in response to message #9 by Jan

Why in the world should HP produce quality calculators when they can stamp their logo on cheap chinese calcs? They seem to sell. I mean have a look at the various comments in this forum. No one (ok, few are) is really satisfied with the product but since it is RPN and has the HP logo on it, they buy it. I certainly would buy one if it weren't for this terrible keyboard arrangement. I even bought a pioneer (48G) despite the fact that keyboards and displays fail quite often in pioneers and I knew about it. HP quality is gone since around 1985 IMHO and still, the company can safely rely on their brand name. Sometimes I can feel the hook in my cheek but not for very much longer>:(.

Thomas

HP (calc) quality after 1985?

*Message #13 Posted by **Karl Schneider** on 25 Jan 2006, 11:33 p.m.,*
in response to message #12 by Thomas Radtke

Thomas posted,

> Quote:
>
> ...HP quality is gone since around 1985 IMHO...

I suppose that year would separate the HP-71B from the HP-28C, making a reasonable distinction.

However, the fine Pioneer line was introduced in 1988. These models featured fine engineering (if not in every aspect), but all were well-made. They were also fast, with the Saturn processor.

-- KS

Re: ENTFR key on HP 33S

*Message #14 Posted by **Paul Brogger** on 25 Jan 2006, 11:32 a.m.,*
in response to message #1 by e. young

I don't know about a typo. Isn't more likely that, in silkscreening that particular calculator's key (or batch of calculators' keys), the ink didn't stick on the lower leg of the "E"?

I believe I could make my 33s' ENTER key read all sorts of weird ways, using my Swiss Army Knife (and maybe some sort of clear-coat paint).

(It could be that the ink was worn off by people pressing through the clear plastic packaging, trying to test the display!)

Edited: 25 Jan 2006, 11:34 a.m.

Re: ENTFR key on HP 33S

*Message #15 Posted by **e. young** on 25 Jan 2006, 11:45 a.m.,*
in response to message #14 by Paul Brogger

your last sentence made me laugh. I could tell that the corner of the blister pack had stress lines in it at the corner where the ENTER key is, apparently from people (like me) turning it on to check the display.

I agree that it's not a typo but a manufacturing defect

Re: ENTFR key on HP 33S

*Message #16 Posted by **Charles** on 25 Jan 2006, 5:34 p.m.,*
in response to message #15 by e. young

I do sometimes get tired hearing about how wonderful HP calculators were in the good old days.

I bought a new HP33E in 1979 and it was a dog. It frequently failed during examinations and after 4 unsuccessful attempts to have it repaired, I bought a TI58 which worked fine for the rest of my university career. We now know that the early Spice design had a fundamental problem but it clearly wasn't tested adequately before it was released. The after sales service wasn't great either.

I have owned several HP calculators since then and they have been lovely machines to use. I would not use any other. However, the past just wasn't always that good and at least we can still buy an RPN calculator.

(p.s.- possibly I'm completely wrong and 33 is just an unlucky number for HP !)

Re: ENTFR key on HP 33S

*Message #17 Posted by **Wayne Brown** on 26 Jan 2006, 10:09 a.m.,*
in response to message #16 by Charles

Quote:

> I do sometimes get tired hearing about how wonderful HP calculators were in the good old days.

And I get tired hearing about how wonderful new junk like the 33S is.

Re: ENTFR key on HP 33S

*Message #18 Posted by **e. young** on 26 Jan 2006, 10:52 a.m.,*
in response to message #17 by Wayne Brown

The 33s is neither junk or wonderful. It is ugly, but it is also useful and functional.

Re: ENTFR key on HP 33S

*Message #19 Posted by **Wayne Brown** on 27 Jan 2006, 12:28 p.m.,*
in response to message #18 by e. young

It isn't useful or functional for me, because under no circumstances would I allow anyone to see me using one or taking an interest in it.

Re: ENTFR key on HP 33S

*Message #20 Posted by **bill platt** on 27 Jan 2006, 12:49 p.m.,*
in response to message #19 by Wayne Brown

But Wayne, we already know that about you :-)

Re: ENTFR key on HP 33S

*Message #21 Posted by **Wayne Brown** on 27 Jan 2006, 2:17 p.m.,*
in response to message #20 by bill platt

You did, but maybe e.young didn't. :-)

Re: ENTFR key on HP 33S

*Message #22 Posted by **e.young** on 27 Jan 2006, 2:25 p.m.,*
in response to message #21 by Wayne Brown

I understand now

Re: ENTFR key on HP 33S

*Message #23 Posted by **John Noble** on 27 Jan 2006, 2:33 p.m.,*
in response to message #19 by Wayne Brown

Another fashion victim. :-)

Seriously, though, I would probably feel the same way about your choice of hand tools (anything cheaper than Snap-On isn't usually worth the time), test equipment (get that B+K crap off my bench!), loudspeakers (Dynaudio: you must be deaf to tolerate anything else), operating systems (only a cretin would run anything but Free/Open/NetBSD or a close cousin like Mac OS X), microcontroller architecture (Harvard is just *better*) ... the list goes on.

Fortunately for you, I'm not the Supreme Arbiter of Taste.

Smileys implied throughout.

Re: ENTFR key on HP 33S

*Message #24 Posted by **Ron Ross** on 27 Jan 2006, 3:19 p.m.,*
in response to message #23 by John Noble

I am a big fan of snap on as well, though I only own 1 17 mm wrench. I did a break job on my pick up (about ten years ago) and had a bunch of lesser quality tools for the job. I broke every 17 mm wrench and socket in my home (and my breaker bar and two ratchets), and then went to the local Auto Zone about 6 miles away twice, buying life time warrented 17 mm tools each time until the third trip when I bought the sleek looking smooth finished (and much thinner) Snap On 17 mm wrench for 2-3 times the price of the previous wrenches (which I also expected to break with my pipe extension). It was really a job for pneumatic tools but since I did not have any air tools, I didn't buy them.

Well I broke that 17mm bolt loose (with a 3 foot pipe extension) and I finished the job. My mainstay tools are craftsman and they are okay for the amatuer, but I readily admit, if I worked as a mechanic, the Snap ons would be the better buy. Actually Craftsman only warrents their tools for the homeowner and not the professional and probably for that very reason.

Re: Craftsman Tools & Non-Tools

*Message #25 Posted by **Paul Brogger** on 27 Jan 2006, 5:55 p.m.,*
in response to message #24 by Ron Ross

My sister got some Sears Craftsman barbeque utensils for Christmas. Imprinted on each handle opposite the Craftsman logo is a notice: "This is not a tool".

After a bit of cogitation, we agreed that this is meant to explicitly exclude the utensils from Sears' tool warranty.

Re: Craftsman Tools & Non-Tools

*Message #26 Posted by **Howard Owen** on 27 Jan 2006, 6:40 p.m.,*
in response to message #25 by Paul Brogger

The ghost of Andy Warhol is giggling uncontrollably over that, I'm sure.

"Brake Job"

*Message #27 Posted by **Karl Schneider** on 28 Jan 2006, 1:17 a.m.,*
in response to message #24 by Ron Ross

Ron Ross posted,

> Quote:
>
> ...I did a break job on my pick up ...
>
> ...I broke every 17 mm wrench and socket in my home (and my

> breaker bar and two ratchets)...
>
> ...and then *(twice bought)* life time warrented 17 mm tools each time until *(I bought a Snap-On wrench)*, (which I also expected to break with my pipe extension)...
>
> ...Well I broke that 17mm bolt loose ...

Now, **that's** a real "break job"!

Er, or was it a successful "*brake* job" after breaking *warranted* wrenches?

-- KS

Re: ENTFR key on HP 33S

*Message #28 Posted by **John Smitherman** on 28 Jan 2006, 5:10 p.m.,*
in response to message #19 by Wayne Brown

Hi Wayne.

> Quote:
>
> It isn't useful or functional for me, because under no circumstances would I allow anyone to see me using one or taking an interest in it.

In other words, using a 33s is similar to riding a moped... they are both fun but you don't want your friends to see you using them ;-)

Cheers,

John

Re: ENTFR key on HP 33S

*Message #29 Posted by **Wayne Brown** on 29 Jan 2006, 12:30 p.m.,*
in response to message #28 by John Smitherman

Actually, I don't think I'd mind that much being seen on a moped, as they carry rather a "geeky" image that doesn't bother me. It might be fun to ride one, whereas I don't think I'd have much fun with a 33S whether anyone saw me or not, simply because *I'd* have to look at the blasted thing. My 41CX and 16C provide plenty of good, clean RPN fun **and** I don't have to use them with my eyes closed to avoid nausea. :-)

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RIP OpenRPN?

Message #1 Posted by . on 24 Jan 2006, 3:38 a.m.

Either OpenRPN is dead, or their site has been hacked. Have a look

Re: RIP OpenRPN?

*Message #2 Posted by **Eric Smith** on 24 Jan 2006, 3:56 a.m.,*
in response to message #1 by .

My browser says it needs a plugin. I'm not about to install a plugin just for that; what does the site say?

Re: RIP OpenRPN?

*Message #3 Posted by **Arnaud Amiel** on 24 Jan 2006, 4:11 a.m.,*
in response to message #2 by Eric Smith

It looks like the site was highjacked and I would certainly not download anything this site wants me to download. Nor give access to the dodgy signed java applet.

Arnaud

Re: RIP OpenRPN?

*Message #4 Posted by **Howard Owen** on 24 Jan 2006, 1:35 p.m.,*
in response to message #2 by Eric Smith

It's Java it wants. On my i686 Firefox 1.5 on FC4 with the latest JRE, I get "Null Pointer Exception" so you are probably safe even with Java installed, Eric. 8)

Re: RIP OpenRPN?

*Message #5 Posted by **Hugh Evans** on 24 Jan 2006, 5:01 a.m.,*
in response to message #1 by .

Yes, the site has been hijacked... again. This happens from time to time. Everything should be up and running later today.

-Hugh

Re: RIP OpenRPN?

*Message #6 Posted by **Eric Smith** on 24 Jan 2006, 5:45 p.m.,*
in response to message #5 by Hugh Evans

What OS and web server are you running on your server?

Re: RIP OpenRPN?

*Message #7 Posted by **Les Bell** on 24 Jan 2006, 6:05 p.m.,*
in response to message #6 by Eric Smith

Looks like:

Apache/2.0.49 (Unix) mod_perl/1.99_08 Perl/v5.8.0 mod_ssl/2.0.49 OpenSSL/0.9.7d PHP/4.3.4 DAV/2

running on Linux, to me. With PostNuke as the CMS. Postnuke has a long and dishonorable history of SQL injection, cross-site scripting, directory traversal and other vulnerabilities. Apache 2's mod_dav has had its own problems, too.

Best,

--- Les
[http://www.lesbell.com.au]

Re: RIP OpenRPN?

*Message #8 Posted by **Geir Isene** on 25 Jan 2006, 1:18 a.m.,*
in response to message #7 by Les Bell

PostNuke is a fork of PHPNuke (which has a remarkably bad security track - I used to have my Site on PHPNuke until I was defaced twice).

I would recommend moving to another CMS - like Typo3, Plone, EZ Publish or Wordpress (even Trac is suitable although it has a very different feature set).

CMS software

*Message #9 Posted by **Eric Smith** on 25 Jan 2006, 2:14 a.m.,*
in response to message #8 by Geir Isene

I agree. I've had good results with Plone (general CMS), Wordpress (blog), and MediaWiki (wiki), and they seem to have relatively few security problems.

I'm considering using Trac for a software-related site, but I need it to integrate with a remote Subversion server, and last I checked it could only use a local one.

Trac

*Message #10 Posted by **Geir Isene** on 25 Jan 2006, 4:59 a.m.,*
in response to message #9 by Eric Smith

You are right about that:

trac-with-a-remote-subversion-repository?

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HP-16C programming challenge - Hamming distance

*Message #1 Posted by **Eric Smith** on 23 Jan 2006, 8:41 p.m.*

An n-bit binary word can represet 2^n possible values. For error detection (and/or correction), it is useful to add some redundancy to a data word, forming a code word. The code word will of necessity have more bits than the data word; the number of bits required depends on the amount of redundancy.

The degree of redundancy, and thus the code's capacity for detecting or correcting errors, may be measured as Hamming distance. The Hamming distance between two binary code words is the number of bits that differ between the two words. For instance, 01101000 and 00101010 differ in two bit positions, so they have a Hamming distance of two.

The mimimum distance of a code is the minimum Hamming distance between any two code words of that code.

The challenge is to write an HP-16C program that determines the maximum possible number of code words in an 8-bit code with minimum distance 3. If the program is run with flag 0 clear, it should end with the count of valid code words in the X register. If flag 0 is set, it should pause displaying each code word, then end with the count in X (the same as if flag 0 is clear).

I have written a C program that solves this class of problems, but I'll be working on the HP-16C program in parallel with anyone else that wants to try this challenge.

The HP-16C should have enough memory to solve this problem, and possibly problems with 9-bit and 10-bit code words, but I'm pretty sure that it won't be able to handle 11-bit code words or larger.

Conjecture about binary codes with minimum Hamming distance constraint

*Message #2 Posted by **Eric Smith** on 24 Jan 2006, 5:55 p.m.,*
in response to message #1 by Eric Smith

This is a conjecture, and I haven't figured out a way to prove or disprove it:

For an n-bit code (where n >= 4) with a Hamming distance of d (where 1 <= d < n/2), for odd valus of d there are 2^(n+2-2*d) code points, and for even values of d there are 2^(n+3-2*d) code points.

Based on this conjecture, the count for the challenge problem (n=8, d=3) would be 16.

I haven't yet figured out how to generalize the conjecture for n/2 <= d < n, though it is obvious that for the d = n case the count will always be 2.

Edited: 24 Jan 2006, 5:55 p.m.

Re: Conjecture about binary codes with minimum Hamming distance constraint

*Message #3 Posted by **Klaus** on 25 Jan 2006, 4:57 a.m.,*
in response to message #2 by Eric Smith

Hi Eric,

Aren't there multiple possibilities for a code with a distance d? If I recall right, you need a codeword to start with to define a unique code.

I do not have the time to program your challange, but determining the distance between two words should be easy: XOR the two words and use the [number of bits set] function. (certainly, you already use this approach). (1)First, I would zero all regs. (2)I would then use 0 as the first codeword, and store it in REG 0. (3)Increment this number and calculate the distance with all stored codewords. (4)if the minimum distance >=3, then store this number. Repeat steps 3+4 until Overflow bit is set after incrementing the number to test.

I hope this pseudocode isn't considered as an impolite posting, but as noone posted something, I decided to do so.

Greetings! Klaus

Re: Conjecture about binary codes with minimum Hamming distance constraint

*Message #4 Posted by **Eric Smith** on 25 Jan 2006, 12:56 p.m.,*
in response to message #3 by Klaus

> Quote:
>
> Aren't there multiple possibilities for a code with a distance d? If I recall right, you need a codeword to start with to define a unique code.

Since XOR is a linear function, if you start with particular seed values A or B as the base for finding valid codewords, you end up with codeword sets Sa and Sb such that Sb = Sa XOR (A XOR B). If the value B is in Sa, the sets are identical.

Your proposed agorithm is the simpler of the two I've come up with, and is the one I've coded on the 16C. My other algorithm is in C code, and I haven't yet coded it for the 16C to compare run times.

Re: Conjecture about binary codes with minimum Hamming distance constraint

*Message #5 Posted by **Katie Wasserman** on 25 Jan 2006, 10:44 a.m.,*
in response to message #2 by Eric Smith

Eric,

Interesting problem. The 16C's #B (count the number of bits) function should make this a particularly small and easy to write program.

I assume that you've done some testing with various values of n,d to come up with this conjecture. But if the graph here http://www.personal.uni-jena.de/~pfk/mpp/ecc.html is correct I don't think your conjecture holds for larger values of n and d. Wouldn't this graph be linear for all values of n,d?

-Katie

Re: Conjecture about binary codes with minimum Hamming distance constraint

*Message #6 Posted by **Eric Smith** on 25 Jan 2006, 1:11 p.m.,*
in response to message #5 by Katie Wasserman

I'm not sure. Normally a Hamming code used for ECC imposes an additional requirement that may not be met by all codes of minimum distance.

For instance, suppose you have n data bits and want a Hamming code with a minimum distance of Hmin. You need a codeword size of cn, where cn is obviously larger than n. For efficiency in encoding and decoding, the code is constrained such that n bits of the codeword are identical to the n data bits (i.e., for a subset of n bits of the cn bit codeword, those n bits have all 2^n unique values).

I'm not certain whether there may exist a smaller value of cn such that there is a set of codewords of cn bits that meet the minimum distance Hmin but do not have the n bit subset.

Re: Conjecture about binary codes with minimum Hamming distance constraint

*Message #7 Posted by **Katie Wasserman** on 26 Jan 2006, 11:46 p.m.,*
in response to message #6 by Eric Smith

Eric,

I'm not sure about this -- there could be a bug in my program -- but I think that I found counterexamples to your conjecture.

n=15, d=7 gives 32 codewords

n=16, d=7 also gives 32 codewords

Am I wrong?

-Katie

Re: Conjecture about binary codes with minimum Hamming distance constraint

*Message #8 Posted by **Eric Smith** on 27 Jan 2006, 3:02 a.m.,*
in response to message #7 by Katie Wasserman

You're correct. I somehow missed that. The d < n/2 bound on my conjecture is wrong. Oh well.

Re: HP-16C programming challenge - Hamming distance

*Message #9 Posted by **PeterP** on 26 Jan 2006, 6:04 p.m.,*
in response to message #1 by Eric Smith

Eric,

please accept my appologies upfront for probably completely misunderstanding the problem - I have never dealt with codes, error correction, hammond, etc. yet due to the light responses as well as the opportunity to learn something, please find below some thoughts of mine. It will be great when you point out the flaws to me:

Asumption: For an 8-bit code with a minimum hamming distance of 3 I understood this to mean that all code words need to be different from all other code words by at least 3 bits.

Starting Case: Lets assume those three digits are in the first three places. xxx00000. ignoring whatever we have in the last 5 digits, there are 2*2*2 such words, that are different in at least the first 8 digits. I shall call those first three digits “significant digits” or SD vs the other 5 digits NSD (non-significant digits)

Extensions of starting case: Place 1 SD anywhere in the remaining 5 places to create another unique word, that is different in at least the three SD. There are 3*5 combinations of this rule However, halve the words created in such a way will be identical to all possible words that are created by having 3 SD and all combinations in the remaining 5 SD. Example: Starting Case: 101 xxxxx. This creates all words which have 101 in the first three digits and anything in the remaining 5 digits. The total of such IDENTICAL words is 2^5. One such words will be 101 xx1xx. If we now start switiching the first SD to another place, say the 6ht, we create words of the structure x01 xx1xx. This creates words of the structure 001 xx1xx and 101 xx1xx. As one can see, the second word is a combination we have seen already.

In a similar vein, one can place 2 SD in the remaining 5 places, for 3*5*4 ways (3 ways to pick a pair from the 3 SD, 5*4 ways to place the pair in the remaining spots). However one out of ever 4 words created that way will be pre-created.

And, last but not least, one can place all 3 SD in the remaining 5 places, 1*5*4*3 (1 way to pick 3 SD, 5*4*3 ways to place 3SD in 5 spots). However one out of ever 8 combinations we will have seen already.

In summary we should have the following number of words:

```
2^3 * (1 + 3*5 -3*5/2 + 3*5*4 – 3*5*4/4 + 1*5*4*3 – 1*5*4*3/8) = 968


In general terms, for m digits and n distance:
2^n*(1 + Sum[x = 1 to min(n,m-n)] { (n!/(n-x)! * (m-n)!/(m-n-x)!  * (1- 1/(2^x)) }
```

Cheers

Peter

Re: HP-16C programming challenge - Hamming distance

*Message #10 Posted by **Eric Smith** on 27 Jan 2006, 12:53 a.m.,*
in response to message #9 by PeterP

Now you've got me confused. With an eight bit code, there can't possibly be more than 256 codewords (minimum distance 1), and for larger minimum distances there have to be fewer valid codewords.

For instance, for an 8 bit codeword with minimum distance 3, there are 16 valid codes. One set (in hexadecimal) is { 00, 07, 19, 1e, 2a, 2d, 33, 34, 4b, 4c, 52, 55, 61, 66, 78, 7f }.

You can derive different sets, but they all are equivalent to that set with bit permutations and/or XOR by a constant.

Note also that only 7 bits of the 8 are actually needed. Typically the eight bit would be used for word parity, which actually increases it to minimum distance 4. (Confirmed by doing a search for 8 bit codewords with minimum distance 4, which also results in 16 valid codewords.)

I'm not distinguishing "data bits" from "ECC bits". I'm just considering the total number of bits in a codeword. Because an 8 bit codeword of minimum distance 3 (or 4) can have exactly 16 unique values, it can be used to encode 4 bits of data.

I still have not come up with an analytical way to determine the number of codewords for a given bit count and minimum distance. My conjecture was based on output of the brute-force search program, and the patterns for d_min >= bits/2 are not readily apparent, which I think corresponds to the fluctuations in the curves on the ECC page Katie referenced earlier.

Eric

Edited: 27 Jan 2006, 2:59 a.m.

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Which calculator? I would like your advice

*Message #1 Posted by **Joe Edwards** on 23 Jan 2006, 8:30 p.m.*

Hello folks, I have hung around this forum for about three years now, posting occasionally, but for the most part just reading others' posts. You folks are very knowledgeable in regards to this subject, so I hope to gain some valuable insight with this post. I have returned to college after almost 20 years. During that 20 years I spent time in the military and held down a few non-technical jobs. I'm currently working on a geography degree and entertaining a second degree in mathematics. Teaching at the junior college level seems like a nice niche and I can do this with just a Master's. In 1987 (my first year of college) I bought a HP 32s and only lightly used the thing. It traveled with me during my stay in the army, but mostly just sat (unloved) in a desk drawer. The RPN idea seemed nice and the 32s always seemed like a wonderful machine, but I really had no reason to use it other than for simple calculations. I knew nothing else about the HP calculator line as I was still in high school in the early-to-mid 80s. Fast-forward 20 years and now the great HP calc is pretty much deal, with nothing but a few "zombie clones" passing themselves off as HP calcs. Nonetheless, I am considering a 33s and a 49g+ as day-to-day machines for my studies. I currently have the following HP calcs (15c x 4, 16c x 1, 11c x 1, 27s x 1, and a 32s x 1). I only plan on keeping three at most, but if they are vintage machines, I want them to be in solid condition. OR should I sell them all and just get the new "HP" machines and call it a day? EXCEPT for the 27s as I love that calc. So, what will I really need for a Geography and Mathematics degree...calculator wise? It would be easy to fall into the nostalgia trap (as I did with the use of the MINIDISC format) of the vintage machines, as they are built so well, but in the long run does it really matter? Or would I be better severed with just a 33s and a 49g+? Any and all opinons are welcome. Thanks in advance.

Joe Edwarads

Re: Which calculator? I would like your advice

*Message #2 Posted by **John Noble** on 23 Jan 2006, 9:04 p.m.,*
in response to message #1 by Joe Edwards

1 + 1 still equals 2 (or 1 1 +, if you please), so your current stable of 15Cs and other delectable vintage gear should do all the math a calculator should do. Graphing and other stuff is better done on a computer, IMHO.

FWIW, I just got a 33S yesterday and I think it doesn't suck. Once I got past the silly cosmetics (and hard to read keyboard legends), it's everything I want in a calculator: good keyboard feel (much better than my 49G+, not as good as my 12C), nice easy RPN keystroke programming, ample memory, 2 visible stack elements, etc. I wrote a Gregorian -> Julian date conversion program without looking at the manual (much), right after opening the box, and it was actually fun.

My 49G+ is for sale since I really don't have the inclination to invest so much time in learning a calculator when I have access to much more powerful machines like the iBook I'm typing this on.

It's really just personal preference, I think: try *all* the options, which is an excuse for expanding your collection. (I'd like to try a 15C, for instance!)

Re: Which calculator? I would like your advice

*Message #3 Posted by **Don Shepherd** on 23 Jan 2006, 10:48 p.m.,*
in response to message #1 by Joe Edwards

Hi Joe. I got my Master's in Geography 32 years ago and I am getting a second Master's in teaching now (Middle School math). Based upon the college math courses I have taken the last couple of years, what you will need is (I know this is sacreligious in this forum) a TI 84 + silver edition, and that will be way more than you will ever need in Geography. I love RPN on my HP's, but you will never need it in college.

Re: Which calculator? I would like your advice

*Message #4 Posted by **Joe Edwards** on 24 Jan 2006, 12:52 a.m.,*
in response to message #3 by Don Shepherd

Don, What would be different if I just used a HP 49g+ versus a TI unit, as long as I know how to use it properly? What made you decide to go back for your education degree? Thanks.

Joe

Re: Which calculator? I would like your advice

*Message #5 Posted by **Don Shepherd** on 24 Jan 2006, 4:17 a.m.,*
in response to message #4 by Joe Edwards

Hi Joe. I guess the 49G+ would be sufficient for most purposes. The professors, however, will use the TI series, and there are lots of help resources available for the TI's versus very little for the HP. I have a 49G+ but I have never used it for graphing because the TI just seems easier.

I decided to leave the computer field after 28 years because I wanted to make a difference in the world, and I decided the middle school math classroom would be my stage. I am student-teaching right now, and I love it. The kids all say "hey, gray-haired dude, aren't you too old to be a new teacher?"

Re: Which calculator? I would like your advice

*Message #6 Posted by **Jan** on 24 Jan 2006, 7:08 a.m.,*
in response to message #1 by Joe Edwards

Hi Joe,

No matter what you do with your vintage calcs, if I were you I would keep at least one functioning HP15c and the 32S. They basically do all the math you will need, the 32S a little faster than the 15c. The 15c is a very versatile machine including calculations involving complex numbers and matrices in addition to a root-finder and numerical integration. Except for the matrix-calculations the 32S has similar features, however the complex number handling is somewhat limited when compared to the 15c. I have 15c and 32S units myself and as a scientist I am quite satisfied with both of them. If you would like to buy an additional calculator, I would choose a graphic one to complement the possibilities of the 32S and 15c, the 48 or 49 models being a fair choice.

Re: Which calculator? I would like your advice

*Message #7 Posted by **Ron Ross** on 24 Jan 2006, 9:10 a.m.,*
in response to message #1 by Joe Edwards

Your 27s is probably the best of the bunch for general math and certainly more than enough for your geography. Many on this board think highly of the rest though (including me, but the 27s blows them all away aside from some higher end functions of the Hp15c). I wouldn't part with any of the rest myself(but you could

sell an extra Hp15c or two and buy another Hp27s and/or a brand new Hp49G+)

The 27s is kind of tough to replace and you might consider buying a new Hp48GII or Hp49G+ and using in in algebraic mode. However, these calculators are not any better than a Ti-86 (and actually more awkward to use) if you do not take advantage of their RPN mode (many functions and features are much easier to use in RPN and flag 117 set).

It is true that most schools use the Ti-83/84 graphics calculator in their curiculum (they are nearly identical aside from I/O and extra RAM and some extra apps/programs included in the 84). They are not in the same league as an Hp49G+, but they are also much easlier to operate and use for the average user.

Since you really like the Hp27s, if you want a graphics, your best choice would be a Ti-86 or maybe even a Ti89. The Ti-86 offers a nice menu system, long variable names, like your 27s and a solver similar to your 27s as well.

Good luck with your shopping and let us know what you liked best.

Re: Which calculator? I would like your advice

*Message #8 Posted by **Joe Edwards** on 24 Jan 2006, 9:15 a.m.,*
in response to message #1 by Joe Edwards

Thanks for the info so far. I am glad to see someone else cares for the 27s besides myself! I guess I need to stir the pot a bit by adding another ingredient. What do you folks say to a HP 41c/v/x as a useable calc (with appropriate modules) versus say the 15c/11c or 32c (I don't have a 42s). Thanks.

Joe

Re: Which calculator? I would like your advice

*Message #9 Posted by **Ron Ross** on 24 Jan 2006, 10:00 a.m.,*
in response to message #8 by Joe Edwards

You might also consider an Hp19Bii. It is very similar to the Hp27s with the added feature of both more buisness functions and more importantly, units conversions. And if you don't mind giving up RPN, the older Hp19B can be purchased fairly reasonably via ebay (the Hp19Bii has RPN, the plain Hp19B doesn't).

Something else to consider. And the Hp19B is fairly easy to buy and replace vs your Hp27s. Drawbacks: Battery door and fold out book type interface (some like this though).

Re: Which calculator? I would like your advice

*Message #10 Posted by **Joe Edwards** on 24 Jan 2006, 10:23 a.m.,*
in response to message #9 by Ron Ross

I just took a look at the 17b and 17bii. That is one ugly calculator! To be truthful, I like RPN, but the 27s is hard to turn away from with all those extra features. I haven't found any of the new HP equipment very interesting. While I didn't spend the last 20 years in a career using the vintage HP models, I did buy one in '87 and have been hooked on the vintage HP design and the QUALITY of those "Made in USA" products. It just makes my head spin that 20 years later, we cannot (with better technology) make a product with the same QUALITY as the old HP units. I really doubt the current line of HPs will still be operational in 20 years...and IMHO no one will really care if they do. While shopping at the local office store I picked up a 12c and was disappointed to find that the thing weighed half(?) that of my 15c models...and it felt "cheap", if that makes any sense. Maybe another 27s will do and a 15c if I can learn to use it as well. Still, those old 41c models....sigh

Re: Which calculator? I would like your advice

*Message #11 Posted by **Ron Ross** on 24 Jan 2006, 12:40 p.m.,*
in response to message #10 by Joe Edwards

I did not suggest the Hp17B or Hp17Bii, I suggested the Hp19B or Hp19Bii. These are business calculators with trig functions and units conversions.

The Hp15c is a well made tool that is appreciated most by EE's or others with a need of complex number, matrix computations and possibly numerical integration. If you don't need these features, the Hp11c or Hp32s do just as well. To get the above on an Hp41, additional application modules are needed. That is the charm of the Hp15c over everything else except for the Hp42s or an Hp41c with an advantage pac module.

Simply put, the Hp19Bii may be worth looking into for an easy to find RPN with all the niceties of the 27s (same calculator from a functional point of view aside from the lack of HEX, OCT, BIN, Dec conversions, and no algebraic precidence in algebraic mode).

If you do like RPN, the Hp 48G (older and easily available for not a lot of $$$$ on ebay) is an excellent choice. Nice Hp feel, kind of bulky, but has a great solver w/ all the features of the Hp27s as well as many more. If you key in your own programs or equations, 32K is a lot, if you buy a cable and download, 32K don't go far. But you can download a couple of decent programs and with all the built in features, it is a graphics that will last a long time. It is slow in graphing compared to the Ti line, but I don't use it to graph functions anyway. The newer Hp's are far faster, but aren't of the same quality and the new Hp48Gii doesn't offer the built in equation library of the older Hp48G either.

Re: Which calculator? I would like your advice

*Message #12 Posted by **Joe Edwards** on 24 Jan 2006, 6:26 p.m.,*
in response to message #11 by Ron Ross

I just mistyped the model name. I meant that the 19b and 19bii are ugly, but hey, looks isn't what the game is about. Sorry for the confusion.

Re: Which calculator? I would like your advice

*Message #13 Posted by **Ron Allen** on 25 Jan 2006, 5:38 a.m.,*
in response to message #12 by Joe Edwards

Well, Joe, it looks like you got a lot of advice that many of us took note of as well. After about 30 years using programmable calculators beginning with the TI59, I have grown with the maximum versatility. I like the 49g+ preceded by the 48 series, but I am no math major. I like to experiment with programs in such disciplines as forestry using multiple regression techniques to estimate yields; financial equations involving random transactions, both amounts plus or minus and random dates; Real estate investment projections. I also take photography equations to the field to confirm my choices of settings for depth of field in closeup photos. I am able to perform and verify some recreational calculus up to simple linear differential equations and a healthy list of symbolic integrals and derivatives. If I were into serious math as a second major, I think I would get something more fundamental to replace my slide rule from the sixties, something to assist me at the chalk board, something highly portable. From everything I have heard, the 33 series seems to fit your needs for now.

Let us hear what you decide and why,

Ron

Re: Which calculator? I would like your advice

*Message #14 Posted by **Joe Edwards** on 25 Jan 2006, 8:55 a.m.,*
in response to message #13 by Ron Allen

You just hit on something of interest. I am learning to us a Soroban (a Japanese abacus) and would love to learn to use a slide rule. Any advice on a nice slide rule?

Joe

Re: Learning the slide rule

*Message #15 Posted by **Tom Sherman** on 25 Jan 2006, 9:53 a.m.,*
in response to message #14 by Joe Edwards

Any slide rule will do for the basics, but if you want to get fancy, get a Log Log Duplex Decitrig slide rule by Keuffel & Esser (K&E), along with the original manual by Lyman M. Kells, Willis F. Kern, and James R. Bland. The manual is excellent and will teach you the basics of any slide rule. It can be obtained inexpensively from ABEbooks.com if you do not get it with the slide rule itself.

Cheers, Tom

Re: Which calculator? I would like your advice

*Message #16 Posted by **Ron Allen** on 25 Jan 2006, 4:33 p.m.,*
in response to message #14 by Joe Edwards

Joe, I have an old K&E Deci-Lon with 4 plus and 4 minus LN scales. It is great for estimating "LN+1" values for things like growth curves, half life calculations and compound interest problems. The best book for me in the sixties was the hardback manual that came with the slide rule, but it has no library of Congress number or ISBN. It has good examples of solved problems.

Brought back nostalgic stuff for me to break it out to get your info. You might locate one on eBay. The title of the booklet is simply "K&E Slide Rules," published by Keuffel & Esser Co. I remember our old badges of rites of passage strolling around campus wearing the foot-long scabbards containing one of those "mysterious devices" we serious students wore. Now they carry programmables and/or laptops in their backpacks. I'm green with envy just thinking of how much more time I could have spent on concepts instead of countless hours roughing out statistical data analysis with slide rules and old mechanical calculators.

An engieers supply store or college book store should have plenty of log/log engineer graph paper. Take two sheets of this and "slide" the nonlinear scales next to each other to set up divide by and multiply by situations and you will have the fundamental premise on which the slide rule is designed, (LOG Y + LOG X = LOG XY AND LOG X - LOG Y = LOG X/Y.) The LN scales are based on the premise that LOG X^Y = LOG X x Y, etc. These facts on which the rule is designed and the fact that engineering paper for log/linear, linear/log and log/log can display non linear curves as linear in the highest order helped me to understand how we can say

that differential equations are considered linear if the highest order equations are linear, while all lower order derivatives can be non linear.

I hope this helps in your search for a good slide rule book. I would say that, as a calculator, the slide rule is primitive and obsolete while, as a teaching tool, it contains a lot of promise. Good luck on your change of career!

Ron

Re: Which calculator? I would like your advice

*Message #17 Posted by **Wayne Brown** on 26 Jan 2006, 10:13 a.m.,*
in response to message #16 by Ron Allen

> Quote:
>
> I would say that, as a calculator, the slide rule is primitive and obsolete while, as a teaching tool, it contains a lot of promise.

Yet there are practicing engineers who still use slide rules in their daily work, even though they have calculators and laptops available.

Re: Which calculator? I would like your advice

*Message #18 Posted by **Bill (Smithville, NJ)** on 27 Jan 2006, 7:48 a.m.,*
in response to message #16 by Ron Allen

"the slide rule is primitive and obsolete while, as a teaching tool, it contains a lot of promise."

I agree.

I used slide rules in high school and college - 1966-1970. Even now, 40 years later, there are two items that has stayed with me:

1. How to normalize numbers for calculating.

2. How to quickly do an estimate of what the answer should be. Had to know where to put the decimal point in the final answer.

I work for a design MEP enginering firm, and I find a lot of the young engineers do not know how to to quickly estimate the range of the final calculation. They are too dependent on the calculated value - even when the calculated value does not make sense from the input data.

Bill 12345

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HP 41 functions

*Message #1 Posted by **Paul** on 23 Jan 2006, 4:14 p.m.*

Need help. I have an HP 41CV that I have been using for years for simply math functions. While using the calculator recently I unknowingly hit a key which changed the display. I am trying to find someone who might be able to tell me which key I hit and how to get the normal display back. The present display is a number on the left followed by a decimal and then two numbers on the far right. The two numbers on the right correspond to hwo many decimal places are in the number that I enter. Can someone help?

Re: HP 41 functions

*Message #2 Posted by **randy** on 23 Jan 2006, 4:21 p.m.,*
in response to message #1 by Paul

You changed it to engineering or scientific notation. To go back to the usual fixed 4 decimal places:

1. [gold shift]
2. [1] (see the word FIX above the 1 key?)
3. [4]

and you'll be back to the default display format.

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HP 21

*Message #1 Posted by **77Bronc** on 23 Jan 2006, 3:07 p.m.*

I still have the HP 21 that I used through engineering school, it does not have a battery pack or charger. I sure would like to get it back in operation. Can you direct me to anyone that can help me get it back working?

Thanks,

RLS

Re: HP 21

*Message #2 Posted by **John Noble** on 23 Jan 2006, 6:58 p.m.,*
in response to message #1 by 77Bronc

fixthatcalc.com could probably do it, and there have been some rebuilt battery packs listed on eBay recently, though others would know better than I if they are for 20-series calculators.

Re: HP 21

*Message #3 Posted by **Randy** on 23 Jan 2006, 9:47 p.m.,*
in response to message #2 by John Noble

The fabricated packs on eBay are for the Classics (35/45/55/65/67/70/80), they will not work for a 20 series Woodstock.

Woodstocks require a specific battery, a two piece plastic shell which got sealed together, encapsulating two AA rechargeable cells with a spring in one end. Very special and quite hard to find as they usually got thrown out years ago when they showed signs of leakage. HP ceased battery sales in 1995 (or thereabouts) so replacements are non-exsistent other than eBay and those usually come with a calculator...

Personally, I have more calculators and chargers than batteries for my 21/22/25/25C/29C and yes, I'm still looking for a 27 :(

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Is the TI-57 a nonpareil?

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 23 Jan 2006, 3:10 a.m.*

Is the vintage TI-57 calculator a nonpareil? Consider that it came on the market in mid 1977 and then try the following demonstration program. Starting from turnon enter the program by pressing in sequence:

LRN
2 2nd Exc SST
2nd Lbl 0 R/S SST 5 R/S LRN RST R/S LRN
6 BST 2nd Ins LRN RST R/S LRN
5 BST 2nd Ins LRN RST R/S LRN
2 BST 2nd Ins LRN RST R/S LRN
4 BST 2nd Ins LRN RST R/S LRN
2 BST 2nd Ins LRN RST R/S LRN
7 BST 2nd Ins LRN

To run the program press GTO 2nd 0 4 R/S

Re: Is the TI-57 a nonpareil?

*Message #2 Posted by **HrastProgrammer** on 23 Jan 2006, 5:14 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Yes, beside digits 0..9, TI-57 has the ability to show A, b, C, d, E and F characters using synthetic programming.

I just entered your program into my TI-57E emulator running on HP-48G ... it displays FACAdES (if I entered it correctly) :-)

Edited: 23 Jan 2006, 7:13 a.m.

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HP 32SII - which year is best?

*Message #1 Posted by * on 22 Jan 2006, 11:45 p.m.*

Hey everyone, I just bought an HP 32SII on Ebay and the serial number is 3619M08959. As I'm sure you know that implies it was made in Malaysia around May 1996. I also have a second one due any day in the mail.

My question is whether there is any year or country of origin that would be most desirable?

It seems like the latest model of the brown bezel would be most desirable since it might have all the rom bugs fixed? Or maybe one made in Germany or Japan would be higher quality etc? Did the switch to silver bezel occur sometime after production moved to Indonesia in 1997?

Thanks!

Re: HP 32SII - which year is best?

*Message #2 Posted by * on 22 Jan 2006, 11:58 p.m.,*
*in response to message #1 by **

Another serial number for sale on Ebay:

ID90204491 Indonesia, Jan 1999.

Would this be better (in some way) than the one I have? It also has a brown bezel.

Thanks.

Re: HP 32SII - which year is best?

*Message #3 Posted by **Thomas Radtke** on 23 Jan 2006, 2:57 a.m.,*
*in response to message #2 by **

I'd go for a later Singapore model. Early ones had a bug in the fraction mode. Mine is from '91, Week 36 (3136S.....)and definitly has the bug. I think the Singapore keyboards are unbeaten, very soft but still with a good tactile feedback.

Thomas

Re: HP 32SII - which year is best?

*Message #4 Posted by **e. young** on 23 Jan 2006, 12:05 p.m.,*
*in response to message #1 by **

I do not like the Indonesian produced versions because the numbers are only painted on the keys. In my opinion, I would try to get one made in Singapore, and not later than 1994 sp you can get the keys with the numbers molded in. A coworker has a 32sii mf'd in Singapore in 1995, and it only has the painted-on numbers.

Re: HP 32SII - which year is best?

*Message #5 Posted by ***** on 23 Jan 2006, 12:39 p.m.,*
in response to message #4 by e. young

Thanks (to both of you)! This is the kind of info I was looking for. So hopefully one in 1993 has the fraction bug fixed and the molded keys. I wonder when the fraction bug was definitely fixed? Would it be obvious looking at a close-up photo whether it has the molded keys?

Re: HP 32SII - which year is best?

*Message #6 Posted by **Brock** on 28 Jan 2006, 9:16 a.m.,*
*in response to message #5 by **

I just bought a 32SII with a serial number of 3207S05688 that does not have the fraction bug. Hope that helps.

Re: HP 32SII - which year is best?

*Message #7 Posted by **bill platt** on 23 Jan 2006, 1:53 p.m.,*
in response to message #4 by e. young

Wow, that means my 32sii is at least 14 years old!

Re: HP 32SII - which year is best?

*Message #8 Posted by **Ron Ross** on 24 Jan 2006, 10:02 a.m.,*
*in response to message #1 by **

Out of nostalgia, I like my USA model Hp32sii the best. Funny, my older Hp32s is made in Indonesia, I believe.

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42X

*Message #1 Posted by **CW (Maui, Hawaii)** on 22 Jan 2006, 11:08 p.m.*

Greetings,

I am considering 42X. I was looking at a list of things about it when I came to line #6

(6) You own the HP-42S and you have the ability to dump the ROM contents from the calculator to the computer so I can incorporate your ROM into the emulator.

Does anyone have a description of how to do this with pictures?

Also I noticed elsewhere that you cannot save data to port memory, I assume then that you can save data to calculator memory?

Thanks, CW

Re: 42X

*Message #2 Posted by **Howard Owen** on 23 Jan 2006, 12:19 a.m.,*
in response to message #1 by CW (Maui, Hawaii)

The instructions that worked for me are in this archive at Christoph Gießelink's EMU42 site. It involves using a 128K HP48g,or an HP48sx with at least 70K or so free. That assumes the US version of the 42S, whose ROMs are 64K in size. The international versions use 2 such ROMs for 128K total, and you then need more than that amount of memory to hold the ROM images and the library that does the copying

Regards,
Howard

Re: 42X

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 23 Jan 2006, 12:49 a.m.,*
in response to message #2 by Howard Owen

Hi, Howard;

just a question: isn't the HP17BII the Pioneer with an extra ROM with messages in foreign languages, Portuguese included? I have a working HP42S (and one that's not) and had the chance to upgrade a few ones to 32KRAM, mainly models commercialized in Brazil. None of them had the extra ROM.

Is taht correct?

Cheers.

Luiz (Brazil)

Re: 42X

*Message #4 Posted by **Howard Owen** on 23 Jan 2006, 1:58 a.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Hi, Luiz,

You are right! I had read JF Garnier's document here "HP-42S - New Facts" that describes how there is provision for an add-on ROM in the HP-42S. When I read Christoph's document, I conflated his statement that the 17B had domestic and international versions with JF's write up on the 42S and drew the wrong conclusion. Since my 42S is a US English model, I never got corrected by reality, as it were. 8) Thanks for catching that!

So dumping a 42S ROM should never take more than 70K, as Christoph's document clearly states.

Regards,
Howard.

Edited: 23 Jan 2006, 1:59 a.m.

Re: 42X

*Message #5 Posted by **HrastProgrammer** on 23 Jan 2006, 1:10 a.m.,*
in response to message #1 by CW (Maui, Hawaii)

Also I noticed elsewhere that you cannot save data to port memory, I assume then that you can save data to calculator memory?

If you mean HP-42X 'virtual' ports then yes, you can save only programs there (this is some kind of static program storage). In extended version of HP-42X you have 96K RAM which so you have plenty of memory available for data (and programs), I think.

This is from my page:

In addition to the 96K of HP-42S RAM, some versions of HP-42X support the port memory. Its purpose is to store programs for long term use. Data cannot be stored to port memory. Programs cannot be directly executed from port memory but they can be dinamically loaded to the main memory and executed. There are two ports inside HP-42X: Port1 (RAM port, size 16K for HP42X48L, 30K for HP42X49L and 31K for EXTENDED versions) and Port2 (ROM port, size 32K). These are 'virtual' HP-42S ports which have nothing to do with the real HP-48/49 ports. Port memory isn't affected by "Memory Clear".

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HP-67 Card reader repair

*Message #1 Posted by **Erin Finch** on 22 Jan 2006, 10:43 p.m.*

I have an HP-67 calculator that has been working great for years. I bought it on ebay from Mike Davis back in 2002 and up until just recently, it has seen little use. I decided this year to sell it. I felt it wasn't getting the proper respect it deserved since I aquired an HP-41, and it would be better off in the hands of another collector. When I got it out, I was dissapointed to find the card reader didn't function.

I'm going to summerize a long story: The calculator would pull cards through ok, but would emit a slight screech at the end of the read (like it was still trying to pull a card through when there was none left) and would display "error." First I suspected it was the "gummy wheel" problem, but I found the wheel wasn't gummy in the least. Then I looked into some guides online, and decided that the clutch must be going out. I used Mark Hoskins guide to repair the clutch via the less than ideal (but only method I could manage) super-glue method. The motor now feels and sounds (is more noise good?) like it has signifigantly more power, but still fails to read and write. I'm pretty novice at these repairs, and don't have a clue what to do beyond this point.

It seems to pull cards through fine, but entirely fails to read/write data to/from the card. I'm at my wits end. Any idea what could be the problem, or where I should even start to look?

Your help appreciated,

-Erin

Re: HP-67 Card reader repair

*Message #2 Posted by **David Smith** on 22 Jan 2006, 11:41 p.m.,*
in response to message #1 by Erin Finch

I would suspect one or more of the reader leaf switches is misadjusted. Since the motor seems to be starting properly the MOTOR switch is OK. I would first check the HEAD switch.

When you insert a card you should see the MOTOR switch close first, the the HEAD switch, then the WRITE PROTECT switch. If you don't have Tony Duell's excellent HP classic notes, you can trace the contacts on the back of the keyboard to the pins going to the CPU card.

Re: HP-67 Card reader repair

*Message #3 Posted by **Erin Finch** on 22 Jan 2006, 11:57 p.m.,*
in response to message #2 by David Smith

> Quote:
>
> I would suspect one or more of the reader leaf switches is misadjusted. Since the motor seems to be starting properly the MOTOR switch is OK. I would first check the HEAD switch.
>
> When you insert a card you should see the MOTOR switch close first, the the HEAD switch, then the WRITE PROTECT switch. If you don't have Tony Duell's excellent HP classic notes,

you can trace the contacts on the back of the keyboard to the pins going to the CPU card.

Sounds logical. I assume you are talking about those gold plated contacts inside the calculator. Is the a diagram somewhere of which contanct is which? (motor/Write Protect/head)

Thanks for the quick reply.

Re: HP-67 Card reader repair

*Message #4 Posted by **Vassilis Prevelakis** on 23 Jan 2006, 11:16 a.m.,*
in response to message #3 by Erin Finch

While there is no service manual for the HP-67 (to the best of my knowledge), the MoHPC CDROM collection includes the service manual for the HP-97. Given identical architectures and the numerous similarities in the hardware of the two machines, I'd encourage anybody how wants to repair an HP-67 to check out this manual.

There is also of course the circuit diagrams made by Tony Duell. The CDROM with these is available from the UK user's group (http://www.hpcc.org/cdroms).

**vp

Edited: 23 Jan 2006, 11:24 a.m.

Re: HP-67 Card reader repair

*Message #5 Posted by **David Smith** on 23 Jan 2006, 12:17 p.m.,*
in response to message #3 by Erin Finch

You can figure out what switch is what by the position of the nylon balls that press the gold leaves, but you really dont need to. Just make sure that each switch opens and closes cleanly as a card is inserted and removed. The switches are adjusted by turning the little screw at the base of each leaf. Generally you can crank down the screw until the switch is closed without a card in and then back it off a eigth to a quarter turn or so until the switch opens up. Then check with a card.

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YATZ for the 48g! Please help

*Message #1 Posted by **Howard Owen** on 22 Jan 2006, 10:25 p.m.*

Hello MoHPC calculator enthusiasts.

I need your help in play testing my port of YatZ to the HP48g. I've actually ported the game to the 49G and the 49g+ as well, but I've released it first for the older machines. So I'm making the beta announcement here, in case there are folks who want to try it on the older hardware. I'll make a wider beta announcement later, but I thought I'd let you all have first crack!

Here are the URLs for source and binary versions.

YatZ48-1.0beta-bin.zip - Binary
YatZ48-1.0beta-src.zip - Source Code

I hope you enjoy the game. Comments and bug reports are very welcome.

Regards,
Howard

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Old 48g menus on hp49

*Message #1 Posted by **Rui** on 22 Jan 2006, 4:51 p.m.*

I've heard that I can use old hp 48G on a hp 49g/+. I mean I type " 75 MENU " and I get hp48 solver menu. Anyone know how to find the list of menu numbers?

Thanks

Rui

Re: Old 48g menus on hp49

*Message #2 Posted by **Gene Wright** on 22 Jan 2006, 5:09 p.m.,*
in response to message #1 by Rui

The list of all menu numbers can be found in the HP49g+ Advanced User Reference Manual.

This is on hpcalc.org and the hp.com/calculators website on the 49g+ page under the manual link.

Gene

Re: Old 48g menus on hp49

*Message #3 Posted by **Howard Owen** on 22 Jan 2006, 5:56 p.m.,*
in response to message #2 by Gene Wright

Hi, Gene,

Any news on whether we'll see a hardcopy version of the 49G+ AUR? I've been using the PDF version quite a lot, but a real manual (as in "hand"-ual) would be a boon.

Regards,
Howard

No printed 49g+ AUR

*Message #4 Posted by **Gene Wright** on 23 Jan 2006, 6:04 p.m.,*
in response to message #3 by Howard Owen

To my knowledge as of today, there are no plans by HP to offer a printed copy of the 49g+ AUR.

Note that there never were any plans to have an actual product offered by HP (with an HP product number) for sale of the printed copy of the 49g+ AUR, but there had been the possibility of some sort of deal/arrangement with another party to allow printed copies to be acquired/produced.

That does not appear to be in the offing now.

So, to get a printed copy of the AUR, take the PDF to a copy shop and start negotiating with the vendor.

Re: No printed 49g+ AUR

*Message #5 Posted by **Howard Owen** on 23 Jan 2006, 6:55 p.m.,*
in response to message #4 by Gene Wright

> Quote:
>
> So, to get a printed copy of the AUR, take the PDF to a copy shop and start negotiating with the vendor.

That was going to be my next question. 8)

The download site at HP has the following text:

> Quote:
>
> **About these files:**
> These manuals are provided as a courtesy to our customers for printing only. ..

That sounds like the sort of message I'd like my local copy shop to get, but it's vague as to whether "for printing only" means by the customer, or by a print shop on behalf of a customer. And then the manual itself has this standard clause:

> Quote:
>
> Reproduction, adaptation, or translation of this manual is prohibited without prior written permission of Hewlett- Packard Company, except as allowed under the copyright laws

And that's what the guy at the copy shop sees coming out of his machine.

Without getting too tangled up with corporate lawyers, do you know of a clearer statement of HP policy regarding printing the manuals?

Regards,
Howard

Re: No printed 49g+ AUR

*Message #6 Posted by **Gene Wright** on 23 Jan 2006, 11:09 p.m.,*
in response to message #5 by Howard Owen

That's always the problem, of course.

I would think Kinko's would be ok with printing the PDF.

Best of luck, Gene

Re: No printed 49g+ AUR

*Message #7 Posted by **Ron Allen** on 24 Jan 2006, 2:24 a.m.,*

in response to message #6 by Gene Wright

FWIW, Staples has no problem producing a copy based on disclaimers for user's purposes. I imagine HP would be happy if someone else produced hard copy for say about $20. After all the "Guide" is only 861 pages using up nearly a reem of paper printed both sides, AUR is considerably less.

Kind of ridiculous to carry a calculator for field work while needing a laptop to read the manual The size of either manual has to impress clients, internal or external, when you show up with such power for field support. This little device has more functions than MathCad. Need a manual though to reference all its power and access to numbered menus, for example.

It was explained to me several months ago by tech support that a policy decision was made by senior management at HP to honor the environment by cutting back on paper and that user manuals weren't considered a priority item, especially when they could use Adobe and PDF files.

Ron

Re: No printed 49g+ AUR

*Message #8 Posted by **e.young** on 24 Jan 2006, 12:30 p.m.,*
in response to message #7 by Ron Allen

Why then do they print a user guide for the 33s which is a much simpler machine than the 49?

Re: No printed 49g+ AUR

*Message #9 Posted by **Howard Owen** on 24 Jan 2006, 2:10 p.m.,*
in response to message #8 by e.young

'Break even' 'Expected sales' 'Page count' / X>Y?

is true.

Re: No printed 49g+ AUR

*Message #10 Posted by **John Limpert** on 25 Jan 2006, 2:30 a.m.,*
in response to message #4 by Gene Wright

I've used http://www.printfu.org in the past to print large PDF files, like HP calculator manuals. You upload the PDF file to their site, then they print it double-sided, bind it, and mail you the result. I'd recommend their service.

Re: Old 48g menus on hp49

*Message #11 Posted by **Rui** on 22 Jan 2006, 6:46 p.m.,*
in response to message #2 by Gene Wright

Thank you.

I didn't have the chance to put my hands on the manual yet, since I'm working with borrow hp 49g with no documentation.

I'll download it. :)

Re: Old 48g menus on hp49

*Message #12 Posted by **Samuel Heddle** on 24 Jan 2006, 3:03 p.m.,*
in response to message #1 by Rui

Just an off-topic tip, but you can access Menu 75 by holding right shift and 7, and pressing the soft menu option "root".

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HP 45

*Message #1 Posted by **Rolf Seitle** on 22 Jan 2006, 3:47 p.m.*

I would like to make my HP45 operable. The calculator is OK, but I need a replacement battery. Can anyone point me in the right direction? I appreciate any assistance the group can provide.

Rolf

Re: HP 45

*Message #2 Posted by **Hal** on 22 Jan 2006, 6:49 p.m.,*
in response to message #1 by Rolf Seitle

Hello Rolf,
Those battery packs are always on E-bay. here is a link to one of the offerings.... http://cgi.ebay.com/NEW-BATTERY-PACK-FOR-HP-35-45-55-65-67-80-CALCULATOR_W0QQitemZ5855556744QQcategoryZ11713QQssPageNameZWDVWQQrdZ1QQcmdZViewItem

Best regards, Hal

Re: HP 45

*Message #3 Posted by **Jan** on 25 Jan 2006, 3:50 p.m.,*
in response to message #1 by Rolf Seitle

Hi,

If you bother about buying on ebay or if you don't want to spend too much money, there is the alternative of making a pack by yourself. Recently I got a 45 and a 67 with both packs gone. Since the 67 is still in workable condition (except for the rubber wheel of the card-reader) I wanted to have a replacement pack for it and decided that the easiest option is to make one myself. I took 3 NiCd cells and connected them in series, some good tape holding the entire thing (including contact-plates) together. With some appropriate wiring and 2 additional plates with the right aspect-ratio and bend into a V-shape along their longest side (all fixed to the "pack" with tape) it makes a working battery-unit. The NiCd cells are somewhat too short to fill the entire battery-compartment but with some "filler" (could be anything suitable even some folded paper) the pack's contacts remain in place. Be sure however that the pack's internal contacts as well as the contacts connecting it directly to the calc's terminals are ok. Although the 45's manual does not indicate that a pack has to be in the calculator when it is run on the AC line (the 67's handbook explicitely does to prevent calculator dammage) I would NOT recommend operating the 45 without a pack inside (which is in fact what you do when the (internal) wiring of the pack is faulty).

Re: HP 45

*Message #4 Posted by **Marcus von Cube, Germany** on 26 Jan 2006, 2:02 a.m.,*
in response to message #3 by Jan

> Quote:
>
> I would NOT recommend operating the 45 without a pack inside

The 35 and 45 can safely be used on AC power without a battery! The power adapter has three pins from which one is ground, one feeds the battery pack and the third powers the calculator. As long as the power plug is connected to the calculator the battery is actually disconnected from the internals of the device.

This is not the case for later models where (as in older TIs) the battery pack is used to regulate and limit the external power. As far as I know, calculators with a card reader (65, 67, 97) need a battery a avoid damage to the card reader electronics!

Marcus

Re: HP 45

*Message #5 Posted by **Tony Duell** on 26 Jan 2006, 7:19 a.m.,*
in response to message #4 by Marcus von Cube, Germany

From what I remember of the schematics :

Classic models without a card reader (35, 45, 55, 70, 80) can be safely used on the adapter with no battery in place. When the adapter is plugged in, the battery is disconnected from the calculator.

Classic models with a card reader (65, 67) can damage the card reader sense amplifier chip if connected to the adapter with no battery fitted. This is particularly true of the 65 (the chip was re-designed in the 67).

Woodstock, spice and sting models without continuous memory should not be connected to an adapter with no battery in place. It is unlikely to cause damage, but I wouldn't risk it.

Woodstock, spice and sting models with continuous memory MUST NOT BE CONNECTED TO AN ADAPTER WITHOUT A BATTERY IN PLACE. Sorry for shouting, but this is the most common way to ruin the (HP custom) RAM chip and possibly other parts.

Topcat models without continuous memory (91, 92, 97, 97S) will not be damaged if connected to an adapter with no battery, but the printer and/or card reader may not work properly. There is a circuit built into these machines to limit the supply voltage under these conditions.

Topcat models with continuous memory (95C) must not be connected to the adapter without a battery in place. The same protection circuit as in the other topcats is there, but it only works with the power switch 'on'. There is a very real risk of damaging the always-powered RAM chip if connected to an adapter with the machine turned off.

Re: HP 45

*Message #6 Posted by **Tony Duell** on 26 Jan 2006, 7:20 a.m.,*
in response to message #5 by Tony Duell

One thing I forgot to add (for the legal people out there)

The information was offered in good faith, but obviously I am not responsible if you damage a calculator by following it.

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trying to work with Zenrom, Novram and Advantage together

*Message #1 Posted by **Fulcrum** on 22 Jan 2006, 5:52 a.m.*

Hello, I have the Zenrom, Novram with Hepax and PPCROM flashed and advantage modules. I want to use them together, but no combination in the hp41 ports seem to make them work all. Sometimes advantage is not recognised and sometimes the zenrom displays strange chrs when I make a catalog 2. Is there any way they work together? Thank you very much

Re: trying to work with Zenrom, Novram and Advantage together

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 22 Jan 2006, 1:48 p.m.,*
in response to message #1 by Fulcrum

Hi, Fulcrum;

first, consider that HEPAX emulated by NoVRAM tries to allocate itself in the first, lower-numbered, available page (HEPAX documentation calls these 'blocks' instead of 'pages'). As each page is also switcheable into four banks, HEPAX uses the four banks in the lower available page; as each page addresses up to four banks, 4KBytes each bank, HEPAX is actually a 16KByte-ROM module. It might be good idea to also check how is the NoVRAM RAM addressed.

I am not sure about ZenROM, maybe it goes to the lower page related to the port it is plugged in. And the Advantage occupies two banks in the lower page plus one bank in the upper page of the port it is plugged in.

So, consider that only the NoVRAM is plugged in and you want to know which page is the PPCROM addressed. You can use HEXEDIT and test for each of the known page addresses. If yours is an HP41, plug only the NoVRAM and try this:

```
[XEQ][ALPHA]HEXEDIT[ALPHA]  [ADR:_ _ _ _      ]
5000 [ENTER]
```

If the HEPAX is actually allocated to page #5, you'll see

```
HEPAX ROM
```

briefly in the LCD and the input message [ADR:_ _ _ _] back to the display. Now you can try other addresses in the range 8000 to F000 so you can find which page is the PPC ROM allocated to. To try another address once you are already navigating in one page, press the back-arrow (correction) key and key another address in. To exit HEXEDIT, press back-arrow key in the [ADR: _ _ _ _] display.

Once you key in a valid address, you can navigate with [SST] and [TAN] keys, being [TAN] equivalent to BST. The regular HEXEDIT display is:

```
[XXXX YYY _ _ _  ]
```

where XXXX is the current address, YYY represents its contents (000 to 3FF) and _ _ _ is the input-cue reminder. If you see nothing but 000 in YYY field as you navigate through the page contents, this means the page is empty, i.e., no modules addressed to it. After finding where is the PPCROM image allocated to, you'll be able to plug the other modules accordingly. My suggestion is: plug the NoVRAM in the lower port (prot

#1), locate the PPCROM image, turn the calculator OFF, plug the other modules in, one at a time, locate where are they allocated, and see if there is no conflict. I'd suggest Advantage in port three and ZENROM in port four. This would give port 2 free for HEPAX RAM pages. In any way, Diego is the guy to tell you how it is organized.

I saw that in a halfnut HP41CV, HEPAX in NoVRAM occupies port #5, and in a halfnut HP41CX it goes to port #6 (port #5 in the HP41CX is internally used by X-Functions/Time Module).

Not so much of a help to solve the problem, but I guess it will help you going ahead.

Cheers.

Luiz (Brazil)

Edited: 22 Jan 2006, 3:18 p.m.

Re: trying to work with Zenrom, Novram and Advantage together

*Message #3 Posted by **Fulcrum** on 22 Jan 2006, 3:45 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Thank you very much Luiz

Re: trying to work with Zenrom, Novram and Advantage together

*Message #4 Posted by **Diego Diaz** on 22 Jan 2006, 5:42 p.m.,*
in response to message #3 by Fulcrum

Hi there,

Thanks Luiz, for your detailed explanation regarding page allocation "seeking". I certainly wouldn't have done it better. ;-))

Fulcrum, the main trouble with the configuration you've chosen is that there is not enough addressable space into 41's memory area for that number of modules.

Let's see:

HEPAX ROM is not a trouble as it will fit itself into page #5 (41C or CV) or page #6 (41CX), but HEPAX RAM is, as it will go from pages #8 thru #B. Therefore, you have just 4 free addressabe pages (#C - #F) but a 5 pages modules count: PCC (2 pages, into NoVRAM flash), Advantage PAC (2 pages, don't care about Bank-Switching) and ZenROM PAC(1 page)... Oops, one page too many!

Don't pannic, as usual NoVRAM (HEPAX) allows a nice workaround ;-)

- Just plug in your NoVRAM (port-1) along with ZenROM PAC (port 3 or 4 depending on where your PCC image is addressed to).

- Clear HAPAX RAM from page #B.

- [COPYROM] from wherever your ZenROM is, to page #B. Now you have a copy of ZenROM into NoVRAM's non volatile RAM wich you may handle as if it was ROM.

- Remove ZenROM pac and replace with Advantage.

Now you have them all running into your HP-41!!

Hope this helps.

Best regards.

Diego.

Edited: 23 Jan 2006, 7:35 a.m.

Re: trying to work with Zenrom, Novram and Advantage together

*Message #5 Posted by **Fulcrum** on 23 Jan 2006, 6:40 p.m.,*
in response to message #4 by Diego Diaz

Hello, Diego, thank you for your help, I am rather new to this hepax and memory structure of the 41, could you explain me how do I do the ram clearing and how could I find the zenrom location? Thank you

Re: trying to work with Zenrom, Novram and Advantage together

*Message #6 Posted by **Miki Mihajlovic** on 24 Jan 2006, 1:04 a.m.,*
in response to message #5 by Fulcrum

Zenrom module is allocated to the upper page of whatever port it is plugged into. So if you plug it into port say 1, Zenrom will be at page #9 (port 2 - Page #B, 3 - #D, 4 - #F). As per Zengrage "... the reason for this, is to accommodate the growing number of users who are installing modules inside their 41s. Because ZENROM is addressed to the upper 4k of a port, both ZENROM and another standard 4k module can be effectively plugged in to the same port..."

I would plug Zenrom into port 4, COPYROM from #F to #B and replace Zenrom with Advantage, as Diego suggested.

Re: trying to work with Zenrom, Novram and Advantage together

*Message #7 Posted by **Fulcrum** on 24 Jan 2006, 5:05 a.m.,*
in response to message #6 by Miki Mihajlovic

ok and how do I put the address of b anf f pages in the x and y registers? Thank you

Re: trying to work with Zenrom, Novram and Advantage together

*Message #8 Posted by **Fulcrum** on 24 Jan 2006, 5:17 a.m.,*
in response to message #7 by Fulcrum

Hi again, I managed to copy the 15 (F) on the 11 B and now it works, still 1304 registers free, how is that possible, I thought it would use 4k and I have the same amount of registers free than before. Thank you

Re: trying to work with Zenrom, Novram and Advantage together

*Message #9 Posted by **Diego Diaz** on 24 Jan 2006, 9:12 a.m.,*
in response to message #8 by Fulcrum

Hi,

First a recomendation, it is important to read the HEPAX manual top to toe... :-)

Now for the details:

I'll suppose you've placed PCC images into pages #C and #D.

- Execute [HEPAX 002] to get a "Memory map".

- Clearing RAM is performed by HEPAX [CLRAM] function, you must enter "OK" into alpha register and place the number of the page (in decimal) into X register. It will be advisable to rebuild your HEPAX Filesystem completely, mostly because of the ill configurations you've been using (placing overlapped pages of ROM/RAM) which more likely have left garbage into NoVRAM RAM. So repeat the clearing procedure for every page from #B to #8. (Order is "somehow" relevant)

- Once your page #B (d'11) is cleared, then place source page d'15 (if you plug Zenrom into port 4) in X register, then destination page d'11 into X register, (source page nr. will be pushed to Y register by doing so), then [COPYROM]

- Switch OFF, replace Zenrom module with Advantage and ON again...

You're done!!

Now your register count [HEPROOM] shoud be ok.

Best regards.

Diego.

Re: trying to work with Zenrom, Novram and Advantage together

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 24 Jan 2006, 10:32 a.m.,*
in response to message #8 by Fulcrum

Hi, Fulcrum;

If you allow me a suggestion, mainly based on Diego's wise words, it's time to order a MoHPC DVD/CD Set, unless you already have them. All necessary manuals/books to master these modules (or most of them) are already there. A few others may also be found at TOS.

Please, consider this a suggestion. As I mentioned before, I think all contributors in here agree with me when I say it's a pleasure to help when I (we) can. Anyway, sometimes it is a good idea to have such reference/study material in hands so you can go ahead with 'interactive' experiments + knowledge base.

Cheers and success.

Luiz (Brazil)

Re: trying to work with Zenrom, Novram and Advantage together

*Message #11 Posted by **Fulcrum** on 24 Jan 2006, 11:22 a.m.,*
in response to message #10 by Vieira, Luiz C. (Brazil)

Hello again mates: First of all thank you for your help. I have some sets of

documentation, including Hepax, synthetic programming, extend your hp41, etc, they are overwhelming to me as I am starting and I am not used to manage this machines as a "hardcore user", so I am trying to do my best learning, the more I learn the more find this machine amazing, specially in such an old piece of equipment... See you

Re: trying to work with Zenrom, Novram and Advantage together

*Message #12 Posted by **Vieira, Luiz C. (Brazil)** on 24 Jan 2006, 12:42 p.m., in response to message #11 by Fulcrum*

Hi,Fulcrum;

Just to keep suggestions 'up to date' (as you mentioned correctly, the HP41 is yet an amazing computational tool), one of the most interesting books I read (been reading, in fact) is "HP41 MCode for Beginners". It delves into the HP41 HW and MCODE structures, as a an 'in deep' complement to HEPAX Manual Vol. 2. You see, dealing with HP41 inner secrets demands knowing some tricks, if I can say so.

I myself am also new in the HP41 'insides', although I use it since the 80's. After I got the chance to put my hands in an MLDL2000 and both NoVRAM/NoV32 in the end of 2005, I started delving into the same secrets you are dealing with right now. I guess I know the feeling of wanting to go ahead and finding a bunch of documents to be understood. Based on all of what I've been reading so far, these documents are somehow compact, and sometimes I wish they have a few more pages to explain some details I know that were not mentioned.

Cheers and success.

Luiz (Brazil)

Edited: 24 Jan 2006, 12:44 p.m.

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HP30S Numerical Anomaly

*Message #1 Posted by **Rodger Rosenbaum** on 22 Jan 2006, 12:16 a.m.*

Recently while looking at the calculator forensics web site,

http://www.rskey.org/~mwsebastian/miscprj/forensics.htm

I noticed that the HP30S was shown to pass the

arcsin(arccos(arctan(tan(cos(sin(9))))))

test with no error.

I wondered if this was really true, so I decided to look at all the intermediate results during the calculation. I discovered that the zero error result is the result of a peculiarity of the HP30S arithmetic.

The HP30S is apparently doing binary arithmetic internally, with 80 bit precision (about 24 digit decimal precision). It can be verified that ordinary operations such as +, -, * and / are giving 24 digit results. Some of the other mathematical functions don't do so well. Joe Horn discovered a while ago that square root only gives about 12 digit precision. The trig functions can give substantially less than 24 digits; sometimes as low as 14 digits.

The full precision of a particular result can be seen using the technique described on the calculator forensics web site to see guard digits: (http://www.rskey.org/~mwsebastian/miscprj/guard_digits.htm).

The idea is to make a calculation and then subtract some of the leading digits of the result and then you will see the rest of the digits. It may be necessary after the subtraction to multiply by some power of 10 to shift the remaining digits left so they can be seen.

The last calculation in the calculator forensics test is an arcsin, and while looking at the details, I discovered the following peculiar behavior of the HP30S.

In degrees mode, type the following into the HP30S (followed by enter):

Type arcsin(.156434465031) and see the result: 8.999999999

Type (arcsin(.156434465031)-8.999999999)*100000000000 and see: 46.45174843

The digits from the second calculation should be appended to the digits from the first calculation to give a multi-digit result of: 8.999999994645174843; the exactly correct result should be: 8.9999999946451748615554. In this case the HP30S gets 18 correct digits.

But now do the same calculation with a slightly greater argument:

Type arcsin(.156434465032) and see the result: 9

Type (arcsin(.156434465032)-8.999999999)*100000000000 and see: 100

The exact result should be: 8.9999999995252746476729

What happened? After some playing around, it seems that whenever the result of a calculation (of a trig function, at least) is an integer followed by .9999999995+, that is, the digits after the decimal point are nine 9's and a 5 plus just a few more non-zero digits, the HP30S just rounds up to the next integer. So what should have been:

8.9999999995252746476729

turns into 9.000000000000000000000000.

And the same thing happens on the other side of an integer (slightly greater than some integer). For example:

arcsin(.156434465049) returns 9.000000001:

(arsin(.156434465049)-9)*100000000000 returns 50.86970993

Realizing that the first result was actually 9.0000000005+some more digits (it got rounded up to 9.000000001 in the display), we can construct the full result of 9.0000000005086970993. The exact result should be: 9.000000000508697101168 52--the HP30S gets about 16 correct digits.

But now try arcsin(.156434465048) and get 9

Furthermore, (arsin(.156434465048)-9)*100000000000 returns 0
, indicating that there are no more digits after the integer 9.

Again the digits after the decimal point have been dropped, and we don't even get 12 digit accuracy.

It appears that whenever the digits after the decimal point are greater than .9999999995 or less than .0000000005, they get dropped--at least as a result of a trig calculation; I haven't checked all other caclulations, but this may happen always.

Why do they do this? Probably to avoid some of the apparent small errors that happen in simple calculations, which perplex naive calculator users. For example, do (sqrt(2))^2 on a typical calculator and get 1.99999999999...(depending on how many digits the calculator carries) instead of exactly 2. Or do sin(pi) and get something other than zero. Or do (6^-1)^-1 and get 5.99999999999... instead of exactly 6. The HP30S gets the exact expected result, but at the price of reduced accuracy when a result is near an integer.

So finally, this is why the HP30S gets exactly 9.00000000000000000 when running the calculator forensics test. To see the real error, one should subtract the input argument of the test from the final result. That is, do:

arcsin(arcos(arctan(tan(cos(sin(9))))))-9

On the HP30S, the result is 0, leading one to believe that the HP30S is *really* accurate. But redo the test as:

arcsin(arcos(arctan(tan(cos(sin(9.1))))))-9.1

to foil its rounding near integers and see a result: 4.833288903E-11

Not all that great for a calculator that can do 24 digit calculations, eh?

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More on ill conditioning and calculator precision

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 21 Jan 2006, 11:40 p.m.*

On January 7 Rodger Rosenbaum initiated the thread "Ill conditioning and calculator precision" to carry forward discussion of an earlier thread initiated by Valentin Albillo. Near the end of the thread Rodger wrote "But, back to the original purpose I had when I started this thread. I noticed that a slightly different perturbation of the column matrix has even greater effect. Change the third element of the column matrix in Valentin's original problem from 45 to 45.1--now the exact solution is:

```
x1 = -2128901625
x2 =      268387
x3 = -1898169427
x4 = -1909014362
x5 =    -1317226
x6 =  1908985003
x7 =  3994038147
```

This is a tremendous change in the solution for an apparently insignificant change in one element."

For reference Valentin's original problem was

```
    1.3 x1 + 7.2 x2 + 5.7 x3 + 9.4 x4 + 9.0 x5 + 9.2 x6 + 3.5 x7 =  45.3
    4.0 x1 + 9.3 x2 + 9.0 x3 + 9.9 x4 + 0.1 x5 + 9.5 x6 + 6.6 x7 =  48.4
    4.8 x1 + 9.1 x2 + 7.1 x3 + 4.8 x4 + 9.3 x5 + 3.2 x6 + 6.7 x7 =  45.0
    0.7 x1 + 9.3 x2 + 2.9 x3 + 0.2 x4 + 2.4 x5 + 2.4 x6 + 0.7 x7 =  18.6
    4.1 x1 + 8.4 x2 + 4.4 x3 + 4.0 x4 + 8.2 x5 + 2.7 x6 + 4.9 x7 =  36.7
    0.3 x1 + 7.2 x2 + 0.6 x3 + 3.3 x4 + 9.7 x5 + 3.4 x6 + 0.4 x7 =  24.9
    4.3 x1 + 8.2 x2 + 6.6 x3 + 4.3 x4 + 8.3 x5 + 2.9 x6 + 6.1 x7 =  40.7
```

where the system has the exact solution:

x1 = x2 = x3 = x4 = x5 = x6 = x7 = 1.0

In the earlier thread I provided solutions to the original problem on several different machines and to a modied problem which changed the B1 value from 45.3 to 45.4 . Solutions to the modified problem with B3 changed from 45.0 to 45.1 follow.

With my HP-28S:

```
              B/A                                  INV A * B

       X                    A*X                     X                    A*X

-30272808391.1              45.04          -30272808407.9             -87.494
     3816428.18496          48.302              3816428.21599        -181.961
-26991815255.9              46.374         -26991815236.6            -162.843
-27146029351.6              18.506         -27146029342.2              -7.895
   -18730860.0936           36.536            -18780860.0977         -144.096
 27145611882.5              24.694          27145611823               -18.702
 56794898378.3              40.67           56794898341.2             -146.409
```

where the signs of the elements of the solution are correct but the magnitudes are off by an order of magnitude yielding relative errors of 14.2 . The calculations of A*X do indicate that there are difficulties with the solution.

My Model 100 and TI-85 yield the following solutions

Model 100		TI-85	
X	A*X	X	A*X
-2128141186.5423	45.3	-2148392852.67	45.3014
268291.13337654	48.399	270844.2167	49.3991
-1897491405.5188	45.1	-1915548178.57	45.1
-1908332466.734	18.5999	-1926492404.72	18.5999
-1316755.4898248	36.698	-1329285.91435	36.6983
1908303118.2216	24.9	1926462776.91	24.90025
3992611486.3345	40.699	4030605692.38	40.7002

where the signs and magnitudes are correct. At least the first three digits of each element of the Model 100 answer are correct yielding relative errors of 3.57e-04. The relative errors for the TI-85 are 9.15e-03.

The MATRIX routine of the HP-41 Math Pac and ML-02 routine of the TI-59 Master Library yield the following results

HP-41		TI-59	
X	A*X	X	A*X
24666733.49	45.3	-2077198547.178	45.32
3108.726	48.4	261868.9227801	48.44
21993331.58	45.1	-1852069973.364	45.11
22118987.39	18.59	-1862651525.312	18.6
15263.2	36.7	-1285235.478686	36.7
-22118645.18	24.84	1862622879.371	24.901
-46277322.87	40.7	3897037862.598	40.71

where the magnitudes and even most of the signs of the result from the HP-41 are wrong. The magnitudes and signs of the result from the TI-59 are correct and of the correct order of magnitude yielding relative errors of 2.4e-2. Curiously, with the HP-41 the product of Matrix A and the solution vector yield the exact values of the elements of vector B. This suggests that comparing the product A*X with B to measure the acceptability of the solution may not be a good idea if the user is interested in a real world solution as opposed to a solution which is of value only in the calculator's world. The determinants for Valentin's Matrix A were

Exact	1.e-07
HP-41	-86.31e-7
HP-28S	0.0703238892937e-07
TI-59	1.024890772918e-07
TI-85	0.990927530944e-07

Rodger also wrote "Try something I described in an earlier post; add .1 to the {3,7} element of the A matrix, and subtract .1 from the {7,7} element. This tiny change reduces the condition number of the A matrix from about 3E12 to about 400, and using this slightly perturbed A matrix with the perturbed column matrix mentioned just above gives a HP48G solution:

```
x1 = 1.20999247798
x2 = 1.01325966115
x3 = 1.26616078717
x4 = 1.29157926088
x5 = .997263593179
x6 = .690061410742
x7 = .499897531935
```

This isn't as close to [1 1 1 1 1 1 1] as we would like, but given what the solution was with just the third element in the column matrix perturbed and using the original A matrix, this inprovement is an astounding result considering that only two tiny perturbations were made to the A matrix.

My purpose here is to show that with proper techniques we can find reasonable solutions to very ill-conditioned systems. Systems as badly conditioned as Valentin's example are unlikely to occur in practice; they must be

artificially constructed. But, if we can handle them, then we can certainly handle the ones we encounter in real life problems.

Palmer, it would be good if you tried solving the system on your various calculators, consisting of the column matrix perturbed in the third element, and the {3,7} and {7,7} elements of the A matrix perturbed as I described. I think you will find that you don't get wildly varying results with these changes. For example, on my HP48S, which uses the same matrix routines as the HP28, I get about 9 or 10 digit agreement with the solution posted above, whether I use the divide key or invert the A matrix and multiply times the column matrix."

My HP-28S yielded

```
              B/A                                  INV A *B

      X               A*X                   X                    A*X

1.20999247808         45.3             1.20999247808         45.2999999988
1.01325466114         48.4             1.01325966123         48.3998999983
1.26616078724         45.1             1.26616078741         45.0999999989
1.29157926094         18.6             1.29157926101         18.6000000005
0.99726359318         36.7             0.997263593181        36.6999999992
0.690061410687        24.9             0.690061410466        24.9000000001
0.499897531784        40.7             0.499897531481        40.6999999991
```

My HP-28S solutions are consistent with Rodger's results from his HP-48S. Note that when using the B/A method the product of matrix A and the solution vector yields exactly the B vector.

The simultaneous equation solution with my TI-85 is

```
1.2099924779883
1.0132596611477
1.2661607871723
1.2915792608817
0.99726359317885
0.69006141074113
0.49989753192964
```

where the product of the A matrix and the solution matrix yields exactly the B matrix.

The solution from my Model 100 is

```
       X                   B - A*X

1.2099924779846           -1e-12
1.0132596611482            2e-12
1.2661607871704            1e-12
1.291579260881             1e-12
0.99726359317867           0
0.69006141074154           0
0.49989753193417           1e-12
```

where in the second column I listed B - A*X rather than A*X to avoid typing in all those zeroes. I wasn't pleased with the TI-85 and Model 100 results. We were hoping to get a solution closer to all ones using the modification to Valentin's problem, but the TI-85 and Model 100 solutions were further away, not closer than with Valentin's original problem. It occurred to me that perhaps the exact solution to the perturbed problem wasn't all ones. I went to my HP-49G emulator and solved the problem in the exact mode with the following results

```
x1 = 9667493448/7989713675  =   1.2099924779845
x2 = 8095654571/7989713675  =   1.013259661148
x3 = 10116362156/7989713675 =   1.2661607871699
x4 = 10319348483/7989713675 =   1.2915792608801
x5 = 7967850568/7989713675  =   0.99726359317876
x6 = 1102678618/1597942735  =   0.6900614107426
x7 = 3994038147/7989713675  =   0.49989753193502
```

which confirmed my suspicions.

The results obtained with the MATRIX routine in the HP-41 Math Pac module and the ML-02 routine in the TI-59 Master Library module:

```
   HP-41                  TI-59


1.209992482          1.209992478108
1.013259663          1.013259661129
1.266160800          1.266160787202
1.291579278          1.29157926087
0.997263593          0.9972635931871
0.690061393          0.6900614107704
0.499897511          0.4998975318243
```

where the differences from the exact answer are only seen in the lower order digits of each machine. The determinants for the modified matrix A are

```
Exact           798.9713675
HP-41           798.9713752
HP-28S          798.971367542
TI-59           798.9713674893
TI-85           798.9713675
```

Some playing with the numbers on my HP-28S:

If I multiply Valentin's original A matrix times the X vector from from the third modification with A(3,7), A(7,7) and B3 changed I get

```
45.3
48.4
45.0500102468
18.6
36.7
24.9
40.7499897532
```

where the RMS relative error with respect to the B vector of the third modification is 2.672e-02. Furthermore, If I multiply the original A matrix by a vector obtained by rounding the X vector to the nearest 0.25, i.e., a vector made up of the elements 1.25, 1, 1.25, 1.25, 1, 0.75, 0.5 I get

```
45.35
48.45
45.025
18.6
36.7
24.9
40.725
```

which has n RMS relative error with respect to the B vector of the third modification of 2.988e-02

As a novice to the idea of perturbing problems to relieve ill-conditioning I am not sure what all of this means.

Finally, Rodger suggested that someone should translate a Fortran program for singular value decomposition (SVD) for use with BASIC. I took a quick look. Someone else will have to do it. I haven't done any Fortran programming since about 1970.

Re: More on ill conditioning and calculator precision

*Message #2 Posted by **Rodger Rosenbaum** on 23 Jan 2006, 9:58 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Let me make some further observations regarding Valentin's original system. It was intended to be an example of a set of measurements one might make in the lab, for example. The entries in the A matrix were recorded as two digit quantities, presumably because they were real measurements which could not be taken to be more accurate than two digits. Consider the first entry in the A matrix, namely 1.3. This might have been measured

with a digital meter giving more than two digits, but rounded and recorded with only two digits. The actual measurement could have been any number x, 1.25 < x < 1.35; it could have been 1.273, or it could have been 1.329, for example. Either of those readings would have been rounded and recorded as 1.3. So each entry in the A matrix could have actually been measured as the recorded value +- .5 ULP.

So, let's create a 7x7 perturbation matrix consisting of 49 uniformly distributed random numbers varying from about -.5 ULP to about +.5 ULP, and then add that perturbation matrix to the A (call the perturbed matrix A') matrix of Valentin's original system, and solve the perturbed system. If we were to round A' to 2 digits, we would get back the original A matrix. This A' matrix could indeed be the matrix of measurements made with the hypothetical digital meter before they were rounded to two digits; we have no way of knowing since we only have the values after they were rounded. In fact, if we create multiple 7x7 perturbation matrices filled with the previously described random numbers and add them to the original A matrix, all of these A' matrices could have been the actual measurements. There's no reason so far to prefer one of them over the others, including Valentin's original. In fact, the original *unperturbed* A matrix would seem to be a somewhat unlikely candidate because that would mean that all 49 measurements had exactly 2 digit precision. And if the measurements were made with some instrument that only gave 2 digit readings, the real value of the measured quantity was still undoubtedly contaminated with noise, and a value somewhere in the range of recorded value +- .5 ULP was the true value.

You can get insight about the behavior of the original system by repeatedly creating a perturbation matrix, A', and adding it to the original A matrix and solving the system. Each of those solutions is just as likely as any other, including the [1 1 1 1 1 1 1] solution. I have done this for 150 repititions and here are some of the results (rounded to 3 digits):

```
[-8.71 1.33 -7.52 -6.28 .804 8.33 18.5]
[.785 .981 .841 .773 1.01 1.22 1.39]
[1.55 .948 1.38 1.23 1.03 .788 .172]
[1.2 .864 .763 .371 1.06 1.69 1.33]
[4.08 1.06 4.08 4.34 .98 -2.4 -5.27]
[5.44 1.1 5.05 5.21 .963 -3.25 -7.51]
[9.18 1.08 7.65 8.17 .911 -6.07 -13.6]
[-20.7 .628 -19.6 -20.6 1.06 23.2 43.5]
[-1 .808 -1.36 -1.72 1.1 3.83 5.65]
```

This procedure can't indicate that any one of these solutions is any more likely than another, or than the [1 1 1 1 1 1 1] solution, to be the "true" solution.

The procedure can be done on the HP49 emulator (or a real HP48G or HP49) easily. Assume that the original A matrix and the original column matrix B are stored in variables of those names. Then this program will generate a perturbation matrix, add it to the A matrix, and solve the system.

<< B A RANM 247.487 / A + / -3 RND >>

This can be executed repeatedly to see results such as I gave above.

The constant 247.487 is to cause the perturbation matrix to have a Frobenius norm of about .1414, which is the same as the norm of perturbation matrix used to create the slightly perturbed matrix I suggested and you used in your previous post; the maximum perturbation of an individual element of the A matrix will be about +- .0404, just slightly less than .5 ULP (.5 ULP would be .05).

Now, in your previous post, you said:

"I wasn't pleased with the TI-85 and Model 100 results. We were hoping to get a solution closer to all ones using the modification to Valentin's problem, but the TI-85 and Model 100 solutions were further away, not closer than with Valentin's original problem. It occurred to me that perhaps the exact solution to the perturbed problem wasn't all ones. I went to my HP-49G emulator and solved the problem in the exact mode..."

My discussion should have indicated that the perturbation I suggested wasn't intended to give a solution of [1 1 1 1 1 1 1], because we don't yet know if that is really the "best", or "true", solution. What I was trying to show is that if you carry out certain procedures (a simple perturbation of the A matrix here), you can reduce the condition number enough that the new system can be solved by almost any calculator to reasonable accuracy. The solution we got, and with respect to which all the calculators you tried gave good results, is undoubtedly much closer to the "true" solution than the exact solution:

```
x1 = -2128901625
x2 =      268387
x3 = -1898169427
x4 = -1909014362
x5 =    -1317226
x6 =  1908985003
x7 =  3994038147
```

In another post I'll talk about using the singular value decomposition to get the "best", or "true", solution.

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vintage calc drag races

*Message #1 Posted by **Hal** on 21 Jan 2006, 6:25 p.m.*

Hi everybody, I was messing around with some old machines last night and thought I would see which one ran the fastest. The results were a bit surprising to me. The three machines were a 15c, 34c, and 29c. I put three different types of identical programs into each machine (one that had many calls to subroutines, one that was just a simple counting loop, and one that was just a string of transcendental functions back to back). I was careful to put the programs in the same relative position within program memory in all three machines as well.
Now the (surprizing) results...the 29C outran the other two machines in all three types of programs! I wouldn't have expected the oldest machine to (apparently) run the fastest. Is this because the 29c has a smaller ROM menu, and fewer program lines to search, or does it indeed run faster? Comments please. Thanks, Hal

Re: vintage calc drag races

*Message #2 Posted by **Bram** on 23 Jan 2006, 10:23 a.m.,*
in response to message #1 by Hal

I was as surprised as yourself when I discovered the HP11C being significantly slower than my HP29C. I've understood by this forum that the Voyager series was designed to last a life time on a set of batteries (at the cost of speed). Perhaps because it was the first series to run on batteries (ignoring the Woodstocks could run on penlights as well), HP might have thought that the user mustn't be bothered with changing expensive batteries within some years after purchase of the calculator. Obviously a matter of choice.

It's somewhat strange that the Spices are slower than Woodstock. I can't think of a reason for that.

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hp 41 or hp 49?

*Message #1 Posted by **e. young** on 21 Jan 2006, 12:59 p.m.*

which one of the 2 machines would be better for dayly use by an engineer? I know the 41 series has huge nostalgic appeal, and also that the 49 has had quality issues. Is one easier to program than the other? Is buying a 49 a risky move due to quality and bad design issues that have plagued the most recent calculators from HP (Kinpo)? Thanks.

Re: hp 41 or hp 49?

*Message #2 Posted by **Stephen Easterling** on 21 Jan 2006, 2:12 p.m.,*
in response to message #1 by e. young

I have never been able to adjust to the way the numbers are displayed on the 41 with the LCD segments. Any of the Pioneer displays are much better, IMO. A 42S, 32S, 32SII, or 33S are much better choices, IMO.

The 49G+ is better at almost anything that HP has ever made in a calculator. It's fast, inexpensive (compared to a nice vintage HP calc), has virtually unlimited memory (depending on SD card size), the display contrast is unbeatable, and the ROM can be upgraded. The downside: it's big and bulky and hard to fit in your pocket. Regarding quality, the new models now,... and using at least ROM 2.00, are great. The quality is more than good enough for me and still better than the competition.

I think a 15C is great if you like it's keypad layout and don't mind its speed. The 15C will go easy on batteries, plus I've never heard of a LR44 / 357 battery leaking as easily as others. The 15C is also made strong like a little brick! There's a reason why so many here want to "bring back the 15C." There aren't too many that say "bring back the 41." Again, this is just my opinion.

Edited: 21 Jan 2006, 2:16 p.m.

Re: hp 41 or hp 49?

*Message #3 Posted by **Massimo Gnerucci (Italy)** on 21 Jan 2006, 3:52 p.m.,*
in response to message #2 by Stephen Easterling

> Quote:
>
> There's a reason why so many here want to "bring back the 15C." There aren't too many that say "bring back the 41." Again, this is just my opinion.

Of course this is just your opinion, do you allow me to express mine?

While so many (?) shout that they want back the 15C, you can actually buy (right here, right now) brand new enhacements for the 41C (Clonix, NoVram, MLDL2000).

In 2006, for a calculator out of production since 15 years.
Doesn't this ring a bell?

And why do you find the numbers in the display of a 15C much better than those in the 41C?

Greetings,
Massimo

Re: hp 41 or hp 49?

*Message #4 Posted by **Massimo Gnerucci (Italy)** on 21 Jan 2006, 5:08 p.m.,*
in response to message #2 by Stephen Easterling

My apologies to Stephen for the tone used in my previous reply: it could easily sound offensive.
That was not my intention.

When someone doesn't like my *lady* the blood boils up...
Sorry Stephen!

Massimo

Re: hp 41 or hp 49?

*Message #5 Posted by **Howard Owen** on 21 Jan 2006, 2:21 p.m.,*
in response to message #1 by e. young

From a casual perusal of comp.sys.hp48, it appears to me that the latest 49G+ ROMs, combined with tweaking of parameters (dealing with keyboard debounce, it seems,) look like they have addressed keyboard issues with recent vintage 49G+ machines.

Otherwise, the two machines truly are like apples and oranges. Both have learning curves, but the 41C is a much simpler machine. This can be an advantage or not depending on whether you need some bell or whistle available on the 49G+ that's not there on the 41. Since the feature list of the 49 is so long, I can't suggest what that might be, except to note that the screen graphing capabilities and symbolic manipulations are missing on the 41. Many people here think those are overkill on a calculator anyway, given that PCs do them so much faster and better, and that numeric calculation is the proper domain of a handheld calculating machine.

Here are some other differences I can think of.

Item	HP41C	HP49G+	HP48GX	PC
Speed	Slow	Faster	Intermediate	Fastest
Ease(Programming)	High	Very Low	Very Low+	Varies
Ease (Use)	Medium	Low	Low	Varies
Software	Lots	Lots	Lots	Lots!
Ease of loading	Hard	Easy	Intermediate	Too easy. 8)
"Power"	Low	Medium	Medium-Low	High

The 49G+ is a 75Mhz ARM that emulates the Saturn CPU found in earlier 48 series machines. So some of its functions are reasonably fast, but others poke along due to the emulation. the 49G and 48G+ both ran a 4Mhz Saturn. In terms of speed, they were OK for their day, but have been eclipsed by 68K TI machines and the ARM based HP models. The 41C CPU ran at 750 Hz, but it was optimized for BCD math, and so performed a bit better than you would expect at that speed. Whether it's too slow for you depends on what exactly you need to calculate, and in what timeframe. If speed is really important, no calculator can beat a modern PC, running any recent processor I know about.

Ease of programming is somewhat subjective. A couple of months ago we engaged in extensive discussion about the relative nerits of RPN keystroke programming, which the 41C implements, and RPL, which is what the 48 and 49 series use. The RPL afficianados claimed that RPN seemed counter-intuitive and difficult for them, whereas most of the RPN enthusiasts said the same about RPL. Obviously, familiarity with one or the other plays a role in perceptions of this quality. But I don't think anyone would seriously argue that RPL wasn't

a *lot* more complicated - and more powerful - than RPN. Having just completed implementing a game on the 48GX, 49G and 49G+, I can say that there was light at the other side of the first inflection point on the learning curve for me. I'm now pretty comfortable with User RPL, but it took a good six months of occasional effort to get there. By way of contrast, it took me something like a month to learn to program the 41C at fairly high proficiency back in the 80s, and that was the first time I'd programmed anything!

Ease of use depends on how easy it is to get to common functions, and how easy it is to get them to work together. Both the 49G+ and the 41C had a lot of though devoted to their respective user interfaces. So the ensemble works pretty well in both cases. However, there are fewer functions on the 41, so there are fewer that you need to spell out in order to get to. The 49G+ has menus, but customizing those is more trouble than assigning a key on the 41C. I give both high points for trying to make themselves usable, but the 41C wins on simplicity, in my opinion.

There's lots of software available for both platforms. Some of it overlaps, but as you might expect, the 41C's lean heavily toward numeric calculation, whereas the 48 amd 49 series have a load of symbolic and graphical apps too. Mostly though, the software for the 41 is as good for what it does as anything available for the 49. And of course neither can hold a candle to the number of high quality apps available for PCs.

There's an issue regarding loading software onto the 41C. If you don't want to key in a program by hand, you need extra hardware. There are lots of choices for this, but they are complicated, and invole hardware as old as the 41C itself.

Partially balancing this is the fact that 41C programs can only get so large before they fill the limited memory on the machine. This, combined with the slow speed of the CPU is why I give the machine a "low" power rating. The 48GX has more memory and a faster CPU. Also, RPL is more complicated, but also more expressive than RPN. I think that the 49G+ is more powerful than the 48GX by virtue of its faster CPU and larger usable memory. But there's also the fact that an assembler and other developer tools are built in to the machine. Once again the PC wins by a long mile over any of these machines. Clusters of Intel (and AMD) architecture machines are among the fastest supercomputers on Earth at the moment. And even desktop PCs run rings around the fastest calc I'm aware of. Combine that with the better software choice, and it's easy to see why the calculator has been supplanted for many functions.

But even a laptop is more trouble to carry than a calculator. That's one other thing the 41C has going for it - portability. It has better battery life and a smaller form factor than the HP49G+. Plus it has a special place in my heart. I use my 41C for everything up to the point where I exceed its capacity, mainly due to this nostalgic love for the machine. What works for you may vary.

Regards
Howard

Edited: 21 Jan 2006, 2:23 p.m.

Re: hp 41 or hp 49?

*Message #6 Posted by **e. young** on 21 Jan 2006, 2:40 p.m.,*
in response to message #5 by Howard Owen

Thanks for the excellent replies.

I have gotten by with the "low" end hp's (11c, 32sii, 33s) since I first got turned on to RPN. The 33s has gotten me into programming because I can now have many more in it as compared to the 32sii. I do a lot of numeric calcs, I don't often get involved with the higher end stuff, and when I do, I use pc. So far I find RPN keystroke programming to be very and intuitive.

Re: hp 41 or hp 49?

*Message #7 Posted by **Garth Wilson** on 21 Jan 2006, 3:06 p.m.,*
in response to message #1 by e. young

Although most users used the 41 as a calculator, it definitely qualifies as more of a hand-held computer than the 49 "supercalculator" (all one word, if I can coin it) and similar products. I'm not referring to execution speed, or quantity of memory, or graphics; but the 41 was, as far as I know, the first one that could be interfaced to a lot of professional lab equipment, even a whole rack of instruments simultaneously, while its contemporaries only pretended, being limited to maybe a tiny printer and a microcassette storage device. This interfaceability was important in my work in the 1980's; and in an engineering lab where I woked, almost every engineer had his own 41 that took almost no workbench space, went with him to his desk, went home with him every night in a corner of his attache case, and could be programmed anywhere including on a train ride to work. At least at the time, it was much quicker to whip up a control program on the 41 than it was on PCs. Unfortunately, HP dropped the HPIL which was the key to this interfaceability. An IR link doesn't cut it. For more, see my post at http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/memories.cgi?read=224

My work has evolved over the years; and although I do sometimes still use the 41 and 71 for their interfaceability, more of my workbench-interfacing use of computers involves a home-made workbench computer that interfaces directly to circuits I'm working on, without the bus protocols of HPIL, HPIB, USB, etc..

Re: hp 41 or hp 49?

*Message #8 Posted by **ECL** on 21 Jan 2006, 5:07 p.m.,*
in response to message #7 by Garth Wilson

In regards to the 33s: It is a good tool. My only wish is for any update to handle small matrices. I've said 10x10 in the past (any more and I'd probably input to a pc utility).

The 49g+ is obviously much more capable than the 41. The human/machine interface is the only fault. My copy is very old (obtained in '03) Perhaps the new ones really are better. If the keys were a bit softer and the bounce/skip issue is resolved, then I'd like to purchase one.

Is there a running consensus on the CURRENT batches? ECL

Re: hp 41 or hp 49?

*Message #9 Posted by **Vieira, L.C., (Brazil)** on 21 Jan 2006, 7:24 p.m.,*
in response to message #1 by e. young

Hi e.young, all;

although many others have already posted many good stuff about this issue, and their opinions/thoughts/considerations are mainly regarding to the functionality and/or use, all I´d add is that I'd rather taking an HP49 instead of an HP41 when leaving home. Main reason: I have no idea of what kind of people will ask to borrow my calculator... (I hope I wrote it correctly)

I have five working HP41´s and three (working?) HP49´s.

Cheers.

Luiz (Brazil)

Re: hp 41 or hp 49?

*Message #10 Posted by **Howard Owen** on 21 Jan 2006, 9:25 p.m.,*
in response to message #9 by Vieira, L.C., (Brazil)

You reminded me of another point, Luiz. If you have a 49G or 48GX, you can run Hrast's HP41X emulator, and have the best of both worlds. The 49g+ version exists too, but it isn't quite as functional. Perhaps functional enough for many purposes, though?

Regards,
Howard.

Re: hp 41 or hp 49?

*Message #11 Posted by **Vieira, Luiz C. (Brazil)** on 21 Jan 2006, 9:44 p.m.,*
in response to message #10 by Howard Owen

Hi, Howard;

you're more than right, very well noted! To be honest, only one of my HP49G's is 'as is' and ready to use (RPN, though). The HP49G+ and the other HP49G are actually running HP41X. Their best use, indeed!

I had the chance to purchase Hrast's HP41 + Voyager's emulators; believe me, that's what I call 'money with a purpose'!

Cheers.

Luiz (Brazil)

Re: hp 41 or hp 49?

*Message #12 Posted by **Howard Owen** on 21 Jan 2006, 9:51 p.m.,*
in response to message #11 by Vieira, Luiz C. (Brazil)

Hi, Luiz,

Yes, I remember you said you had HP41X. That's what reminded me. 8)

I have HP41X and HP71X. I'm planning to acquire the others, too. Great stuff!

Regards,
Howard

Edited: 21 Jan 2006, 9:53 p.m.

Re: hp 41 or hp 49?

*Message #13 Posted by **Massimo Gnerucci (Italy)** on 21 Jan 2006, 9:55 p.m.,*
in response to message #11 by Vieira, Luiz C. (Brazil)

Hello Luiz,
nice move!

In one of my 48s (a double-speed G internally expanded to 1280Kb) I have Hrast's 41X, 42X, 71X, 11E, 12E, 15E and 16E.

Aaah, what a nice machine!

Greetings,
Massimo

Re: hp 41 or hp 49?

*Message #14 Posted by **Vieira, Luiz C. (Brazil)** on 21 Jan 2006, 10:10 p.m.,*
in response to message #13 by Massimo Gnerucci (Italy)

You lucky b... Oops! (LOL... d8^D)

I'm happy for you, Massimo!

Cheers!

Luiz (Brazil)

Edited: 21 Jan 2006, 10:12 p.m.

Re: hp 41 or hp 49?

*Message #15 Posted by **HrastProgrammer** on 22 Jan 2006, 1:28 a.m.,*
in response to message #13 by Massimo Gnerucci (Italy)

I have Hrast's 41X, 42X, 71X, 11E, 12E, 15E and 16E.

What?!? You don't have Hrast's 57E?!? Shame on you ;-)

Re: hp 41 or hp 49?

*Message #16 Posted by **Howard Owen** on 22 Jan 2006, 2:15 a.m.,*
in response to message #15 by HrastProgrammer

Oh yeah. I've got that one too. 8)

Re: hp 41 or hp 49?

*Message #17 Posted by **Massimo Gnerucci (Italy)** on 22 Jan 2006, 4:50 a.m.,*
in response to message #15 by HrastProgrammer

Hi Hrast!
of course yes, I have it; but on my HD, not on the calc... not yet? :-D

All the best,
Massimo

Re: hp 41 or hp 49?

*Message #18 Posted by **HrastProgrammer** on 22 Jan 2006, 4:53 a.m.,*
in response to message #17 by Massimo Gnerucci (Italy)

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=85688 :-)

Re: hp 41 or hp 49?

*Message #19 Posted by **Donald Ingram** on 22 Jan 2006, 7:40 p.m.,*

in response to message #1 by e. young

In the mid 80's, I had reached a state where my the HP41CX was becoming a bottleneck and I was very excited at the launch of the HP48sx.

I used complex numbers and matrices a lot for microwave circuit analysis - the HP41 stack could not really cope and my fully loaded 41CX never had enough memory. So as a poor recent graduate I had to sell it. Occasionally I read a nostalgic article on the HP41 and write a few lines of code on the emulator, but find the limitations of the 41 too great and switch to the 49.

I now have the HP48sx at home and a horrible blue HP49 at work - both still get used a lot for simple conversions e.g. VSWR - RL, Vpkpk - dBm, Xc etc. but all the large calculations e.g. microstrip impedance, filter design are now on the PC.

However on that PC runs the HP41 emulator for when I loose the HP49 under a pile of paper.

The Hp48/49 series is easier to program and archive than the HP41. (If only HP had make a RS232 module instead of HPIL - the HP41 series could still be in production as a Instrument terminal) .

Today if you need a calculator as a tool - the HP49 series would give you most run for your money. Check http://www.hpcalc.org and you might find code that fits your needs. Also check out the old HP application pacs - I still often refer to HP41 and HP67 codes examples (it's easier to rewrite them using the formulas than decoding old keystrokes).

Re: hp 41 or hp 49?

*Message #20 Posted by **Garth Wilson** on 23 Jan 2006, 2:07 a.m.,*
in response to message #19 by Donald Ingram

> Quote:
>
> If only HP had make a RS232 module instead of HPIL - the HP41 series could still be in production as a Instrument terminal

You should have gotten the HP82164A or FSI164A HPIL-to-RS232 converter. Better (or in addition), you should have gotten the HP82169A HPIL-to-HPIB converter, which would allow you to interface to a whole rack of IEEE-488 equipment all at once. RS-232 takes too much power to implement directly on the 41, you need a separate RS-232 port for every piece of equipment you want to interface to, and most pro lab equipment was available in IEEE-488, not RS-232. We did set up automated testing with the 41 as a controller. That was never possible with the 49.

RS232 would have worked

*Message #21 Posted by **Donald Ingram** on 23 Jan 2006, 8:19 a.m.,*
in response to message #20 by Garth Wilson

I don't buy the RS232 power consumption - The HP41 can suply greater currents - e.g. the card reader and optical reader.

Especially if you limit the data rate to < 19200 baud the Maxim data sheets show less 10mA or 20mA at those rates for RS232 TX. As TX is intermittent and RX level conversion does not really reqiuire anything, the average current would be less than 5mA = lots of hours from a 1000mAh N battery. A HP41 with RS232 is entirely practical.

The HPIL solution, while elegent, was too expensive for many applications (and certainly for me).

Controlling lots of expensive mains powered instruments, the cost of a HP85 would be less significant. I was wanting to control a <$100 worth of electronics.

The HP41 could have ended up as a single instrument RS232 controller/data logger/ terminal working as an industrial (and hobby) process controller. Imagine lego mindstorm type robots with a HP41 controller on board.

In the 90's before laptops really took off, I used a lot of 'craft terminals' single line dumb terminals to configure PDH/Sonet mux equipment. A RS232 HP41 would have done the job with extra functionality and lower cost.

Re: RS232 would have worked

*Message #22 Posted by **Garth Wilson** on 23 Jan 2006, 2:26 p.m.,*
in response to message #21 by Donald Ingram

Ah yes, the cost of the HPIL and Extended I/O modules plus the interface converters was not trivial. In fact, the joke where I've worked (even among those of us who thought it was worth it) was that "HP" stood for "high-priced." A plug-in RS-232 port would have been nice for people in your position.

RS-232 is still a good workhorse and I still use it, although almost never without the hardware handshaking lines (which again add more current). Not everything supports software handshaking, and the 41 is not fast enough to go without some kind of handshaking. Hardware handshaking would just about be mandatory.

Then there's still the limitation that if you want to connect to five things at once, you need five ports, further multiplying the current requirement. HP would have had to derive the negative supply voltage in the module, and kick the positive supply up a little since 4 partly-used-up N cells don't deliver enough to get the minimum needed output voltage after the line driver drops a bit of it. Today there are quite a lot of line driver/receiver ICs that take care of the voltage conversion onboard for you, although increasing the voltage comes at the expense of supply current.

Making another module is something that could still be done if someone wanted to take up that project. (I'm not the person to do that though.) One nice thing I've seen some hand-held RS-232 devices do is to scavenge their power from the incoming lines, such that in some cases they didn't even need a battery. What the 41's module could do is to use it battery power only to fill in what was lacking from incoming lines. Then connecting to a bench instrument would not cut the 41's battery life at all, and yet the 41 could still be connected to another 41.

Another small connector would have to be used, but that should be no problem.

HPIL was a lot faster than the fastest (19,200bps) RS-232 standard speed in the early 80's, but even that doesn't matter since the 41 couldn't operate the HPIL at more than about 3% of its maximum speed.

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Clonix Project

*Message #1 Posted by **Phil Green** on 21 Jan 2006, 3:01 a.m.*

Hi,I am in the process of making a Clonix-41 module. I have made the pcb and have taken apart an old module. According to the pcb artwork given in the project details, it appears that the pcb is mounted upside down compared to the pcb which is already in the existing module. Is this correct? I look forward to your comments.

Regards Phil Green

Re: Clonix Project: have you tried...

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 21 Jan 2006, 8:40 a.m.,*
in response to message #1 by Phil Green

Hi;

have you contacted Diego Díaz? He's the one that can actually help you with that, though. I bought both a NoV32 and a NoVRAM, and after reading some material at www.clonix41.org, it seems that now all modules share the same PCB layout.

> Quote:
>
> The main IC footprint has been conceived to be fully compatible with previous Clonix-41 and NoVRAM designs so that all and every newly manufactured module will use this PCB, which is also ready to accept the four memory chips required for the future NoV-64.

(from NoV-32: The New Hardware.)

The following picture is actually at clonix41.org. You can see the inside of the module, maybe it can help.

http://www.clonix41.org/Projects/Nov32/nov32-tp.jpg

Success!

Luiz (Brazil)

Edited: 21 Jan 2006, 8:45 a.m.

Re: Clonix Project: have you tried...

*Message #3 Posted by **Diego Diaz** on 22 Jan 2006, 5:55 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Hi,

Luiz, you're becoming an unvaluable help while I'm not on-line, thank you so much for that!!

I'm using the same board to build all the modules, however, for a DIY project it is simpler to use the original Clonix layout.

Phil, you're right, the board is upside down. Also note that the connector's soldering pins must be full-folded and cutted to gain the required room (about 1mm) for the board to fit into the momdule's housing.

Please use extreme care while doing this, as phosfor-bronce is not reknowned by its ductility (I've broken more than I'd like to admit :-(

Success!! and let us know of the results.

Best.

Diego.

Re: Clonix Project: have you tried...

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 22 Jan 2006, 6:31 p.m.,*
in response to message #3 by Diego Diaz

Hey, Diego;

thanks for your comments. My pleasure, believe me.

Once I am not the one who made the wonders, supporting them (both the wonders and those who created them) is also part of the fun. More than being a pleasant activity, suporting guys like you, Meindert, Hrast and other developpers is a priviledge. Besides, developping HW and SW for these calculators is a daring activity by itself, though.

In time: instead of bending the tinny terminals, would that be possible to add a thin PCB cut to solder the contacts? Just came to my mind...

Cheers.

Luiz (Brazil)

Edited: 22 Jan 2006, 6:34 p.m.

Re: Clonix Project: have you tried...

*Message #5 Posted by **Phil Green** on 23 Jan 2006, 1:13 p.m.,*
in response to message #3 by Diego Diaz

Hi, I have just finished the module today. Works fine. Managed to fit pcb without altering the connector pins! I am using a two terminal resonator at 12MHz, module did not work at first, I suspected the oscillator was not operating. I added two 33pF capacitors either side of the resonator connected to ground. This now works. I have not made the programming adaptor yet, I pre-programmed the 18LF252 in an external programmer first. I am using the ClonixLP version of the code. I have modified the Configuration Build Utility under Visual C++ to support the ClonixLP code rather than the Clonix6 code.

I look forward to any new versions of the code. Thanks for your help. Regards Phil Green

Re: Clonix Project: have you tried...

*Message #6 Posted by **Diego Diaz** on 23 Jan 2006, 4:27 p.m.,*

in response to message #5 by Phil Green

Hi,

These are great news Phil, it will also be interesting if you can send some pictures.

Did you reduce the PCB size to fit it without bending the pins? I'm very interested in that.

The resonator is more likely to need the extra caps, I use a quarzt xtal, which runs flawlesly without caps.

Thanks for sharing your experience and best regards.

Diego.

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hp41cx line number branching using indirect.

*Message #1 Posted by **Hal** on 20 Jan 2006, 6:33 p.m.*

Hi Folks. With a 41(cx), can you not branch bockwards to a line number using a negative number stored in an indirect register? You can do this with virtually every other programmable HP on the planet (OK, maybe not with a 25). I can't seem to find any reference to it in volume 2 of the owners manual.
I'm trying to branch back 136 lines (from line 137 to line 1) using syntax as follows...
-136 sto 09
gto ind09

Upon execution it returns "nonexistant".
Any help appreciated.

Re: hp41cx line number branching using indirect.

*Message #2 Posted by **Namir** on 20 Jan 2006, 6:53 p.m.,*
in response to message #1 by Hal

Hal,

I ran a short tetst using GTO IND with a register containing -10. It seems that the 41C ignores the sign and look for LBL 10 (in my case).

In your example, the 41C is looking for LBL 136, which of course is outside the range of valid labels.

I suugest using a jump to a label. This approach allows you to insert code without worrying about keeping count of the corrected number of lines to jump.

Namir

Re: hp41cx line number branching using indirect.

*Message #3 Posted by **Eric Smith** on 20 Jan 2006, 8:01 p.m.,*
in response to message #1 by Hal

The HP-41 family does not include any capability of branching to a line number, or the "rapid reverse branching" of some earlier HP models.

However, the HP-41 has less need for such a feature. The main purpose of rapid reverse branching was to speed up loops by avoiding a label search. But the HP-41 compiles GTOs. When program execution first encounters the GTO, it finds the target label, and stores the address in the GTO instruction. On subsequent

executions of that GTO, no label search is required.

Editing the program will decompile it.

I don't think RRB can be implemented by synthetic programming, because the RRB routine would have to read the program memory to determine the lengths of the program lines, and reading the program memory as data would "normalize" it, possibly destroying the program. Anyhow, use of synthetic programming for this would be much slower than the label search.

On the other hand, it's possible to implement either a "GTO line number" funcction or an RRB function by custom microcode. Aside from the time needed to develop the microcode, this would require an MLDL/HEPAX/Clonix type of device to store the microcode.

However, such a microcode function would usually still be slower than using a LBL and compiled GTO, at least for reverse branches, because of the 41's variable length instructions. When the program pointer is at line 42, and you want to get to line 39, the only way to do that is to count forward from the beginning of the program. This is what the non-programmable functions "GTO .nnn" and BST do, and explains why BST is slow on large programs.

Re: hp41cx line number branching using indirect.

*Message #4 Posted by **hal** on 20 Jan 2006, 8:23 p.m.,*
in response to message #3 by Eric Smith

Thank you gentlemen for your help.
I suppose the need for RRB is somewhat negated by the fact there are infinite label names available with a 41. I was just trying to save steps and memory by not having to insert labels.
Anyway, thanks again and best regards, Hal

Re: hp41cx line number branching using indirect.

*Message #5 Posted by **Gene Wright** on 20 Jan 2006, 10:44 p.m.,*
in response to message #3 by Eric Smith

Another option, especially if the branching spans are constant and not variable, is to compute the jump distance, put it in alpha, do a RCL M and then a STO b, or such.

This allows for a direct movement of the program pointer and can really make it difficult to decode a program.

These ideas are described fairly well in the PPC ROM manual.

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Timer function for repeated delay?

*Message #1 Posted by **Marcus von Cube, Germany** on 20 Jan 2006, 5:59 p.m.*

I'm looking for a delay timer function for the HP 41CX or any other HP calculator. I want to create a program that does the following:

```
 1) Accept a number of rounds
 2) Accept a delay in seconds
 3) Delay execution for the given delay time
 4) Increment round number
 5) If the requested number of rounds is reached
 6)    sound a long beep
 7)    stop
    else
 8)    sound a short beep
 9)    go to (3)
```

I checked the CX timer functions but couldn't find a match. Can the stopwatch functions be used to implement this?

What is the easiest way to produce different beeps (without synthetics.)?

Re: Timer function for repeated delay?

*Message #2 Posted by **Vassilis Prevelakis** on 21 Jan 2006, 1:14 a.m.,*
in response to message #1 by Marcus von Cube, Germany

First the easy question:

```
> What is the easiest way to produce different beeps (without synthetics.)?
```

TONE accepts an argument 0 through 9, and it produces different beeps according to the argument, giving you 10 different TONEs. With synthetics you can have around 99 different TONEs.

Now for the difficult question:

If I understand correctly, you essentially want a routine which suspends the execution of a program for *n* seconds, where *n* is supplied as a parameter.

In other words something like the Unix *sleep n* command.

If the stopwatch allowed you to call a function when it crossed zero, this would have been trivial to do. Unfortunately to the best of my knowledge, when the stopwatch timer crosses zero, it just makes some noices until you tell it to go away.

So there are two workarounds:

a) use STOPSW 0 SETSW RUNSW to start the stopwatch and have a loop that repeatedly calls RCLSW and tests it against n. I am not really sure whether this will get you the required resolution though (i.e it may be slow by a second or two).

b) set an alarm in the future. For example

```
"^^WAKEUP"
0
DATE
TIME
increment time by n seconds
XYZALM
OFF
LBL "WAKEUP
continue execution
```

This is a simplified algorithm which has a *serious bug*, namely it does not work near midnight when the date changes during the sleep period. In this case the *n* + TIME will be greater than 23.59599 and will be rejected by XYZALM.

Adding enough code to ensure that this works in the general case, will increase execution time by many seconds, affecting resolution.

**vp

Edited: 21 Jan 2006, 1:40 a.m.

Re: Timer function for repeated delay?

*Message #3 Posted by **Geir Isene** on 21 Jan 2006, 4:01 a.m.,*
in response to message #2 by Vassilis Prevelakis

> Quote:
>
> This is a simplified algorithm which has a serious bug, namely it does not work near midnight when the date changes during the sleep period. In this case the n + TIME will be greater than 23.59599 and will be rejected by XYZALM.

Not really a big problem (see the Ultimate Alarm Clock how this was solved).

Re: Timer function for repeated delay?

*Message #4 Posted by **Garth Wilson** on 21 Jan 2006, 1:52 a.m.,*
in response to message #1 by Marcus von Cube, Germany

XYZALM allows you to put in the repeat interval, and starting the string in alpha with ^^ makes it a control alarm that will begin execution at the label whose name follows the ^^ in alpha. That program could do your incrementing, comparing, and beeping, and if it has reached the last one you wanted, clear the alarm to stop the repetition. If there is no label name after the ^^ in alpha when you set the alarm, then execution will resume where it had stopped the last time. The 41 does not need to be off for the alarm to work and take control. The first alarm time may need to be calculated. After that they will keep coming at the interval you specified until you (or your program) clear the alarm. This interval will not depend on execution speed, but you will want the execution to be completed before the alarm comes due the next time. IOW, if you want every 30 seconds, and the program takes 3 seconds to execute every time, and then you add more lines and it takes 8 seconds every time, it doesn't matter. The alarm will still come up every 30 seconds as specified, regardless.

User beeps are numbers 0-9 and are all the same length. Synthetic beeps allow different lengths and pitches, and range from 10-129. I might suggest TONE 7 and TONE 87, which are the same pitch but 7 is about three times as long as 87.

Re: Timer function for repeated delay?

*Message #5 Posted by **Vassilis Prevelakis** on 21 Jan 2006, 3:43 a.m.,*
in response to message #4 by Garth Wilson

```
Garth Wilson wrote:
> XYZALM allows you to put in the repeat interval ...
```

You are right. For some reason I thought Marcus required different timeouts depending on the round. Silly of me.

So, Marcus, if you want the reminder to be every *n* seconds, do as Garth suggested.

Note, however, that my warning regarding the date is still valid (i.e. make sure that TIME + *n* <= 23.59599). Luckily this is required only for the first alarm. Repeat alarms will be handled by the Timer Module.

Another issue is how to stop the alarms once the required number of iterations has been reached. On a non-CX with a TIME module, you have to clear the alarm manually. On a 41CX you can use the CLALMA command to clear the alarm.

Finally be careful that the execution time of the program is shorter than the specified time interval. Otherwise the alarm processing routine will be interupted by the next alarm and so on, till you get in a total mess.

**vp

So here is an example program

```
; REPTMR -- Repeat Timer
;        X iterations (i)
;        Y sleep interval in seconds (ss)


01 LBL "REPTMR
02 STO 00       ; store i in R00
03 RDN          ; bring ss to X register
04 1 E4         ; change ss to 0.00ss
05 /
06 "^^RING      ; unconditional alarm function
07 0            ; use 0 to indicate that the alarm is due today
08 TIME
09 RCL Z        ; bring 0.00ss into X-Register
10 +            ; X := TIME + ss seconds
; here you are supposed to check if X > 23.59599 and do smth about it
11 XYZALM       ; set the alarm
12 OFF          ; wait


13 LBL "RING
14 DSE 00
15 GTO 01


16 BEEP         ; final beep
17 CLALMA               ; clear alarm
18 OFF          ; terminate



19 LBL 01       ; repeat beep
20 TONE 3
21 TONE 3
22 OFF          ; wait
```

Re: Timer function for repeated delay?

*Message #6 Posted by **Marcus von Cube, Germany** on 21 Jan 2006, 4:03 a.m.,*
in response to message #5 by Vassilis Prevelakis

Thanks to both of you!

There is an additional difficulty: I want to be able to suspend execution after each beep with a key. Why? The timer is intended to monitor an IQ test with a given number of seconds for each question. Now what if my telephone rings?

I'll probably go for a simpler aproach that requires to hit a key to advance to the next round. This requires to reprogram the timer for each round but is much more flexible for the user. I'll keep you informed - about both the program and my IQ ;-)

Marcus

Re: Timer function for repeated delay?

*Message #7 Posted by **Vassilis Prevelakis** on 21 Jan 2006, 6:08 a.m.,*
in response to message #6 by Marcus von Cube, Germany

```
Marcus von Cube wrote:
> There is an additional difficulty: I want to be able to suspend
> execution after each beep with a key.
```

Why didn't you say so from the beginning??????

It changes the whole program design!

In this case I'd use the GETKEYX command (HP-41CX only) which takes the number of seconds to wait for the key as argument.

So you can use this program

```
; REPTMR -- Repeat Timer
;        X iterations (i)
;        Y sleep interval in seconds (ss)


01 LBL "REPTMR
02 STO 00       ; store i in R00
03 RDN          ; bring ss to X register
04 LBL 00
05 VIEW 00      ; (optional) display countdown value
06 TONE 3       ; beep to let user know start of interval
07 GETKEYX      ; wait for X seconds
08 X<>0?        ; if nothing pressed, skip STOP
09 STOP         ;     freeze program
10 LASTx        ; recover timeout value
11 DSE 00       ; decrement count
12 GTO 00
13 BEEP
14 END
```

If you press a key while it waits, it will stop (line 09). Pressing R/S will cause it to continue

So as friend used to say *tell me what you want to do, not how you think you should do it* :-)

**vp

Re: Timer function for repeated delay?

*Message #8 Posted by **Marcus von Cube, Germany** on 21 Jan 2006, 12:57 p.m.,*
in response to message #7 by Vassilis Prevelakis

Hi Vassilis,

I was asking for a delay function in the first place. GETKEYX seems to be what I was asking for. I'll modify your solution slightly because I need to restart the round if it's interrupted. I like this aproach because it leaves the control to the program, not to an external timer.

Thanks again to all who replied.

Marcus

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strange line in HP-42S program

*Message #1 Posted by **Lars Wadso** on 20 Jan 2006, 4:56 p.m.*

I have tried to enter the Digital Dice program for the HP-42S found in the software library of the HP museum. Without manual (it was lost several years ago) I still managed to enter all lines except one...I have no idea how I should enter line 29 |-"?" (vertical line-horizontal line-cite-question mark-cite). The closes I come is writing it like a string "|-"?"" or using the function I-, but...I cannot get it to work as expected... . Can anyone help?

Re: strange line in HP-42S program

*Message #2 Posted by **Richard Garner** on 20 Jan 2006, 5:23 p.m.,*
in response to message #1 by Lars Wadso

Lars

The symbol is the APPEND command for alpha characters. While in alpha mode press the ENTER key and the APPEND symbol will be entered on the program line. Then add the ? as you would any other alpha character then hit the ENTER key to finish.

What the APPEND symbol does is tell the 42S that there is additional alpha characters to add to the display beyond its program line entry length limits and to add these characters at the end of the text aready in the alpha register.

Re: strange line in HP-42S program

*Message #3 Posted by **Lars Wadso** on 21 Jan 2006, 4:25 p.m.,*
in response to message #2 by Richard Garner

Thanks!

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Web site updates and FREE HP-67 Simulator

*Message #1 Posted by **Namir** on 20 Jan 2006, 3:15 p.m.*

Hi All,

I moved my web site to another location:

http://www.lara.on.ca/~nshammas

Lara ISP is my brother's company in Canada. The hosting is ad-free (woohoooo!)) and free for me (double woohoooo!!). Thanks bro!!!!

I am also releasing my HP-67 simulator for Windows as a freeware. I have run it on Winsows 2k and XP. A user has also run it on Windows 98. A few folks have had problems with it, but most were able to install and run it just fine. You can download it from relocated web site. This is the main reason why I moved it to Lara ISP--to do away with download restrictions that the previous site imposed. Please read the documentation when you unzip the downloaded file.

Enjoy!

Namir

Edited: 20 Jan 2006, 4:34 p.m.

Re: Web site updates and FREE HP-67 Simulator

*Message #2 Posted by **Arnaud Amiel** on 21 Jan 2006, 5:07 p.m.,*
in response to message #1 by Namir

Looks interesting on the web site, but I could not find documentation in the zip file.

I will start playing now

Arnaud

Re: Web site updates and FREE HP-67 Simulator

*Message #3 Posted by **Namir** on 21 Jan 2006, 7:12 p.m.,*
in response to message #2 by Arnaud Amiel

I updated the ZIP file to include the documentations and some other files.

Namir

Re: Web site updates and FREE HP-67 Simulator

*Message #4 Posted by **Stephen Easterling** on 21 Jan 2006, 7:18 p.m.,*
in response to message #1 by Namir

I love it! Thanks!

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HP-42S Files available for HP ME Solutions Book

*Message #1 Posted by **Bill (Smithville, NJ)** on 20 Jan 2006, 10:00 a.m.*

I have entered the programs in the Mechanical Engineering Step-by-Step Solutions book as Published by HP. Book is Number 00042-90022, Edition 1, October 1988.

The programs were entered into the EMU-42 emulator and then saved to RAW files. Erik's 42S2HTML program was used to generate the program listings and binaries.

I though these might be of use to other HP-42S users. Of course, you'll need a copy of the Solutions Book to understand how each program is to be used.

Although I have checked them cafefully, I may have still overlooked something.....

I have sent a copy to Erik so that he could post it on the Hp-42S site. If anyone here would also like a copy, please e-mail be at

bjunk at NOTvpes dot com

Just remove the NOT and reassemble.

Bill

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BACK UP

*Message #1 Posted by **Kingsman** on 19 Jan 2006, 8:38 p.m.*

Hi,

I am having a problem here. Can anyone help me with this configuration?

I have a Tape drive on a HP ProLiant ML350 G3 Server. I cannot do any backup. I checked to see if something is wrong. I went to the bios of the server, pressed F8. It can detect HDs, The only Tape Drive, but then says SCI Bios not loaded,Let the machine do the test to the tape drive, good, it is done, then asked me to insert media in. I did. Then it says "!!!!!The Tape is not Tape-DR Compliant!!!!!" Then again it says "!!!!!Tape Drive is Not set in OBDR mode!!!!!

What do I do here, any help??

Kingsman

Re: BACK UP

*Message #2 Posted by **Eric Smith** on 19 Jan 2006, 10:05 p.m.,*
in response to message #1 by Kingsman

You should have purchased the HP-49G+ instead. Those are easy to backup, and we could have helped you with that.

Re: BACK UP

*Message #3 Posted by **John Noble** on 20 Jan 2006, 1:51 a.m.,*
in response to message #1 by Kingsman

Smart answer: If the tape was RPN I bet it would still work.

Better answer: This is a vintage calculator site, though a lot of us probably use computers professionally.

Speaking from experience, I feel your pain. Tape drives are just about the worst backup devices ever invented, though I had decent luck with Radio Shack cassette players + TRS-80s. Multi-kilobuck DLT drives seem to thrive on a steady diet of shredded polyester and ferric oxide and they grind their heads down to nubbins every three full backups.

Just accept that tape is a write-only medium, and you'll feel a little better about the whole exercise.

Re: BACK UP

*Message #4 Posted by **Howard Owen** on 20 Jan 2006, 2:08 a.m.,*
in response to message #1 by Kingsman

The ol' "HP Forum" in the masthead fools another one.

It's remarkable what people will miss when they know what they are doing. I had a problem logging in to a particular site. It wouldn't take my user ID, which was a long string of numbers. I ended up always having to go to the "recover password" screen, where I could log in using my email address. Since I had a work-around, I never bothered support with the issue. But one day, I guess I was a little bored, and I put in a trouble ticket. Well, it turns out my username wasn't the long string of digits, but a more normal string of letters. Puzzled at how I could have made such an error, I went through the "recover password" screen again. After my successful log in, I got a screen that looked like this:

```
Click here to go get some work done.

Matched User ID: NNNNNNN

Username: xyz

Password: abcdfghi

Make a note of your username and password!
```

I had been hypnotized by the second line! I was looking for the username that I hadn't been able to successfully enter, saw the ID number and stopped thinking. I actually would go to the file where I had the number stored at that point. When I came back, it was so I could compare the number to the stored version. Yup, they match. WTF?

The ID isn't used anywhere else, so why it had so prominent a place in this screen is beyond me. But the real culprit was my shortcut-taking, pattern-matching brain.

Now back to the "HP Forum" already in progress. 8)

Re: BACK UP

*Message #5 Posted by **Vassilis Prevelakis** on 21 Jan 2006, 6:21 a.m.,*
in response to message #1 by Kingsman

```
Kingsman wrote:
> I went to the bios of the server, pressed F8. It can detect HDs,
> The only Tape Drive, but then says SCI Bios not loaded
```

I think it says **SCSI** Bios not loaded. If so, I assume that there no disks on that SCSI bus, so the adapter's BIOS is not loading (it is used only when you have hard disks connected to the SCSI controller, so that you can boot and run DOS from a SCSI disk).

If you have only non-disk SCSI devices, the BIOS is not loaded. Your operating system should be able to deal with the tape drive.

```
> The Tape is not Tape-DR Compliant
> [...]
> Tape Drive is Not set in OBDR mode
```

no clue about these messages. I'd suggest you check the manual of the tape drive and make sure that you load appropriate drivers for that device. Also make sure that the backup software you use supports that tape drive.

**vp

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HP35, HPmuseum mentioned in EDN

*Message #1 Posted by **Reinhard Hawel (Austria)** on 19 Jan 2006, 4:02 p.m.*

EDN Europe / January 2006

mentiones in "realitycheck" (page 56)

the HP-35 and the Museum of HP Calculators

http://www.edn.com/article/CA6288053.html

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HP33s keyboard

*Message #1 Posted by **Al in Fl** on 19 Jan 2006, 10:50 a.m.*

I'm sure this issue has been discussed here before, but can someone summarize the story with the keyboard on the HP33s?

I have one of the old ones (CN4040 series) with the poor screen, and a newer model (CNA 4420) with the improved screen (big improvement).

The problem with the newer one is the keyboard. The ZERO and ENTER keys repeatedly fail to register, even with a determined click dead center on the button. This is particularly problematic if you are trying to perform multiple operations at a useful speed of entry.

Any comments? Has this been fixed by newer models? If so, is there a CN range to look for (or something definitive to try through the packaging at Wal-Mart?)?

Thanks, Al in Fl

Re: HP33s keyboard

*Message #2 Posted by **Tim** on 19 Jan 2006, 11:08 a.m.,*
in response to message #1 by Al in Fl

That is strange. The 33s keyboard has been the most reliable of all the new models I own. I would send that one back.

TW

Re: HP33s keyboard

*Message #3 Posted by **John Smitherman** on 19 Jan 2006, 11:19 a.m.,*
in response to message #1 by Al in Fl

Hi Al in FL. The keyboard on my 33s dated 524 is a big improvement over previous versions. My suggestion is to look for models dated 524 or newer.

Happy Hunting!

Regards,

John

Re: HP33s keyboard

*Message #4 Posted by **e.young** on 19 Jan 2006, 12:40 p.m.,*
in response to message #3 by John Smitherman

I have a 33s with the serial number CNA 5020xxx that has an enter key that registers no matter how off center you hit it, and it always registers. I have a 33s replacement unit that I got from HP with a serial number of CNA442xxx that has the improved display, but the enter key is also more sensitive to off-center hits. The tactile feel of the CNA 5020 unit is also far superior. It is less rigid or "clicky". It has a definite click, but is much smoother.

I plan on selling my CNA442xxx unit on ebay and getting another CNA5xxx unit or better because of the keyboard feel.

Wouldn't it have been great if HP had resolved these issues before releasing the 33s for sale?

The first 33s that I bought in the summer of '05 was CNA4xxxx and had the horrible display and an unrelaible keyboard. I still see units of that vintage at WalMart. I wonder how much repeat business HP will get from people who purchase one of the older ones on the shelf, especially if these people are not aware that the display and keyboard have been improved. They would be better off getting those bad units of the shelf that never should have been available for sale in the first place. Hopefully they have learned their lesson for the future.

Re: HP33s keyboard

*Message #5 Posted by **Hal** on 19 Jan 2006, 12:27 p.m.,*
in response to message #1 by Al in Fl

Hi Al,
For what it's worth...my new model 33s had an enter key that would occasionally fail to register, but with use the problem has cleared up.
Best regards, Hal

followup

*Message #6 Posted by **Al in FL** on 19 Jan 2006, 1:42 p.m.,*
in response to message #1 by Al in Fl

an officemate has one (it was still in the package). it's a CNA527 and is much improved (both display and keyboard).

I notice that they started adding a little sticker to the outside of the packaging that shows the number. Very helpful.

I guess there have been 3 (or more) iterations of the display type?

thanks for the help...I'll hunt down a 524 or 527...

Re: HP33s keyboard--Please Read This

*Message #7 Posted by **bill platt** on 19 Jan 2006, 4:27 p.m.,*
in response to message #1 by Al in Fl

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=83745#83745

Re: HP33s keyboard -- you might try "the wiggle fix"

*Message #8 Posted by **Paul Brogger** on 20 Jan 2006, 1:03 p.m.,*
in response to message #1 by Al in Fl

Some users (including me) of early HP-49G+ units have had success with "the wiggle fix" for those keyboards.

On mine, I just pushed the offending keys (one by one) down firmly, and then wiggled them (while still pressing down) side-to-side, top-to-bottom, round & round, within the travel allowed by the keyboard mechanism.

It actually seemed to help with the 49G+ key problems, and I think the 33S keyboard structure is similar. That said, I've not had much problem with 33S keys, and so haven't tried this fix on that model myself.

So, do so at your own risk. (But *if* you do try it, **do** report your results, if any!)

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HP-16C Encryption Algorithm

*Message #1 Posted by **John Williamson** on 18 Jan 2006, 7:56 p.m.*

Here's a slightly unusual HP-16C program -- it's an encryption program based around the shrinking linear feedback register (lfsr) stream cipher (see Wikipedia's article of the SLFSR). The program takes plaintext blocks and a key and encodes (or decodes) a message. This algorithm is particularly suited to the 16c, where variable length registers are easy to deal with, and a bit count instruction is available (the feedback of an lfsr can be computed at bitcount(state&tap)&1).

Running the encryption on the calculator makes it very difficult for a potential adversary to tamper with the device or the program to weaken this system -- it's also very portable (and deniable, for the truly paranoid). Unfortunately, this algorithm is slow, it takes about a minute to encrypt a 64 bit block.

The cipher key should specify the lengths of 2 lfsrs, which should be between about 30 and 64 (max) bits each. The two lsfrs should be different lengths (the periods -- which are [2^(len) - 1] -- should be mutually prime for maximum effectiveness). Each length should be stored, as a 64 bit word, in register C and D respectively. The key should also specify the feedback polynomial to be used. Some example polynomials are given in the table at the end of this message. The two polynomial codes should be stored in register 2 and 9 respectively, with WSIZE set to the width of the appropriate lfsr. The key should finally give the initial state of the lfsr's, and again with WSIZE set to the width of the lfsr, these should be placed in registers 1 and 8.

To ensure security, you should generate two sequences of random digits (one for each lfsr) for each new message transmitted, and xor them with the original lfsr state as specified with the key. These digits must be noted and prepended [unencrypted] to the start of the transmitted message. This ensures that each run will not use identical keys.

Encryption proceeds by storing the first 64 bits of plaintext in register E, and executing GTO 0 then R/S. The output will be stored back in register E. The next 64 bits should be stored in E, and the algorithm repeated until the entire message has been completed. Decryption is identical, using the encoded messages as the plaintext.

Here's an example usage session which should make things clearer (maybe):

Given a key

```
len1 len2 poly 1     poly 2         state 1    state2
0x21 0x29 0x1b7536ba 0x1d56e7fe0fd  0xbb72d45d 0xb1bb10ff
```

imagine we want to encrypt the message HELLO WORLD. Rewriting this as alphabet indices, 31=space, we have

```
8 5 12 12 15 31 23 15 18 12 4
```

We could code this as 5 bit blocks and concatenate (which is more efficient), but I'll just use 8-bit

blocks here, so we have two 64 bit message blocks:

```
08 05 0c 0c 0f 1f 17 0f
18 0c 04 00 00 00 00 00
```

OK, to set up the encryption with this key, execute

```
(1) HEX/40/WSIZE 21 STO C (sets length of lfsr1)
(2) 29 STO D (sets length of lfsr2)


(3) 21/WSIZE/1b7536ba STO 2 (sets tap poly. for lfsr 1)
(4) 10bfea/ENTER        (random digits just made up for this message, note these for later)
(5) bb72d45d/XOR/STO 1 (sets state for lfsr 1)


(6) 29/WSIZE/1d56e7fe0fd STO 9 (sets tap poly. for lfsr 2)
(7) a10786/ENTER (again, randomly chosen for this message, take a note of them for
transmission)
(8) b1bb10ff/XOR/STO 8 (sets state for lfsr 2)
```

Now, the system is set up and we can encrypt messages! So do 40/WSIZE/08050c0c011f170f/STO E (this is the first part of the message we created above) GTO 0/R/S. After some time, we get the encrypted version back. Note this down. Then do 180c040000000000/STO E/GTO 0/R/S to encrypt the next part (and so on, if we had more blocks to do).

The message to transmit is then just the random digits we made up in (7) and (8), plus the outputs after each run. Decryption is identical, just use the initial digits from the start of the message in steps (7) and (8) instead of creating new ones, and put the encoded message in E and run it...

SECURITY NOTE: This is currently thought to be reasonably secure (though there are some existing attacks, none are currently practical, needing large amounts of ciphertext (>4gb) with known poly. tap sequences). This cipher will probably not stop a dedicated government agency, but it will stop most others, for now, and it's the only one I could fit on the 16c! Any comments or suggestions for optimization are most welcome.

```
; Shrinking LFSR encryption
; storage register use:


; 1 -- lfsr1 state (n1 bits)
; 2 -- lfsr1 taps (n1 bits)


; 8 -- lfsr2 state (n2 bits)
; 9 -- lfsr2 taps (n2 bits)


; b -- counter variable  (64 bits)
; c -- length of lfsr 1 (64 bits) [n1]
; d -- length of lfsr 2 (64 bits) [n2]
; e -- plaintext (64 bits)


; note: strange things can happen with registers overlapping
; with different wsizes. if lfsr1 is much longer than lfsr2, it's
; possible lfsr1 will overlap with lfsr2 and break everything. Don't
; use lfsr of wildly different widths and you should be fine.



encrypt:lbl 0   ; entry point
        0
        wsize   ; ensure 64 bit mode
        hex     ; hex mode


        cf 4    ; clear carry
        4
        0       ; 0x40 = 64 decimal
        sto b   ; store loop count
encloop:lbl 1


        1
        sto i   ; lfsr1 starts at reg 1
        rcl c   ; get length for lfsr1
        gsb 2   ; gsb [lfsr] execute lfsr starting w/register 1. result in carry
```

```
        0
        rlc     ; shift carry into 1's position
        sto f   ; store lfsr1 output bit into B (from carry)


        8       ;
        sto i   ; lfsr2 starts are register 8
        rcl d   ; get length for lfsr2
        gsb 2   ; gsb [lfsr] execute lfsr starting w/register 4. result in carry


        f? 4    ; check the carry state (lfsr output)
        gsb 3   ; gsb [wrt] if it was one, use this bit to encrypt


        f? 4    ; check carry state (1 if bit was used)
        x!=0    ; if carry, test b>0, else jump unconditionally


        gto 1   ; goto encloop



        rtn     ; finished!


;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;


        ;; compute an lfsr


lfsr:   lbl 2
        wsize   ; set register len
        rcl (i) ; get lfsr state from i[1]
        isz     ; i++
        rcl (i) ; tap from i[2]
        and     ;
        b#      ; compute popcount(tap&lfsr) & 1
                ; (only last bit will be shifted into carry
                ; implied &1)
        rrc     ; rotate the result into the carry
        dsz     ; i--
        rcl (i) ; get lfsr state from i[1]
        rrc     ; rotate (output) carry onto end
        sto (i) ; store state back
        0       ;
        wsize   ; set size back to 64 bits



        rtn


;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;


        ;; Write -- encrypts one bit of plaintext
wrt:    lbl 3   ; encrypt one bit of the plaintext
        rcl e   ; recall the plaintext
        rcl f   ; the output bit from first lfsr
        xor     ; xor the first bit
        rr      ; rotate round (after 64 rotates, each bit will have been xor'd once)
        sto e   ; store back again


        rcl b
        1
        -
        sto b   ; decrement loop counter
        sf 4    ; set carry


;;;;;;;;;;;;;;; end of listing


Here's a short table of feedback polynomials:
----------------
```

```
bits(decimal) polynomial(hex)
33:975b2bb7
33:1b7536ba5
33:dd4bc39
33:70f4aec1
33:7e713745
33:8bb239f9
41:165e4698745
41:fc1ff9daaf
41:1d56e7fe0fd
46:3032a9a7b4dd
46:189e7d51e93d
46:1e4bc55f3c8d
46:25309c48243b
46:2e12091c8653
50:1499b99e86fcd
50:19fb0bccecc95
50:6128a518f6b3
50:26b78c528a431
50:19f727b474c9
50:99716f277cc1
50:72c5d02ac5dd
62:485b1bd4de7a81f
62:3c0af3d95ec6d091
62:18c7880c6d09658d
62:18d3485b1808f18d
62:1a369332db7d4793
62:24f15f6da664b62d
64:16991084bfd25227
64:c89497fa421132d1
64:862bc20fc33f97b
```

I have a much larger set of tables at http://www.dcs.gla.ac.uk/~jhw/poly-hex.zip.

Re: HP-16C Encryption Algorithm

*Message #2 Posted by **John Noble** on 19 Jan 2006, 1:43 a.m.,*
in response to message #1 by John Williamson

Fascinating! Very nicely presented, too -- some of it may have penetrated my thick skull.

I don't pretend to understand encryption, but the fact that you did such a thing on a machine like a 16C is just too cool.

Hmmm... I wonder if the supposedly simple Rijndael algorithm (AKA AES) could fit on a 16C? There have been ports to, among other things, Atmel AVR micros. If I understand the problem correctly, however, the minimum 128 bit block lengths might chew up too much of a 16C's resources.

Thanks for a great read.

Re: HP-16C Encryption Algorithm

*Message #3 Posted by **Les Bell** on 19 Jan 2006, 3:39 a.m.,*
in response to message #2 by John Noble

John, I suspect that the use of S-boxes (effectively a kind of 2D lookup table) in algorithms like AES, as well as DES et al, rules them out for a limited-memory device like the 16C.

I'd love to be proved wrong, though. ;)

Best,

--- Les
[http://www.lesbell.com.au]

HP-16C Encryption Algorithm

*Message #4 Posted by **John Williamson** on 19 Jan 2006, 5:45 a.m.,*
in response to message #3 by Les Bell

The S-Box is a problem for AES, but the values can be computed for each entry in the table according to a fairly simple set of bit operations, except you need to compute inverses in GF(256). Given an short algorithm to do that, the S-Box entries could be computed on the fly.

In this way, you would probably need 2 or 3 8-bit registers for temporary storage and 12 32-bit registers (4 each for plaintext, key and state), leaving 150 bytes for the code. But the key schedule seems to need 8 32 bit words as a buffer, as far as I can see, which is not possible on the 16c.

The substitute/shiftrow/mixcols/addkey steps are maybe possible, but the key schedule is probably the biggest stumbling block for an 16c implementation.

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In Praise of EMU71 Emulator and JPCROM

*Message #1 Posted by **Namir** on 18 Jan 2006, 3:33 p.m.*

I have been translating some BASIC programs from Excel VBA to True BASIC and to HP-71B BASIC. I decided to use the EMU71 emulator since it's easier to copy edited files than to type them in. The EMU71B has the support of the Math ROM and the JPC ROM. The latter supports more structured constructs for decision-making and loops. I found that the JCPROM to be very useful when included, together with the Math ROM, in the EMU71B. Hats off to Garnier and rest of the Parisian group who wrote all that sofwtare. Also hats off for HP for the Math ROM. This ROM makes matrix operations much easier to handle.

Namir

Re: In Praise of EMU71 Emulator and JPCROM

*Message #2 Posted by **Howard Owen** on 18 Jan 2006, 6:32 p.m.,*
in response to message #1 by Namir

Hi, Namir,

Yes, both EMU71 and JPCROM are great, I wish there were a solution like the Clonix available for the 71, though. Writing software using the JPCROM or Math ROM pretty much restricts you to emulators (HP71X by HrastProgrammer also loads the Math ROM and JPCROM by default.) Since there aren't that many 71B users in the world, I avoid using constructs that would require an unobtainable add-on. I stick with the plain vanilla capabilities of the machine.

I love the structured programming and nice listings of the JPCROM, though. Perhaps if enough people were interested, we could convince Diego or Meindert to have a look at ROM emulation for the 71? 8)

Re: In Praise of EMU71 Emulator and JPCROM

*Message #3 Posted by **Namir** on 18 Jan 2006, 10:59 p.m.,*
in response to message #2 by Howard Owen

Is there a physical module for the JCPROM? Has someone produced these modules?

The basic programming features of the HP-17B were ok maybe in 1990. The Math ROM adds powerful matrix commands that shorten programs and allow the HP-17B to implement sophisticated optimization algorithms. Without the Math ROM. THE JCPROM makes the BASIC code look more structured. Of course in the worl of object-oriented classes, all this is history. I am having fun with it, but I feel I need to go nack to OOP applications. I do have a matrix library in VB6 and VB.NET that will support matrices.

Namir

Re: In Praise of EMU71 Emulator and JPCROM

*Message #4 Posted by **Howard Owen** on 19 Jan 2006, 12:02 a.m.,*
in response to message #3 by Namir

Yes, well, I've had to adapt to OOP over the years. But I hit my first real streak of programming success with structured languages, and I doubt my heart will ever forget the thrill and fun of that. The JPCROM does a very nice job of converting the rather clunky 71 BASIC into something my eyes are predisposed to see as beautiful.

I don't know if the JPCROM ever lived in a real ROM or not. The name suggests it did, but of course the routines it contains can be found in various LEX files. And the ROM image can be used in RAM, if there's enough of it. Maybe JF knows more about it?

Regards,
Howard

Re: In Praise of EMU71 Emulator and JPCROM

*Message #5 Posted by **J-F Garnier** on 19 Jan 2006, 7:08 a.m.,*
in response to message #4 by Howard Owen

The JPC ROM lived as a real module, actually in CMT or HHP 32k/64k EPROM modules. It was sold by PPC-Paris in this way, and was even distributed at some time by Educalc in the US.

I was a PPC-Paris member, but a minor contributor to the JPC ROM project (I just wrote a few HP-IL related keywords...), as I don't live in Paris but in Grenoble (France), and communication was no easy at the time without Internet...

FYI, I'm in the process of documenting the JPC ROM project and collecting the complete JPC LEX source files (assembly language) in order to re-build the JPC ROM, and maybe release a new version?

J-F

Re: In Praise of EMU71 Emulator and JPCROM

*Message #6 Posted by **Namir** on 19 Jan 2006, 8:34 a.m.,*
in response to message #5 by J-F Garnier

J-F,

I really enjoy using your EMU71. While I do have several HP-71B machines (two with 64K additional RAM), it's easier for me to edit HP71B listing on the PC and to transfer them to the EMU71 for testing.

I look forward to the documenation when you are finished with it. Please let us know in this forum.

Thank you fo rmaking my life easier!

Namir

Edited: 19 Jan 2006, 8:35 a.m.

Re: In Praise of EMU71 Emulator and JPCROM

*Message #7 Posted by **Gene Wright** on 19 Jan 2006, 10:07 a.m.,*
in response to message #5 by J-F Garnier

Hi JF!

Please make sure you look for the (almost completely) debugged Version X of the JPCROM, which Rodger Rosenbaum had a great deal to do with.

I have that compiled lex file and, I think, it has been made available on the internet previously.

Joe Horn knows a great deal about it...where else did you think I would have ever gotten a copy? :-)

Re: In Praise of EMU71 Emulator and JPCROM

*Message #8 Posted by **J-F Garnier** on 19 Jan 2006, 1:15 p.m.,*
in response to message #7 by Gene Wright

Yes, Rodger was so kind to provide me his "source" file (actually a disassembly of the JPC ROM) that he used to create the version X. So I have a trace of the changes he made.

J-F

Re: In Praise of EMU71 Emulator and JPCROM

*Message #9 Posted by **Namir** on 19 Jan 2006, 3:57 p.m.,*
in response to message #8 by J-F Garnier

Jean-François,

What did you program the EMU71 with? I am just curious.

My other question is, "Will there be a Windows GUI version of EMU71?"

Namir

Edited: 19 Jan 2006, 6:51 p.m.

Re: In Praise of EMU71 Emulator and JPCROM

*Message #10 Posted by **J- F Garnier** on 20 Jan 2006, 6:50 a.m.,*
in response to message #9 by Namir

Namir,

I used Borland C compiler and turbo assembler.

Regarding the Windows version, I have no plan at the moment, but who knows ... I'm quite satisfied with the classic DOS implementation that runs well in Windows Command box, and the text mode is close to the 'look and feel' of the video display used with the HP-71B at the time.

J-F

Edited: 20 Jan 2006, 6:51 a.m.

Re: Windows (GUI) version of Emu71

*Message #11 Posted by **Valentin Albillo** on 20 Jan 2006, 8:16 a.m.,*

in response to message #10 by J- F Garnier

Hi, Jean-François:

Jean-François posted:

"Regarding the Windows version, I have no plan at the moment, but who knows ... I'm quite satisfied with the classic DOS implementation that runs well in Windows Command box, and the text mode is close to the 'look and feel' of the video display used with the HP-71B at the time."

> I concur. Unless a Windows (i.e., "graphical") version does result in significant gains in performance and/or usability, I think that the current command box implementation is perfectly adequate and actually to be preferred.
>
> The only advantage I can think of in the Windows version would be the possibility of implementing GDISP (GDISP$ already works!) so that emulated programs that do make use of graphics, such as games, smaller-font permanent clocks, or character redefinitions, would work ok.
>
> Also, it might be the case that a Windows version would be even faster or it might offer the possibility of emulating both a (graphical) HP-IL printer (i.e. Thinkjet) as well as the current emulated HP-IL 80-column display, in separate windows. That would mean that you'd be able to run emulated programs such as calendar-printing, function plotters, etc., seeing the graphical result in the emulated printout while conserving your emulated HP-IL display uncluttered. Would be very useful for debugging, too, even if no graphics were involved.

Best regards from V.

Re: In Praise of EMU71 Emulator and JPCROM

*Message #12 Posted by **Namir** on 20 Jan 2006, 10:34 a.m.,*
in response to message #10 by J- F Garnier

You basically re-wrote HP-71B BASIC. The expression parser and evaluator modules alone are a major task. Then you add modules to manage variables, arrays, matrices, program executions and flow (CALL and GOSUB stacks), and so on.

Impressive!

Namir

Edited: 20 Jan 2006, 10:34 a.m.

Re: In Praise of EMU71 Emulator and JPCROM

*Message #13 Posted by **Valentin Albillo** on 20 Jan 2006, 12:13 p.m.,*
in response to message #12 by Namir

Hi, Namir:

Namir wrote:

"You basically re-wrote HP-71B BASIC. The expression parser and evaluator modules alone are a major task. Then you add modules to manage variables, arrays, matrices, program executions and flow (CALL and GOSUB stacks), and so on."

> I think you got it wrong, Namir. Emu71 is an emulator, not a simulator. If I'm not terribly mistaken, Jean-François didn't have to implement a BASIC interpreter or operating system, he just implemented a Saturn-CPU emulator in C++ or whatever code, plus ancillary routines. Once working, this Saturn CPU emulator will act as a virtual CPU, and then you simply feed it the HP-71B System ROMs images, the HP-IL ROM image, the Math ROM image, the Forth/Assembler ROM image and *voilá*, you've got a piece of software which acts as a real HP-71B, bugs and all, with HP-IL, BASIC, Forth, Assembler, whatever.
>
> Though still lots of work, it's many orders of magnitude simpler than trying to write code to implement all 240 statements and functions of HP-71B BASIC, plus Forth, plus dozens of Matrix ROM statements and functions, etc, etc. I don't think it would be feasible for an unpaid individual with limited free time.

Best regards from V.

Re: In Praise of EMU71 Emulator and JPCROM

*Message #14 Posted by **Namir** on 20 Jan 2006, 2:35 p.m.,*
in response to message #13 by Valentin Albillo

Got you!! Isn't Tcl/Tkl (os something like that) commonly used nowadays for emulators for HP calculators???

Re: In Praise of EMU71 Emulator and JPCROM

*Message #15 Posted by **Howard Owen** on 20 Jan 2006, 3:38 p.m.,*
in response to message #14 by Namir

Tcl/Tk is "Tool control language/Toolkit" where the "toolkit" part refers to a GUI toolkit. It's a "glue" language for making different components work together. Being an interpreted language, it's not suitable for CPU emulation, though it could certainly help with graphical display as part of a larger simulator.

Re: In Praise of EMU71 Emulator and JPCROM

*Message #16 Posted by **Gileno - Brasil** on 19 Jan 2006, 6:19 a.m.,*
in response to message #1 by Namir

How would I put THE JCPROM in the 71B?

Re: In Praise of EMU71 Emulator and JPCROM

*Message #17 Posted by **Valentin Albillo** on 19 Jan 2006, 7:31 a.m.,*
in response to message #1 by Namir

Hi, Namir:

Namir posted: *"Hats off to Garnier and rest of the Parisian group who wrote all that sofwtare. Also hats off for HP for the Math ROM. This ROM makes matrix operations much easier to handle."*

Indeed, we all HP fans must be extremely grateful to Jean-François Garnier for creating such wonderful emulator firstly, then making it publicly available on-line for free, and last but nor least, including with it a most generous provision of ROM images, the Math ROM, JPCROM, and Forth/Assembler ROM among them.

That makes every HP fan a potential HP-71B user, both for fun and for profit. In my own case, I fire it up under Windows XP each and every time I need to make a quick calculation while working: I've found that making the most complex computations with it is unbelievably fast, both while entering the expressions and when executing them. This includes heavy statistical calculations as well as very complicated actuarial formulae, to name a few.

Also, with the incredible capabilities of the included Math ROM, I can solve equations, compute integrals, use complex numbers, or do matrix computations at once, from the command line, in mere seconds. Actually, I can do most anything in the time that others would need just to load their programs or turn on their physical calculators. So, Emu71 has become second nature for me.

As for the Math ROM, it was and still is one of the most powerful pieces of software for handheld computing ever made. Under Emu71 it's become blindingly fast, and with the help of the simulated 80-colum HP-IL display, working with large matrices and long programs is extremely easy.

There's also the fact that the Math ROM's feature set can be put to uses non-mathematical in nature. For instance, I've used matrix operations in such programs as my "Modest Mater" (which solves arbitrary N-move chess mate problems) or "Sudoku Solver" (which of course, solves Sudoku puzzles), both having very little to do with math. Matter of fact, anytime when you need to make a fast temporal copy of a large bunch of data, such statements as MAT A=ZER, MAT A=CON, MAT A=(expression), and MAT A=B are incredible time-savers, even if you never need to do any arithmetic with the data thus saved and retrieved.

Most other functions can be put to nonexpected (or expected) uses, such as complex numbers as coordinate pairs, Fast Fourier transforms to help speed convolutions (for multiprecision computation, for instance, see my "Fantastic FOUR" article/program), etc.

In short, both Emu71 and the Math ROM are unbelievably good software, and both can be used extremely profitably even nowadays, if nothing else as an über-calculator under Windows which runs rings around any other hardware/software device in terms of speed, simplicity, and convenience.

Formerly I did use either HP-41CX or HP42S emulators but after I got the emulated Math ROM I've never used them for on-the-fly calculations anymore, because when I'm at work, inmersed in some complicated actuarial project (as if there were such a thing as a *non-complicated* actuarial project!), even in the client's presence, I've no time at all for RPN or RPL vagaries and cumbersome interfaces, I just need to key in expressions as fast and easily as possible, hit ENDLINE, and *voilá*, perfect results instantly, editable, saveable, copy/paste-able.

And don't you think that "expressions" means a puny combination of numbers and arithmetic operators, I mean using the full Math ROM feature set, named variables, loops, and even defining and calling multi-line user defined functions or subprograms on the fly. Try and do that, or the equivalent, any other way, at full speed. Particularly, try and do that using any RPN/RPL emulator or physical machine. You'll be hardly starting by the time I'm done with the calculation.

So, most sincerley, thanks again to Jean-François for it, he deserves all our support and appreciation for

his disinterested efforts in benefit of the HP community.

Best regards from V.

Edited: 19 Jan 2006, 7:45 a.m.

Re: In Praise of EMU71 Emulator and JPCROM

*Message #18 Posted by **Gene Wright** on 19 Jan 2006, 10:10 a.m.,*
in response to message #17 by Valentin Albillo

Don't forget the wonderful SYMBOLIX lex file too. It gives the HP71B a very powerful symbolic algebra capability. Runs about 30K.

Re: In Praise of EMU71 Emulator and JPCROM

*Message #19 Posted by **Valentin Albillo** on 19 Jan 2006, 12:53 p.m.,*
in response to message #18 by Gene Wright

Hi, Gene:

Gene wrote: *"Don't forget the wonderful SYMBOLIX lex file too. It gives the HP71B a very powerful symbolic algebra capability. Runs about 30K. "*

> Not to demean your enthusiasm, Gene, and I'm the first to recognize that SYMBOLIX is indeed a great, truly amazing piece of software, even more so that it was ported to the HP-71B.
>
> But that granted, I pay next to no attention to symbolic algebra capabilities in calculators or small machines. I find them tremendously restricted, awkward to use, slow, and inefficient, not just compared to the real thing in larger machines (say Mathematica or Maple) but also for any real-life, non-trivial use.
>
> For me, these capabilities are nothing but a marketing plot, devised to cater for the educational market, and to show off a new model (the HP28C, say) and impress the fans.
>
> Me, I'm not impressed, never was. I do a lot of number-crunching as part of my work but rarely any 'symbolic computation', and if I ever did (or do, at home, as a hobby), I'd rather do it by hand that use that clumsy, meager capability, in an smallish screen and with an inadequate keyboard. Doing it by hand is much faster, easier, and ultimately rewarding. And if I can't do it by hand ... well, time to reach for Mathematica.

Anyway, thanks for your input and

Best regards from V.

Symbolic algebra on calculators

*Message #20 Posted by **Karl Schneider** on 21 Jan 2006, 5:03 p.m.,*
in response to message #19 by Valentin Albillo

Hi, Valentin --

> Quote:
>
> But that granted, I pay next to no attention to symbolic algebra capabilities in calculators or small machines. I find them tremendously restricted, awkward to use,

> slow, and inefficient, not just compared to the real thing in larger machines (say Mathematica or Maple) but also for any real-life, non-trivial use.
>
> For me, these capabilities are nothing but a marketing plot *(ploy?)*, devised to cater for the educational market, and to show off a new model (the HP28C, say) and impress the fans.

I concur wholeheartedly! Implementation of the symbolic-algebra functions on the RPL-based calc's never made clear philosophical sense to me. Those users who had the skill and inclination to fully exploit a 28/48/49 would certainly be competent at algebra and calculus. A simple problem whould probably be faster on paper; a solution to a difficult symbolic integral would more likely be found in generalized form within a mathematical reference, such as Schaum's Outline.

Moreover, display of the results is often very difficult to read on a 28 or 48 (although that was improved on the 49).

Regards,

-- KS

Re: In Praise of EMU71 Emulator and JPCROM

*Message #21 Posted by **Namir** on 19 Jan 2006, 3:58 p.m.,*
in response to message #17 by Valentin Albillo

Valentin,

I can see why you like the EMU71 so much. I agree with you that it is very quick to setup and has very good performance. I like to use the HP41 and HP42 emulators, but now that you have mentioned the advantages of the EMU71, I am giving things a second thought.

Namir

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Compiling Nonpareil 0.77 in Linux

*Message #1 Posted by **Eduardo** on 18 Jan 2006, 10:19 a.m.*

Hi,

Has anyone been able to compile Nonpareil 0.77 under Linux? It seems as if there is a missing file (or entire directory). /src/sound.c includes "SDL/SDL_audio.h" but SDL_audio.h is nowhere in the source tree. Compilation obviously quits when trying to make sound.o.

Anything obvious I'm missing?

Thanks,

Eduardo

PS: It seems as if the Nonpareil mailing lists are dead, sorry for posting here.

Re: Compiling Nonpareil 0.77 in Linux

*Message #2 Posted by **Howard Owen** on 18 Jan 2006, 11:55 a.m.,*
in response to message #1 by Eduardo

That file is part of the SDL library, which is external to Nonpareil. On my Fedora Core 4 system:

```
hbo@quirk|1028> rpm -qf /usr/include/SDL/SDL_audio.h
SDL-devel-1.2.8-3.2
```

So you need to install the "SDL-devel" package on your Linux system to get the header files and the libraries you need to link against.

The mailing lists are indeed defunct. This site seems to be the right place to discuss Nonpareil, which may be one reason why the mailing lists aren't working. 8)

Regards,
Howard

Edited: 18 Jan 2006, 11:55 a.m.

Re: Compiling Nonpareil 0.77 in Linux

*Message #3 Posted by **Eduardo** on 18 Jan 2006, 8:54 p.m.,*
in response to message #2 by Howard Owen

Thanks a lot! I followed the suggestion (installed SDL-dev---I use the *64-bit* version of OpenSuSE 10.0) and Nonpareil compiled like a charm. It is awesome!

Eduardo

Re: Compiling Nonpareil 0.77 in Linux

*Message #4 Posted by **chic thomson** on 18 Jan 2006, 3:25 p.m.,*
in response to message #1 by Eduardo

I tried compiling it under Ubuntu linux. It failed on lack of GTK+ 2.0 or better. However that library is installed, but its now called libgtk+ for compatibility reasons. a minor shuffle of the scons file and away it went.

hope this helps, and by the way, nonpareil is wonderful, as is hrastProgrammers Emu41 under windows!

Re: Compiling Nonpareil 0.77 in Linux

*Message #5 Posted by **Eric Smith** on 18 Jan 2006, 4:48 p.m.,*
in response to message #4 by chic thomson

Did you just have to change the string "gtk+-2.0" in the variables state_io_packages and nonpareil_packages? If so, what did you need to change it to? Possibly I can set it up to automatically decide between what Fedora and Ubuntu (and presumably Debian) use.

Were any other changes required?

I expect to have RPM packaging for Fedora in one of the next few releases. I don't know anything about building .deb packages, so if anyone cares to help with that it will be appreciated.

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PRGM mode doesn't work on HP-25

*Message #1 Posted by **jbssm** on 18 Jan 2006, 8:38 a.m.*

Hello all,

I have this HP-25 that is in very good cosmetic condition and as all the keys working, but there are some strange problems with it.

1 - The STO and RCL keys work, but I cannot recall what I've saves in the registers, I always get an 0 2 - In PRGM mode, I can write my program, and it shows the steps like it should, but when I try to RUN it ... nothing, I always get an 0

Can anybody help me fixing it?

Regards, Jorge

Re: PRGM mode doesn't work on HP-25

*Message #2 Posted by **Hal** on 18 Jan 2006, 11:24 a.m.,*
in response to message #1 by jbssm

Hi Jorge, I'm assuming you realize that the HP25 is volatile, and if turned off, all registers and program memory are lost.

Otherwise, it sounds like a power continuity problem causing data to be lost, most likely the battery contacts...which need to be scrupulously clean in a woodstock. Also be sure the all contact points within the battery pack are clean also. And be sure not to connect the calculator to the AC adapter unless you're positive you have a good battery pack with good contact installed (this could over-voltage the machine). I personally never connect my machine to an AC adapter, period. With my 29C I sometimes have to "seat" the battery pack by pressing it in the direction as if to remove it, but stopping short of actually removing it. Best Regards, Hal

Re: PRGM mode doesn't work on HP-25

*Message #3 Posted by **jbssm** on 18 Jan 2006, 2:52 p.m.,*
in response to message #2 by Hal

Hello,

Thank you for your answer.

I've tried to clean the contacts and even that way (with the calculator plugged to the AC charger or not). the problems remain.

Re: PRGM mode doesn't work on HP-25

*Message #4 Posted by **Randy** on 18 Jan 2006, 12:47 p.m.,*
in response to message #1 by jbssm

Enter a few program keystrokes. If, upon review the operations change back to 13 00, the RAM IC has failed. Unfortunately, the only replacement source is from another 25.

Re: PRGM mode doesn't work on HP-25

*Message #5 Posted by **jbssm** on 18 Jan 2006, 2:56 p.m.,*
in response to message #4 by Randy

Hello,

yeah, it always keeps showing the 13 00 in program mode no matter whatever I write. So this must be it's problem :(Can I find the replacement part you told about in any other unit? For instance a cheaper HP-21 ?

Woodstock RAM chips (was Re: PRGM mode doesn't work on HP-25)

*Message #6 Posted by **Eric Smith** on 18 Jan 2006, 5:32 p.m.,*
in response to message #5 by jbssm

Unfortunately the HP-25 is generally the least expensive calculator that has the appropriate RAM chip. I have just posted to the articles forum a comparison of Woodstock RAM chips.

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Interested finding the value of an expanded HP48G?

*Message #1 Posted by **Han** on 18 Jan 2006, 12:35 a.m.*

A while back, I posted about expanded units and how much they would be worth. So at the suggestion of another forum member, I've placed one on eBay. The auction is here.

I thought some of you might be interested in tracking the prices along with me.

Edited: 18 Jan 2006, 12:54 a.m.

Re: Interested finding the value of an expanded HP48G?

*Message #2 Posted by **Howard Owen** on 18 Jan 2006, 2:03 a.m.,*
in response to message #1 by Han

You reference "extra photos" but none are included in the auction.

Re: Interested finding the value of an expanded HP48G?

*Message #3 Posted by **Han** on 18 Jan 2006, 3:55 a.m.,*
in response to message #2 by Howard Owen

It's a link. Click on it to view the photos.

Re: Interested finding the value of an expanded HP48G?

*Message #4 Posted by **Thomas Radtke** on 18 Jan 2006, 4:55 a.m.,*
in response to message #1 by Han

Han,

you mention in the auction text that you're interested to learn about the value of your modified 48G's mainly to collectors. I wonder if there is interest in it at all (as a collectable that is). I mean, being of very invasive nature, that modification is one-way.

Btw., I tend to see the moderate memory capacity of the 'G' as a big plus (faster garbage collection, probably longer battery life) and would rather pick up a 'G+' where 128KiB is needed. For more memory, a GX seems to be optimal.

No offense intended, of course!

Peace:) -Thomas

Re: Interested finding the value of an expanded HP48G?

*Message #5 Posted by **Han** on 18 Jan 2006, 2:36 p.m.,*
in response to message #4 by Thomas Radtke

> Quote:
>
> Han,
>
> you mention in the auction text that you're interested to learn about the value of your modified 48G's mainly to collectors. I wonder if there is interest in it at all (as a collectable that is). I mean, being of very invasive nature, that modification is one-way.

To clarify, I am interested in the value of an expanded unit among collectors. However, I also hope that other HP48 enthusiasts (not necessarily collectors, but people who use the HP48 often) will help determine the value of such a unit.

It is true that the modification is indeed invasive. One might say that there are at least two types of collectors: one who not only knows about the collectibles, but also all the variants, and one who simply collects unmodified units. Having read many of the posts and ads here, I would wager that many HP enthusiasts have a fair, if not exceptionally good, understanding of the steps involved in the modifications. So as far as informed buyers are concerned, these enthusiasts are probably most qualified to determine the price.

You bring up a good point though -- just how much or how little interest is there for a modified unit? I guess this is what the auction will help determine =)

> Quote:
>
> Btw., I tend to see the moderate memory capacity of the 'G' as a big plus (faster garbage collection, probably longer battery life) and would rather pick up a 'G+' where 128KiB is needed. For more memory, a GX seems to be optimal.
>
> No offense intended, of course!
>
> Peace:) -Thomas

None taken =) Regarding the HP48G's default memory -- I find it simply inadequate. It is true that the garbage collection is faster, and the HP48G is generally faster overall than the G+/GX since there are no extra ports to check, among other reasons. Though for me, even the G+ is not enough (from a programmer's point of view -- no absolute address programming for extra speed, as an example).

Regarding battery life, there are many chips out there today that are much power efficient than the ones used back in the production days of the HP48. While an expanded memory may use extra battery power for the extra RAM module, it may still be much less power consumption than an unmodified 48GX using the older memory chips in its main memory and in its expansion cards.

My personal opinion is that the G+ should have been given not only the 128kB main memory, but also an extra 128kB module for port 1. This is a much better middle ground. Give the G 128kB of main memory, G+ 128kB of main memory + 128kB for port 1, and GX leave it as we know it.

And while it is true that the GX is the best option, cost also comes into play. The cost of a GX and a RAM card for port 1 can range from $200 (total package) to even as much as $350.

Re: Interested finding the value of an expanded HP48G?

*Message #6 Posted by **Chan Tran (USA)** on 26 Jan 2006, 3:43 p.m.,*
in response to message #5 by Han

Well we found out didn't we? It's not worth very much isn't it?

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old stuff

*Message #1 Posted by **db** on 17 Jan 2006, 8:45 p.m.*

i know nothing about it except that it´s rpn

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=5855181264&ssPageName=ADME:B:SS:US:1

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Opening a 2225B Thinkjet printer

*Message #1 Posted by **Bill Lafferty** on 17 Jan 2006, 6:59 p.m.*

Does anyone know of a way to open the case of a 2225B Thinkjet printer?

Re: Opening a 2225B Thinkjet printer

*Message #2 Posted by **Tony Duell** on 18 Jan 2006, 5:59 a.m.,*
in response to message #1 by Bill Lafferty

Yes, start by removing the battery pack and the print cartridge. I normally also unclip the lever that locks the cartridge in place.

Undo the 4 deeply-recessed TX9 screws on the bottom. Ignore the one that you can easily see the head of, that holds the mechanism in place.

Turn the printer the right way up, then lift off the top case. The paper window thingy will fall out. Unplug the cable from the control panel (in the top case) to the logic PCB (at the latter end).

Assuming you need to go further, next remove the remaining screw on the bottom (the obvious one), and the 2 screws with the 'top hat' washers inside the mechanism. Lift the mechanism up and forwards, unplug the connectors (motors, home swtich, out-of-paper switch, carriage flexiprint) from the PCB. Undo the 2 screws (TX15?) accessible through holes in the battery compartment, then unplug the HPIL connector from the PCB, lift out the rear panel and unplug the battery connector from the PCB.

Is that far enough, or do you need to dismantle the mechanism?

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Free "very used" HP48GX's to good home

*Message #1 Posted by **Paul W** on 17 Jan 2006, 1:40 a.m.*

We are having a spring clean here at the office(surveying) and my bottom drawer has 5 hp48gx's which at one time worked but now sadly do not. perhaps if you are a dab hand at repairs you might be able to get the little blighters to work again, i would prefer that they be fixed rather than stuck on a shelf. all 5 machines have been well used (outdoors) there condition ranges from very poor to poor. please leave your email address or phone no. (as i rarely use email and don't have an email address at the moment) if interested.

ps will probably take "offer" that involves least amount of work on my part.

pps i live in sydney Australia.(not too interested in paying to mail them anywhere)

Edited: 17 Jan 2006, 1:49 a.m.

Re: Free "very used" HP48GX's to good home

*Message #2 Posted by **gifron** on 17 Jan 2006, 9:44 a.m.,*
in response to message #1 by Paul W

Paul,

If still available, I'd like to give them a try. Unfortunately, I'm in the US. I'll gladly pay the shipping, plus...

I hate to leave my phone number for the whole telemarketing world to see. My email is gifronx@xgmail.xcom, removing each x.

Thanks.

Re: Free "very used" HP48GX's to good home

*Message #3 Posted by **tomcee** on 17 Jan 2006, 1:51 p.m.,*
in response to message #1 by Paul W

I would be very interested in these machines. I have repaired several HP48s and would be glad to 'resurrect' these. I will gladly pay for shipping and any handling charges. Please let me know how to proceed.

Thanks, TomCee

Re: Free "very used" HP48GX's to good home

*Message #4 Posted by **Paul Marin** on 18 Jan 2006, 10:45 p.m.,*
in response to message #3 by tomcee

Where are you located Tom and what do you charge to repair 48G's? I'm in Melbourne. You can email me personally if you like.

Ta

Paul

Re: Free "very used" HP48GX's to good home

*Message #5 Posted by **Les Bell** on 18 Jan 2006, 1:59 a.m.,*
in response to message #1 by Paul W

Paul, both my kids have expressed interest. They've seen me use my 48GX, and they've both learned RPN in the past, using my 41's. Farnkly, my son needs all the mathematical incentives he can get, as he goes into year 10. . .

I'm a local - 9451 1144.

Best,

--- Les
[http://www.lesbell.com.au]

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Lost key bounce (Pioneer)

*Message #1 Posted by **Eduardo** on 16 Jan 2006, 6:40 p.m.*

Hi all,

A sad thing just happened to my HP 32SII: I left it abandoned in a box with other stuff for about a year and now the ENTER key has totally lost its bounce. In fact, it takes the gentlest touch for it to register a keypress, and sometimes it gets stuck (remember that in a 32SII the name of a key appears after it's pressed for a half-second or so? Well, sometimes I take my finger off the ENTER key and the display is stuck showing ENTER). Actually, also the keys immediately above an below ENTER, namely STO and XEQ, have lost most of their bounce, but they are still what I'd call usable.

I immediately thought about FixThatCalc.com but their web site warns that key bounce is not generally repairable. Should I declare my 32SII dead? Anybody has experience with this? (or can at least offer emotional support)?

Thanks, Eduardo

Re: Lost key bounce (Pioneer)

*Message #2 Posted by **Randy** on 16 Jan 2006, 10:08 p.m.,*
in response to message #1 by Eduardo

It's a lost cause... the keyboard probably had something heavy pressing against the Enter key for some time and flex dome has collapsed. I've seen it in units get very hot as well - the top plastic dome sheet of the keyboard has been oriented and the heat/constant tension relives the stress that formed the dome. Once flat, there's no going back... sorry.

Edited: 16 Jan 2006, 10:11 p.m.

Re: Lost key bounce (Pioneer)

*Message #3 Posted by **Eduardo** on 16 Jan 2006, 10:58 p.m.,*
in response to message #2 by Randy

May it rest in peace then...

:'-(

Thanks.

Eduardo

Re: Lost key bounce (Pioneer)

*Message #4 Posted by **Eric Smith** on 17 Jan 2006, 2:25 a.m.,*
in response to message #3 by Eduardo

If you're going to retire it, would you consider selling it inexpensively? I'd like to get one for reverse-engineering purposes (ROM dump), but I'm not willing to pay big bucks for a good one on eBay and then destroy it.

Nonpareil and dead 32Sii's

*Message #5 Posted by **Randy** on 17 Jan 2006, 5:03 p.m.,*
in response to message #4 by Eric Smith

Eric,

I have several dead ones kicking about, they all have broken keyboards. I could mount the LCD in a 10B frame and while the keys wouldn't match up with the functions, it would work. I also have some 10B's and 20S's that I would donate to the effort if you wanted them. Just email me at randy at fixthatcalc dot com

Re: Lost key bounce (Pioneer)

*Message #6 Posted by **Eduardo** on 18 Jan 2006, 10:09 a.m.,*
in response to message #4 by Eric Smith

I think I'll keep it. I do not really use it nowadays, so it is more of a "collection item". Besides, it is borderline usable (more on the "not usable" side). Maybe I'll get one of the older (orange and blue shift key) models, though eBay is outrageous...

Eduardo

Re: Lost key bounce (Pioneer)

*Message #7 Posted by **Paul Brogger** on 17 Jan 2006, 5:30 p.m.,*
in response to message #1 by Eduardo

I've repaired a few Pioneer keyboards.

I disassemble, including the PCB (though I think you may leave the LCD in place). I've shaved off the tops of all the heat stakes hodling the metal backing plate to the front of the calc. Then, either clean the sandwich layers or replace them with parts from a disposable (algebraic, business, etc.) model. On one, with worn contact material in the mylar domes, I re-inked the dots with a conductive ink pen. (I don't have much experience with actually using it, so I don't know how long the ink adheres . . .)

Then I've just pressed the sandwich back together and re-melted the remaining portions of the heat stakes with a very pointy soldering iron. Enough plastic is forced out to restore the attachment.

But again, I don't have any long-term experience with actually using these restored keyboards, so your mileage may vary. But the keyboards did, in fact, work. And with fully-replaced layers, they should be almost as good as new.

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HP-41 Poetry

*Message #1 Posted by **Geir Isene** on 16 Jan 2006, 4:47 p.m.*

Now for a different challenge all together: HP-41 Poetry!

Make an HP-41 program that rhymes. In doing this, a healthy amount of artistic license will be needed :)

Here's my first go at this:

```
LBL "FAD"
+
Y=X?
GTO 06
X<0?
0
GRAD
RAD
2
AVIEW
LBL 06
ATOX
1
AON
XTOA
POSA
AOFF
OFF
"|-"
END
```

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Opening HP 71B ROM modules

*Message #1 Posted by **gebripe** on 16 Jan 2006, 3:32 p.m.*

Hi

Does anyone know if there's a trick to open HP 71B ROM modules (the edge-shaped modules for the front module ports)? Is it possible without destoying the case?

What do they contain? Any user-servicable (*g*) parts inside? What ICs do they hold? Has anyone experimented with creating (programming and replacing the EPROM with his own) modules? Is there a tutorial anywhere?

Thanks in advance.

Re: Opening HP 71B ROM modules

*Message #2 Posted by **Eric Smith** on 16 Jan 2006, 3:46 p.m.,*
in response to message #1 by gebripe

There's not really a trick. They're ultrasonically welded together, so you have to slice them open. Whether that destroys them depends on what you mean by "destroy", and how careful you are.

There are no user-serviceable parts inside. There are anywhere from one through four actual ROM chips, but they're mounted chip-on-board and covered with epoxy, similar to 41 modules.

EPROM modules were sold by third parties. They used an EPROM in a windowed leadless ceramic chip carrier, and the module package was designed to leave the window exposed. There must have been a Saturn interface chip in the module as well, but I've never taken one apart.

HP had an interface chip to allow the use of bytewide memory chips on the Saturn bus. The third party card reader port memory modules use this chip in a rectangular plastic quad flat pack. The packaged part was too large for a front-port 71B module, but possibly the third-party RAM and EPROM modules may have used the HP chip as a bare die mounted chip-on-board.

Re: Opening HP 71B ROM modules

*Message #3 Posted by **Vassilis Prevelakis** on 17 Jan 2006, 11:30 a.m.,*
in response to message #1 by gebripe

You can force them open using a similar technique to that used to open HP-41 modules (http://www.tla.org/hp41/module.html).

You won't find much inside though, they contain a small PCB with a custom HP ROM chip. Here is a picture from CHHU Chronicles V1N1 (Oct 84).

**vp

http://www.series80.org/Misc/hp71-rom.gif

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HP 9825 Simulator needs ROM-dump

*Message #1 Posted by **Klaus** on 16 Jan 2006, 2:26 p.m.*

Hi!

I am trying to simulate the CPUs of the HP 9825 on the PC. So far I have typed in 6000 lines of Microcode from the patent, and it seems to work. Since the microcode in the patent lacks checksums and some links, I need a ROM-dump to continue my work (besides typing in the rest of the microcode would cost me another year).

If someone here can provide a ROM-dump, he or she can decide on the licence unter which the simulator will be published.

Thanks for your interest! Klaus

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HP-41 Coding Standard

*Message #1 Posted by **Geir Isene** on 16 Jan 2006, 2:25 p.m.*

In the spirit of maintainable code with a standard user interface:

HP-41 Coding Standard

Suggestions for improvements are very welcome.

Edited: 17 Jan 2006, 2:53 a.m.

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HP-41 contrast control

*Message #1 Posted by **karl gruber** on 16 Jan 2006, 12:23 p.m.*

Is there a way to control the contrast of the display?

Thanks, Karl

Re: HP-41 contrast control

*Message #2 Posted by **PeterP** on 16 Jan 2006, 3:32 p.m.,*
in response to message #1 by karl gruber

Yes, as far as I know with the help of various moduls, like the HEPAX or the ML-Rom. Rom-images for both can be found on TOS, but you will need a device to load those images onto, like an MLDL, RamBox, Clonix,...

Hope that helps.

Cheers

Peter

Re: HP-41 contrast control

*Message #3 Posted by **Etienne Victoria** on 16 Jan 2006, 3:52 p.m.,*
in response to message #1 by karl gruber

And contrast control is only possible with the halfnut machines (the one with rounded display corners):

MfG from France!

Etienne

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HP41 Does on Turn on

*Message #1 Posted by **Kishor Gala** on 16 Jan 2006, 11:57 a.m.*

My HP41 calculator had been off for many years after the batteries ran out. The batteries were removed from the calculator. Recently, I placed new "N" cells in the calculator but it does not turn on (no display). Any idea what the problem may be? Is there another cell in the calculator?

Re: HP41 Does on Turn on

*Message #2 Posted by **Walter B** on 16 Jan 2006, 3:18 p.m.,*
in response to message #1 by Kishor Gala

Do you see corrosion at the battery terminals? If yes, it may have wandered furtheron. Anyway, low resistance shining copper contacts are beneficial.

AFAIK there is no additional nor backup battery inside.

Re: HP41 Does on Turn on

*Message #3 Posted by **Hal** on 16 Jan 2006, 11:33 p.m.,*
in response to message #2 by Walter B

I recently acquired an HP41cx that appeared to have the same problem, that is untill I decided to try a little additional pressure on the "ON" button, which brought it to life. You might carefully try this. Best regards, Hal

Re: HP41 Does on Turn on

*Message #4 Posted by **Kishor Gala** on 17 Jan 2006, 12:01 p.m.,*
in response to message #3 by Hal

No such luck with pressure on the "ON" switch! I was wondering if there is some minimum state of charging of the circuits necessary before the calculator starts working. The circuits would have been fully discharged after a long period of non-use. Just getting in the dangerous zone of guessing....

Re: HP41 Does on Turn on

*Message #5 Posted by **Kishor Gala** on 17 Jan 2006, 11:42 a.m.,*
in response to message #2 by Walter B

The battery contacts are squeaky clean. The old batteries were removed to prevent damage from leakage. Thanks for the reply.

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HP 9835

*Message #1 Posted by **Nicolae** on 16 Jan 2006, 11:23 a.m.*

HP 9835 for sale + 3 original tapes Please email me for pictures Price : 400 Euro Thanks

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Old HP Logo question

*Message #1 Posted by **Martin Blackwood** on 16 Jan 2006, 11:10 a.m.*

http://www.1www1.com/lsa2.jpg
I recently picked up this penknife on ebay which I know is an HP long service award given to members of staff for 5 or 10 years service. Does anyone know when this style of logo was in use in HP? Im sure it predates 1980 but I dont know exactly when. Does anyone know?

Re: Old HP Logo question

*Message #2 Posted by **Gerson W. Barbosa** on 16 Jan 2006, 3:58 p.m.,*
in response to message #1 by Martin Blackwood

The parallelogram with the "h" and "p" letters inside is all through a 1970 HP catalog I have at home (Electronics for Measurement, Analysis, and Computation), which means the trapeze-shaped logo on the penknife is even older. 1960?

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HP-85 bus and clock signals

*Message #1 Posted by **Roberto Bazzano** on 16 Jan 2006, 10:28 a.m.*

Hello. I need to replace a defective system rom on a HP-85A. Due to the fact that's almost impossible to find, I think to make a small board with a microcontroller to replace it. From the service manual, I understood how the bus and LMA,RD,WR lines work. What I don't know is how to relate them to the four system clocks. I mean, how can the rom know when on the bus there is address LSB and MSB? What does the rom do during negative transition of 4 clock signals?

Probably it's the same method used for external roms (with the addition of i/o rom select) but I dind't find any reference.

Could anyone help me?

Thank you very much. Roberto

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Converting hp42s programs

*Message #1 Posted by **B Douglas** on 16 Jan 2006, 4:02 a.m.*

I have 42s programs on paper and they pertain to oilfield drilling programs. I have a new 49g+ and want to get these programs on it... how do I get them converted. They are not that large, but I have no experiance in programming.

Re: Converting hp42s programs

*Message #2 Posted by **Howard Owen** on 16 Jan 2006, 12:18 p.m.,*
in response to message #1 by B Douglas

Unfortunately, the only way I'm aware of to do that is to translate the programs from HP-42S RPN to RPL, which means you have to know how to program in both languages. For earlier calculators, 48G and 49G, there is Hrastprogrammer's HP42X emulator of the HP-42S. But he doesn't have a version for the 49G+, according to the referenced site.

Regards,
Howard

Re: Converting hp42s programs

*Message #3 Posted by **B Douglas** on 16 Jan 2006, 6:59 p.m.,*
in response to message #2 by Howard Owen

Is there anyone out there that can program in RPN & RPL that would be interested in helping me create these new programs forthe 49G+ I do not have that many programs and they are not that large.

Any help would be great! Here is an example: 01 LBL "PUMP" 02 INPUT "LINER" 03 INPUT INPUT "STK LNT" 04 INPUT "EFF" 05 INPUT "SPM" 06 RCL "LINER" 07 X^2 08 0.000243 09 X 10 RCL "STH LNT" 11 X 12 RCL "EFF" 13 X 14 0.01 15 X 16 STO "BBL/STK" 17 VIEW "BBL/STK" 18 42 19 X 20 STO "GAL/STK" 21 VIEW "GAL/STK" 22 RCL "SPM" 23 X 24 STO "GAL/MIN" 25 VIEW "GAL/MIN" 26 INPUT "GAL/MIN" 27 RCL "GAL/STK" 28 / 29 VIEW "SPM" 30 END

Edited: 16 Jan 2006, 7:14 p.m.

Re: Converting hp42s programs

*Message #4 Posted by **Howard Owen** on 16 Jan 2006, 9:01 p.m.,*
in response to message #3 by B Douglas

Are these programs freely redistributable?

```
03 INPUT INPUT "STK LNT"
```

I assume that should be:

```
03 INPUT "STK LNT"
```

Regards,
Howard

Re: Converting hp42s programs

*Message #5 Posted by **Howard Owen** on 16 Jan 2006, 9:40 p.m.,*
in response to message #3 by B Douglas

You also have some useless "VIEW" statements there. Those won't cause the program to stop, so they'll just get overwritten by subsequent "VIEW" statements. Only the last one will show.

Did you want to do a 42S-style "variable menu" where each parameter is entered, and/or viewed via a softkey?

Re: Converting hp42s programs

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 16 Jan 2006, 10:27 p.m.,*
in response to message #5 by Howard Owen

Hi, Howard;

just a reminder: if the printer is active (IR output), these values will be printed. Otherwise, as it happens with the HP41, by manipulating flag 21 you can have the program halted in each VIEW/AVIEW. d8^)

Also, it seems to me it was taken from an original HP41 FOCAL listing, by subtituting numeric STO/RCL and related PROMPT/VIEW for newer ALPHA variables. The program style is a hint, don't you agree?

Cheers.

Luiz (Brazil)

Edited: 16 Jan 2006, 10:33 p.m.

Re: Converting hp42s programs

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 16 Jan 2006, 10:25 p.m.,*
in response to message #3 by B Douglas

Hi, B Douglas;

please allow me some comments/questions.

First: would that be possible to add an example on how to use the program? I'm asking this because of the following: (consider this an anlysis of the program lines)

lines #2 to #5 ask for LINEAR, STK LNT (STacK LeNghT?), EFF (efficiency?) and SPM (?);
lines #6 to #16 compute:

$BBL/STK = (LINEAR)^2 \times 2.34^{-4} \times (STK\ LNT) \times (EFF) \times .01$

If so, considering EFF×.01 only converts percent efficiency to absolute per unit value, we may save some bytes and writte:

$BBL/STK = (LINEAR)^2 \times 2.34^{-6} \times (STK\ LNT) \times (EFF)$

At this point, BBL/STK is stored and shown (line #17). Then lines #18 to #21 compute and show:

```
GAL/STK = BBL/STK × 42
```

and lines #22 to #25 compute and show:

```
GAL/MIN = (SPM) × (GAL/STK)
```

Line #27 halts program execution, shows current GAL/MIN and prompts for new value, if current value is not 'good enough'. Whether a new value is keyed in or the current one is kept, pressing [R/S] at this point leads to compute:

```
(? value) = current (GAL/MIN) ÷ (GAL/STK)
```

Although this new value is left in the X-register and in the lower line of the LCD, the upper line shows current (SPM) value.

I'd like to know if this is actually what the program does and if you have a single example to test both the one that's keyed in and a possible RPL equivalent.

Cheers.

Luiz (Brazil)

Edited: 16 Jan 2006, 10:39 p.m.

Re: Converting hp42s programs

*Message #8 Posted by **B Douglas** on 16 Jan 2006, 11:26 p.m.,*
in response to message #7 by Vieira, Luiz C. (Brazil)

Here is an example:

LINER = 5.5 STK LNT = 10 EFF. = .95 SPM = 90

This is for computing gallons per min(GPM):

Your inputs are as Follows: you state what your "liner" size is of the hole(5.5).

then your "STK LNT" stroke length of your pumps (10).

then your "EFF", stands for pump efficiency. ...one can enter (.95) and you would not have to multple by .01 to change 95 into .95)

then the calc asks for what "SPM" your thinking of running (strokes per min).

then the program takes your "liner" and Squares it. 5.5^2=30.25

then multiplies it by (.000243)=.00735075

then takes that and multplies it by your "STK LNT" & "EFF" = .69832125

It stores that number and gives it to you as "BBL/STK" (BBL/STK is .6982125)

Then it takes your "BBL/STK" and multiplies that by 42 = 2.93294925 or 2.93

It stores that number and gives it to you as "GAL/STK" (GAL/STK is 2.93)

then it takes your "SPM" your would like to run and multiplyes that by your "GAL/STK" = 263.96 or 263 GPM

It give you the answer as (Total GPM is 263)

If you need more examples they can be provided

Re: Converting hp42s programs

*Message #9 Posted by **Howard Owen** on 17 Jan 2006, 1:07 a.m.,*
in response to message #8 by B Douglas

Your listing does more than that. At line 26, it prompts for a new Gal/Minute and calculates a new Strokes/Minute, displaying it along with the old Strokes/Minute.

Ignoring that, the following program comes up with similar answers on a 49G+:

```
\<<
    "Enter Liner" ">" INPUT  OBJ\->
    "Enter Stroke Length" ">" INPUT OBJ\->
    "Enter Efficiency" ">" INPUT OBJ\->
    "Enter Strokes/Minute" ">" INPUT OBJ\->
        \-> lin stl eff spm
        \<<
           lin SQ .000243 * stl * eff * .01 *
           DUP "Bbl/Stroke = " SWAP + SWAP
           42 *
            \-> 'gps'
           \<<
                "Gal/Stroke = " gps +
                "Gal/Minute ="
                gps spm * +
                6 DISP
                5 DISP
                4 DISP
                "Press a key to exit"
                9 DISP
                0 WAIT DROP
           \>>
        \>>
\>>
```

I've probably missed a trick or two. If so, you can be sure Luiz will catch it. 8)

Edited: 17 Jan 2006, 1:15 a.m.

Re: Converting hp42s programs

*Message #10 Posted by **B Douglas** on 17 Jan 2006, 3:41 a.m.,*
in response to message #9 by Howard Owen

HOW DO I ENTER THIS INTO THE CALC....I KEEP GETTING SYNTAX ERRORS. I HAVE NO EXPERIENCE DOING THIS....SORRY FOR THE LACK OF KNOWLEDGE.

AND HOW DO I STORE AND RUN IT ALSO

Re: Converting hp42s programs

*Message #11 Posted by **B Douglas** on 17 Jan 2006, 3:45 a.m.,*
in response to message #9 by Howard Owen

ON THE GAL PER MIN ENTRY IT ASK WHAT GPM DO YOU WANT THEN TAKES THAT # DIV. BY GAL/STK AND IT WILL TELL YOU THE DESIRED STROKES PER

MINUTE TO RUN SPM TO RUN TO ACHEIVE THAT GPM LEVEL.

THERE ARE WIDE VARIATIONS OF THIS PROGRAM AROUND...I AM TRYING TO EXPLAIN IT THE BEST I CAN.

Re: Converting hp42s programs

Message #12 Posted by ***.*** *on 17 Jan 2006, 6:48 a.m.,*
in response to message #11 by B Douglas

PLEASE TURN OFF YOUR CAPS LOOK.

Thanks.

Re: Converting hp42s programs

Message #13 Posted by ***Vieira, Luiz C. (Brazil)*** *on 17 Jan 2006, 9:15 a.m.,*
in response to message #11 by B Douglas

Hi, Brian;

if you are in trouble keying the program in your calculator, given that you already have the listing, maybe one of the best ways is actually to download the existing listing from the computer to the calculator through the connection cable. In some cases, when you are in the need to load the calculator with edited listings, editing in a PC and downloading it to the calculator may also be better and, occasionaly, faster.

I'm sending you an e-mail with some extra info, O.K.?

Best regards.

Luiz (Brazil)

Edited: 17 Jan 2006, 9:17 a.m.

Re: Converting hp42s programs

Message #14 Posted by ***B Douglas*** *on 17 Jan 2006, 11:31 a.m.,*
in response to message #13 by Vieira, Luiz C. (Brazil)

I do not have a program to write a calc. program on the computer in order to be able to download to the calc. I have the connectivity software, but I have not seen a way to actually edit or write programs on it to send to the calc.

Brian

Re: Converting hp42s programs

Message #15 Posted by ***Howard Owen*** *on 17 Jan 2006, 1:04 p.m.,*
in response to message #14 by B Douglas

There is an error in that listing that may have prevented you from sending it to the calc. It was also missing the text header. Here's a corrected version:

```
%%HP: T(3)A(D)F(.)
\<<
    "Enter Liner" "" INPUT  OBJ\->
```

```
    "Enter Stroke Length" "" INPUT OBJ\->
    "Enter Efficiency" "" INPUT OBJ\->
    "Enter Strokes/Minute" "" INPUT OBJ\->
        \-> lin stl eff spm
        \<<
           lin SQ .000243 * stl * eff * .01 *
           DUP "Bbl/Stroke = " SWAP + SWAP
           42 *
            \-> gps
           \<<
                "Gal/Stroke = " gps +
                "Gal/Minute ="
                gps spm * +
                6 DISP
                5 DISP
                4 DISP
                "Press a key to exit"
                9 DISP
                0 WAIT DROP
           \>>
        \>>
\>>
```

Cut and paste the above into notepad, and save as "pump.txt" Start the connectivity kit, cable up the calculator, start the xmodem server and connect with the connectivity kit. Check File->Transfer mode. If it is "binary", select it so you are in "text" mode. Drag pump.txt and drop it into the connectivity kit's view of the calculator file system. Select "Disconnect" from the Connectivity Kit menu. You should have a softkey labeled "pump" in the calculator directory you dropped the file on. That should do it.

You might want to have a look at http://www.area48.com, which is a site for HP48 and HP49 beginners. The mother of all HP graphing calculator sites is Eric Rechlin's hpcalc.org. Despite excellent organization, it can be hard to find stuff there because there's just so much. But your time spent browsing will be rewarded with more knowledge about your calculator. I suggest you start with the FAQ, and then have a look at Programming in User RPL (zip file containing a PDF). The essential reference for programming in User RPL on the 49G+ is the Advanced User's Reference Manual (PDF). It's huge, but has a tutorial course in User RPL at the beginning, and contains detailed reference for all the User RPL words.

Finally, the Usenet news group comp.sys.hp48 is a good place to ask programming questions. This site is for older HP calculators, not current ones like the 49G+ The newsgroup is a better place to go with your questions.

Good luck!

Edited: 17 Jan 2006, 1:14 p.m.

Re: Converting hp42s programs

*Message #16 Posted by **B Douglas** on 17 Jan 2006, 1:55 p.m.,*
in response to message #15 by Howard Owen

THanks for the help,,I got it on my calc.now but for some reason it does not run...or I just do not know how to run it.

Need a little more help.

Brian

Re: Converting hp42s programs

*Message #17 Posted by **Howard Owen** on 17 Jan 2006, 2:14 p.m.,*
in response to message #16 by B Douglas

What happens when you press the softkey labeled "pump"? (Softkeys are the top row keys, under the "soft" labels.)

Re: Converting hp42s programs

*Message #18 Posted by **Howard Owen** on 17 Jan 2006, 1:26 p.m.,*
in response to message #14 by B Douglas

You should also look at Hrast's message below. For $130.00, you could have a 42S emulator on your 49G+. You would have to key the programs by hand, but no translation would be needed.

Re: Converting hp42s programs

*Message #19 Posted by **B Douglas** on 17 Jan 2006, 2:29 p.m.,*
in response to message #18 by Howard Owen

It brings up the program just like it was entered and sent to the calculator.

It does not actually run it.

it has a: 1: and the program is in qoutes.

I notice that there are g's in alot of the lines at the beginning some have 1 g and others have 2 g's.

Butit does noe execute the program.

Re: Converting hp42s programs

*Message #20 Posted by **Howard Owen** on 17 Jan 2006, 3:15 p.m.,*
in response to message #19 by B Douglas

It sounds like the program transferred as a string, not as a program. That could happen if your cut-and-paste added characters, or if you were in binary mode when you transferred the program.

Delete the program off the calculator. (Press r-shift-files, OK, scroll down to the PUMP..." entry, press NEXT, then the PURGE softkey.) Download the binary version here. Save it and reconnect to the calculator. Drag the saved file (PUMP.hp) into the connectivity kit window and proceed as above.

The text/binary mode probably wasn't the problem. I just transferred the text file to my 49G+ with the connectivity kit in binary mode, and the calc recognized it as a program without a problem. It's more likely some garbage was added when you did your cut-and-paste. (You needed to select *just* the program text before pressing ctl-c, for instance.) The binary version linked to above should get around that difficulty.

Re: Converting hp42s programs

*Message #21 Posted by **B Douglas** on 17 Jan 2006, 4:29 p.m.,*
in response to message #20 by Howard Owen

Howard your incredible, The program works great!!!!! I copied and pasted it just like you mentioned and it still transfered as a string. Is there a way to set the connectivity program to binary and I assume that I was to set the calculater to ascii transfer. I might have been doing it all wrong. Still learning!

I have several other programs that I am needing to write in this code. By looking at the way the program was on the 42s I could follow it, but in the new RPL way it is very confusing for me. Any sugestions....most of the other (formula's) just get more complex.

Would you be interested in helping.

If so let me know.

Feel free to contact me by email

bdouglas1011@earthlink.net

Then I could get you my Contact #.

Thanks for your help!

Re: Converting hp42s programs

*Message #22 Posted by **James M. Prange (Michigan)** on 18 Jan 2006, 3:27 a.m.,*
in response to message #19 by B Douglas

> Quote:
>
> It brings up the program just like it was entered and sent to the calculator.
>
> It does not actually run it.
>
> it has a: 1: and the program is in qoutes.

As you've already successfully downloaded the binary version, this is acedemic, but at least part of the problem would be the header. It should be:

```
%%HP: T(3)A(D)F(.);
```

instead of

```
%%HP: T(3)A(D)F(.)
```

Note the semicolon at the end of the ASCII transfer header. Without a valid transfer header, the calculator stores whatever it received as a character string.

> Quote:
>
> I notice that there are g's in alot of the lines at the beginning some have 1 g and others have 2 g's.

That I don't have any good explanation for. I do notice that Howard posted the source code with tab characters where a series of spaces would usually be, but that shouldn't matter, as either tabs or spaces are parsed as separators.

I hope that you saved it as a "plain text" file rather than some sort of "word processing" document. Generally, ASCII (text) source code files are edited with a "text editor" rather than a "word processor", but a word processor should work as long as the file is saved as plain text.

I recommend uploading (in "ASCII" or "text" mode) some programs (and other objects) that you've written and stored on the calculator, to see what the header and source code should look like in a text editor on your PC. Assuming that you're using Conn4x for the transfer, I recommend configuring Conn4x to translate all non-ASCII characters. If using some other method for transfer, use translation mode 3, which can be set by the sequence 3 TRANSIO on the calculator.

> Quote:
>
> Butit does noe execute the program.

Well, what would be "executed" is the character string, which for a "data class" object, means that it would simply be placed on the stack.

As Howard wrote, the newsgroup comp.sys.hp48 seems to be a better place to ask about RPL models.

Regards,
James

Edited: 18 Jan 2006, 4:40 a.m.

Re: Converting hp42s programs

*Message #23 Posted by **B Douglas** on 23 Jan 2006, 10:54 p.m.,*
in response to message #22 by James M. Prange (Michigan)

does any one have any idea why this will not transfer and convert into binary mode.

%%HP: T(3)A(D)F(.)

\<<

"Enter Liner" "" INPUT OBJ\->

"Enter Stroke Length" "" INPUT OBJ\->

"Enter Efficiency" "" INPUT OBJ\->

"Enter Strokes/Minute" "" INPUT OBJ\->

\-> lin stl eff spm

\<<

lin SQ .000243 * stl * eff * .01 *

DUP "Bbl/Stroke = " SWAP + SWAP

42 *

\-> gps

\<<

"Gal/Stroke = " gps +

"Gal/Minute ="

gps spm * +

6 DISP

5 DISP

4 DISP

"Press a key to exit"

9 DISP

0 WAIT DROP

\>>

\>>

\>>

Edited: 23 Jan 2006, 10:59 p.m.

Re: Converting hp42s programs

*Message #24 Posted by **Howard Owen** on 23 Jan 2006, 11:05 p.m.,*
in response to message #23 by B Douglas

Oh, heck.

James noticed this before. I left out a semicolon at the end of the header in this program. So

```
%%HP: T(3)A(D)F(.)
```

Should be

```
%%HP: T(3)A(D)F(.);
```

That's why it isn't transferring. In this case, the 49G+ will give a string conversion error, which doesn't tell you a darned thing, and Conn4X will report a transmission error. Very confusing.

Regards,
Howard.

Re: Converting hp42s programs

*Message #25 Posted by **Howard Owen** on 23 Jan 2006, 11:12 p.m.,*
in response to message #23 by B Douglas

An error in the program will also give you a string conversion error, without telling you where exactly the error occurred. What I do in that case is I edit the file, replacing the outer program delimeters (the first \<<and the final \>>) with double quotes. That makes the 49G+ not do any string conversion, but just copy the contents over as text. Once on the calc, I edit the string and replace the quote marks with program delimeters. Then when I press enter, the calculator parses my program, gives me an intelligble error message and points to where the problem is. Much better!

That wouldn't have worked in this case, however, since the problem wasn't in the program but in the text header.

Regards,
Howard

Edited: 23 Jan 2006, 11:13 p.m.

Re: Converting hp42s programs

*Message #26 Posted by **HrastProgrammer** on 17 Jan 2006, 1:22 a.m.,*
in response to message #2 by Howard Owen

But he doesn't have a version for the 49G+, according to the referenced site.

There are HP-49G+ versions of all my emulators (http://hrastprogrammer.tripod.com/hp49gp.htm), I just haven't updated single emulator pages with this information. They don't have the same functionality as HP-48GX and HP-49G versions due to some HP-49G+ shortcomings and quirks (no RS-232, 128K Port1, some problems with ROM 2.0x, ...).

Edited: 17 Jan 2006, 1:24 a.m.

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HP-11C - 25 years on original batteries!

*Message #1 Posted by **Jerry Lockleer** on 15 Jan 2006, 4:04 p.m.*

I received my HP-11C calculator as a gift in 1981 while studying physics at Central Washington University. I used it intensely for my four years at the university, and have used it as my main calculator ever since I graduated. I have never changed the batteries in the last 25 years! Every day I turn it on and wonder if it will be its last day – but it just fires-up and is ready for work. I'm not sure if there are any records for battery longevity, but 25 years seems like an awfully long time. I'm not sure if it's a testament to the 11C or to the batteries; my guess is both can share the credit. If anyone has a similar story for 25+ years on the same batteries, let me know.

Edited: 15 Jan 2006, 4:05 p.m.

Re: HP-11C - 25 years on original batteries!

*Message #2 Posted by **David Smith** on 15 Jan 2006, 11:21 p.m.,*
in response to message #1 by Jerry Lockleer

You should regularly change the batteries even though they are still good. One day you will wake up and find the battery seals cut loose and spewed battery barf all over the innards of you wonderful pet machine.

Re: HP-11C - 25 years on original batteries!

*Message #3 Posted by **Chris Roccati** on 16 Jan 2006, 5:26 a.m.,*
in response to message #1 by Jerry Lockleer

I changed the batteries on my HP-11C in october. They did last 20 years. They were not actually dead, but the "snowflake" sign has been on since the last year or so.

The change was a "birthday present": according to the serial number, my 11C was built in the last week of october in 1985.

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HP 41CX Battery rebuild

*Message #1 Posted by **Mike long** on 15 Jan 2006, 2:54 p.m.*

I just found our old 41 CX, looks like it is not taking a charge. Anyone have any suggestions on rebuilds or new battery packs? I am sure that this is a common question, but I cannot locate any articles. Thanks for your help...

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12c "120+ functions"

*Message #1 Posted by **Don Shepherd** on 15 Jan 2006, 1:37 p.m.*

I would be the last person to complain about the venerable 12c. It is the only currently-manufactured HP product that you can both program in RPN and fit easily in your shirt pocket. However, is anyone but me bothered by the fact that it is (and always has been, as far as I know) advertised as having "120+ function"? Has HP ever listed those 120 functions, because I count only about 88.

Re: 12c "120+ functions"

*Message #2 Posted by **Tim Wessman** on 15 Jan 2006, 2:22 p.m.,*
in response to message #1 by Don Shepherd

Paperweight? Battery tester? Bookend? ;-)

TW

Re: 12c "120+ functions"

*Message #3 Posted by **Gerson W. Barbosa** on 15 Jan 2006, 4:36 p.m.,*
in response to message #1 by Don Shepherd

Hello Don,

It appears you have forgotten to take into account the following, which are not so evident:

```
Show Mantissa (f CLEAR PREFIX)
STO+
STO*
STO-
STO/
FIX (f 0..9)
SCI (f.)
ON/.
ON/*
ON// (?)
ON+ (?)
ON- (?)
```

HP may have considered also these:

```
f
g
ON
OFF
```

Only 104 functions though (107 if we consider Tim's suggestions :-)

Perhaps 12C experts should point us out the missing functions...

Edited: 15 Jan 2006, 4:39 p.m.

Re: only to US!

*Message #4 Posted by **M currie** on 15 Jan 2006, 10:22 p.m.,*
in response to message #3 by Gerson W. Barbosa

How about if you count all the different "fix" settings and separator options as separate functions? Don't forget the self test too.

Re: only to US!

*Message #5 Posted by **Gerson W. Barbosa** on 16 Jan 2006, 8:00 a.m.,*
in response to message #4 by M currie

The manual lists the ON * and ON / self tests, already included. By what I've read, now it is possible to adjust the screen contrast (ON + and ON - ?). If we consider FIX 0 to FIX 9 as distinct functions (actually they are not), and low power indicator and auto shut-off, we have 115+ 'functions'...

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TI-57 Emulator for HP-48S/SX/G/G+/GX, HP-49G and HP-49G+ is finished

*Message #1 Posted by **HrastProgrammer** on 15 Jan 2006, 1:50 a.m.*

AFAIK, this is the first time ever that TI machine code can be executed on a HP CPU :-)

This famous vintage calculators is fully emulated because the emulator is based on the real ROM (object code retyped and analyzed by me from the original TI patents).

Features:

(*) Continuous Memory - data and program memory is preserved after exiting the emulator.
(*) Light-sleep mode when waiting for a key is implemented.
(*) Auto power-off is implemented.
(*) Ability to save/save RAM to/from a RM57 variable.
(*) Emulator is much faster than real calculator.
(*) Pause duration is lowered to about 1/2 second.
(*) Advanced LRN functionality: Current instruction is displayed in text form above the regular display in LRN mode.

The first three features in fact turn TI-57E into never released TI-57C calculator.

I won't release TI-57E for Windows because my primary concern are HP-48 and HP-49 calculators. For this reason, I gave the ROM and the emulation code to Eric so he can include TI-57 into Nonpareil as stated in another thread (this code is written in Delphi Pascal so he must translate it into C).

TI-57E is freeware. I uploaded it to http://www.hpcalc.org some ten days ago but it still didn't show and isn't available for download. I don't know the reason for this. Maybe you can suggest me another location for the upload ...

Best regards.

Re: TI-57 Emulator for HP-48S/SX/G/G+/GX, HP-49G and HP-49G+ is finished

*Message #2 Posted by **Namir** on 15 Jan 2006, 4:07 p.m.,*
in response to message #1 by HrastProgrammer

Hi,

I assume that it is packed as a ZIP file? What is teh size of teh file? I might be able to post it on my web site at (I'll make a new page and link for it:

http://scribeinva.250free.com

Regards,

Namir

Re: TI-57 Emulator for HP-48S/SX/G/G+/GX, HP-49G and HP-49G+ is finished

*Message #3 Posted by **Peter Geiser** on 15 Jan 2006, 5:12 p.m.,*
in response to message #1 by HrastProgrammer

Great! If you need a space to place your file, I can offer you a slot at http://www.pmgeiser.ch/calc

Best regards
Peter

Re: TI-57 Emulator for HP-48S/SX/G/G+/GX, HP-49G and HP-49G+ is finished

*Message #4 Posted by **HrastProgrammer** on 16 Jan 2006, 12:56 a.m.,*
in response to message #3 by Peter Geiser

Hi Namir and Peter,

There are 3 ZIP files (one for HP-48S/SX/G/G+/GX, one for HP-49G and one for HP-49G+), each about 12K in size. Can I send them to you by mail?

Best regards.

Re: TI-57 Emulator for HP-48S/SX/G/G+/GX, HP-49G and HP-49G+ is finished

*Message #5 Posted by **Howard Owen** on 16 Jan 2006, 1:09 a.m.,*
in response to message #4 by HrastProgrammer

You've got mail. 8)

Re: TI-57 Emulator for HP-48S/SX/G/G+/GX, HP-49G and HP-49G+ is finished

*Message #6 Posted by **HrastProgrammer** on 16 Jan 2006, 1:44 a.m.,*
in response to message #5 by Howard Owen

And you :-)

Re: TI-57 Emulator for HP-48S/SX/G/G+/GX, HP-49G and HP-49G+ is finished

*Message #7 Posted by **Howard Owen** on 16 Jan 2006, 12:21 p.m.,*
in response to message #6 by HrastProgrammer

The files are up at retrocalculator.com:

Ti57e48.zip
Ti57e49.zip
Ti57e50.zip

Thanks, Hrast!

Regards,
Howard

Re: TI-57 Emulator for HP-48S/SX/G/G+/GX, HP-49G and HP-49G+ is

finished

*Message #8 Posted by **Namir** on 16 Jan 2006, 2:27 p.m.,*
in response to message #7 by Howard Owen

I created a new page for the TI-57 emulator on my website. The main page is:

click here

Namir

Re: TI-57 Emulator for HP-48S/SX/G/G+/GX, HP-49G and HP-49G+ is finished

*Message #9 Posted by **Peter Geiser** on 16 Jan 2006, 3:57 p.m.,*
in response to message #4 by HrastProgrammer

Hello Hrast Programmer

I have created a small page for your emulators on my calculators page:
http://www.pmgeiser.ch/calc

I also finished a page on HP97 card reader repair, with a few photos.

Comments and feedback are welcome.

Best regards
Peter

Re: TI-57 Emulator for HP-48S/SX/G/G+/GX, HP-49G and HP-49G+ is finished

*Message #10 Posted by **HrastProgrammer** on 17 Jan 2006, 12:57 a.m.,*
in response to message #1 by HrastProgrammer

Thanks to Howard, Namir and Peter (in alphabetical order) for hosting TI-57E :-)

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First non-RPN calculator in Nonpareil

*Message #1 Posted by **Eric Smith** on 14 Jan 2006, 8:42 p.m.*

Thanks to a ROM image and code provided by HrastProgrammer, Nonpareil will soon support its first non-RPN calculator, the TI-57.

Since non-RPN calculators (even the HP-01 and HP-10) aren't really consistent with the name Nonpareil, I've decided to put them into an optional "downgrade pack".

I'm not sure whether the TI-57 will make it into the next release, which I'm trying to finish up this month. If not, it will be in the following release.

Re: First non-RPN calculator in Nonpareil

*Message #2 Posted by **mIKE t.** on 15 Jan 2006, 9:59 a.m.,*
in response to message #1 by Eric Smith

I'm looking forward to the next release.

While it is true that I would probably only use the RPN models, I wouldn't necessarily regard the simulation of a non RPN calculator as a 'downgrade'...

Mike T.

Re: First non-RPN calculator in Nonpareil

*Message #3 Posted by **Eric Smith** on 16 Jan 2006, 1:11 a.m.,*
in response to message #2 by mIKE t.

It's a downgrade pack because once you install it, the name "Nonpareil" is technically no longer applicable.

Re: First non-RPN calculator in Nonpareil

*Message #4 Posted by **Thomas Okken** on 16 Jan 2006, 8:47 a.m.,*
in response to message #3 by Eric Smith

> Quote:
>
> the name "Nonpareil" is technically no longer applicable.

OK, I'll bite. :-) What does that name stand for anyway?

Re: First non-RPN calculator in Nonpareil

*Message #5 Posted by **Gerson W. Barbosa** on 16 Jan 2006, 8:53 a.m.,*
in response to message #3 by Eric Smith

Totally agree!

Nonpareil means unique, unmatched, 'sans pair', etc...

It would be kinda heresy including TI calcs simulations in the official Nonpareil package. Nevertheless, a separate package with some TI calculators would be much appreciated as some of us here had one of these (My first programmable calculator was in fact a TI-59. I had also a TI-51-III and an LCD TI-57 - display and chips available for free, if someone is interested).

Regards,

Gerson.

```
---------------------------------------------------------------------
nonpareil [nónpa ráy'l] noun (plural nonpareils)
1.somebody or something unparalleled: somebody who or something
that has no equal
2.PRINTING six-point type: a size of printers' type equivalent to
six point (dated)


adjective
peerless: having no equal


[15th century. From French, literally 'not (having) equal',
 from pareil, 'equal', from popular Latin pariculus, diminutive of
Latin par, 'equal' (see  PAIR).]


Encarta® World English Dictionary © & (P) 1999, 2000 Microsoft
Corporation. All rights reserved.
Developed for Microsoft by Bloomsbury Publishing Plc.
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Question about using the EMU71

*Message #1 Posted by **Namir** on 14 Jan 2006, 11:26 a.m.*

Hi All,

How can I read BASIC programs that I type with a regular text editor into the EMU71 emulator for the HP-71B?

I really aprpeciate your help.

Namir

Re: Question about using the EMU71

*Message #2 Posted by **Howard Owen** on 14 Jan 2006, 12:57 p.m.,*
in response to message #1 by Namir

I use one of two methods, both depending on a real 71B and an HP-IL ISA card in the PC. I transfer the program to the real 71B, then I write it to a virtual LIF disk under EMU71, or directly into the emulator.

AFAIK, what's lacking is a program to write LIF format files to a LIF disk image. The HP41UC program will do this for 41C data types, but that doesn't include the LIF text format. (What HP41UC does is wrap a LIF header around the given data, and then a LIF disk header around that.) I know that Tony Duell's LIF utilities ifor Linux nclude a program to put a LIF header around a LIF text file so it can be transferred over the serial port (via COPY FROM RS232C: on the 71B) but that doesn't put the disk header on the file. It shouldn't be too hard to do that for just one file. The tricky thing would be to write a LIF image create/add/modify/delete utility generalized for all the 41C/75C/71B/85/86/87/9816 and so forth file types.

I know that Vassilis gave something like that out as an assignment to his students recently. Did you get any good solutions that could be GPL'd, Vassilis? 8)

Re: Question about using the EMU71

*Message #3 Posted by **Namir** on 14 Jan 2006, 4:22 p.m.,*
in response to message #2 by Howard Owen

I am actually translating True BASIC programs to HP-71B Basic. There is some similarity between the two in the types of programs involved. So going from ASCII text to EMU71 format is good.

What seems to have potential is this process:

1. Translating the HP71B ASCII text source code into a special format that WINBATCH (Windows batch file program) can proces. 2. Run a WINBATCH file that reads the translated BASIC source code and sends the characters to EMU71.

WINBATCH's keystroke transmission to another windows app (or DOS box) has to follow special rules. For example, the + character has to be sent as a special character.

Namir

Re: Question about using the EMU71

*Message #4 Posted by **Howard Owen** on 14 Jan 2006, 7:45 p.m.,*
in response to message #3 by Namir

That sounds like a winner! You could probably can the translations you need in a Perl script or True BASIC program.

Re: Question about using the EMU71

*Message #5 Posted by **Namir** on 14 Jan 2006, 9:16 p.m.,*
in response to message #4 by Howard Owen

Howard,

I wrote a short VB.Net program to convert the HP-17B BASIC listing into keystrokes for WINBATCH to feed EMU71 in a DOS box. I tested it and it works. To make sure EMU71 accepts each character, I programmed the WINBATCH script to wait 2 seconds. As long as the WINBATCH script feeds each line to EMU71 correctly things are fine. I can always go back and edit the listing in EMU71 if I need to.

It's slow but it works!!!

I have several BASIC program that I want to prt to the HP71B and then post on my web sites. The next set s one that does best linear and multiple regression for 2 and 3 variables. The next set of programs deal with multivaribale optimization using some heavy duty algorithms.

Namir

Re: Question about using the EMU71

*Message #6 Posted by **Valentin Albillo** on 14 Jan 2006, 10:51 p.m.,*
in response to message #1 by Namir

Hi,

To load a PC text file into Emu71, proceed as follows:

1. Copy your text file, renaming it to "emu_in.dat", to Emu71's home directory.

2. Enter this small program in Emu71 (where MYTEXT is any legal name you want to give your PC text file when stored in the emulated 71B file system) exactly as written and RUN it:

```
10 DIM A$[100]
20 CREATE TEXT "MYTEXT"
30 ASSIGN #1 TO "MYTEXT"
40 ENTER :DOSLINK;A$
50 DISP A$ ! just to follow the process, you can omit it
60 PRINT #1;A$
70 GOTO 40
```

   The program will stop (at ENTER statement) when there are no more lines to ENTER from the PC text file.

3. Now manually close the file by executing from the keyboard:

```
ASSIGN#1 to *
```

and there you are, your text file is now in the emulated HP-71B file system, as a proper 71B TEXT file, and named "MYTEXT", say.

4. If your text file is actually a well formatted, legal HP-71B program written in syntactically correct HP-71B BASIC, with proper line numbers and all, you can now transform it from its text form to a proper BASIC program by executing from the keyboard:

```
TRANSFORM MYTEXT INTO BASIC
```

which will convert it to a real, runnable HP-71B BASIC program.

5. To do the reverse process, that is to list a program in Emu71 into a PC text file, do the following from the keyboard:

```
ENDLINE CHR$(13)&CHR$(10)
PRINTER IS :DOSLINK
PLIST "MYPROGRM"
PRINTER IS * (or PRINTER IS :DISPLAY)
```

and you'll find a PC text file named "emu_out.dat" in Emu71's home directory, which you can process with any Windows or MSDOS program or utility, such as some editor or converter, or rename it and store it in some repository.

That's all. I think you'll find this approach both easy and quite fast. Notice it works for arbitrary text files, not just programs, so you can also enter data files as well.

Best regards from V.

Re: Question about using the EMU71

*Message #7 Posted by **Howard Owen** on 15 Jan 2006, 1:00 a.m.,*
in response to message #6 by Valentin Albillo

slaps forehead I forgot about DOSLINK!

Thanks, Valentin!

Re: Question about using the EMU71

*Message #8 Posted by **Namir** on 15 Jan 2006, 3:57 a.m.,*
in response to message #6 by Valentin Albillo

Valenin,

THANK YOU SO VERY MUCH!!! You are a life saver and a PRO! Your method works and does the job much quicker than my hack using WINBATCH.

Namir

Edited: 15 Jan 2006, 3:58 a.m.

Re: Question about using the EMU71

*Message #9 Posted by **Valentin Albillo** on 15 Jan 2006, 6:43 p.m.,*
in response to message #8 by Namir

Hi, Namir:

Namir wrote: *"THANK YOU SO VERY MUCH!!!"*

You're welcome. That's one of the main purposes of this unique MoHP Forum: to enjoy worthy discussions with other fellow HP fans, and to help each other by sharing info (and even goodies !) related to our beloved HP calcs. Matter of fact I've found your ingenious Winbatch approach highly interesting.

Best regards from V.

Re: Question about using the EMU71

*Message #10 Posted by **Namir** on 15 Jan 2006, 6:57 p.m.,*
in response to message #9 by Valentin Albillo

I have several numerical optimization programs to translate to the HP-71B BASIC. They are not very short, so I decided to run them on the EMU71 emulator instea of typing them on a physical HP-1B. Being able to transfer the listigs from DOSWindos text file to the EMU71's virtual RAM is a valuable time-saver.

Namir

Permission Requested

*Message #11 Posted by **Namir** on 16 Jan 2006, 8:23 a.m.,*
in response to message #6 by Valentin Albillo

Valentin,

Do I have your permission to post these intructions on my web site (under the HP-71B eb page)? I thnk they will be very useful to mention.

Regards,

Namir

Edited: 16 Jan 2006, 8:24 a.m.

Re: Permission Requested

*Message #12 Posted by **Valentin Albillo** on 16 Jan 2006, 9:33 a.m.,*
in response to message #11 by Namir

Hi, Namir:

Namir posted:

"Do I have your permission to post these intructions on my web site (under the HP-71B eb page)? I thnk they will be very useful to mention."

Yes, of course, permission granted. Spreading info that can be potentially useful to other HP fans will always have my full blessings.

Thanks for asking and for your generosity in making available the info at your web site.

Best regards from V.

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Most current HP 33s models

*Message #1 Posted by **Joe Edwards** on 14 Jan 2006, 9:08 a.m.*

Hey folks, I ran across a post somewhere that stated there have been several iterations of the HP 33s calculator. What is the condition of the most current version (bug wise, LCD wise, tiny decimal point wise, etc) and how do I tell which version is which? Thanks for the help in advance.

Joe Edward

Re: Most current HP 33s models

*Message #2 Posted by **John Smitherman** on 14 Jan 2006, 2:13 p.m.,*
in response to message #1 by Joe Edwards

Hi Joe. I believe that if you find a 33s with date code 524 or newer you should get the new and improved model with the bug fixes.

Happy Computing!

Regards,

John

Re: Most current HP 33s models

*Message #3 Posted by **Bob** on 17 Jan 2006, 9:59 a.m.,*
in response to message #2 by John Smitherman

My 33S with 442xxxxx has the poor LCD. My 527xxx unit has the new and (really) improved LCD and no bugs as far as I can tell.

Re: Most current HP 33s models

*Message #4 Posted by **Marcus von Cube, Germany** on 17 Jan 2006, 10:50 a.m.,*
in response to message #3 by Bob

My 51500163 has the improved LCD but retains all the bugs.

Marcus

Re: Most current HP 33s models

*Message #5 Posted by **bill platt** on 17 Jan 2006, 11:33 a.m.,*
in response to message #1 by Joe Edwards

You have to test it by operating it through the blister pack. Difficult but not impossible.

You need to run the H.MS DMS routine (check to see if it mishandles negative values) and the Polar-Rectangle routine (test to see if it gets confused going from 90degrees r=1 to X,y and tehn back---if it gives 270 degrees it hjas the bug.

Edited: 17 Jan 2006, 11:33 a.m.

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Comma instead of desimal point?

*Message #1 Posted by **Not a Geek** on 13 Jan 2006, 8:54 p.m.*

I have had my HP12C for more years than I want to admit so I have no idea where my users manual is. All of a sudden it is showing a comma where the desmimal point should be. Since I am not a geek, this is confusing to me. Anybody know how to reconfigure it back?

Re: Comma instead of desimal point?

*Message #2 Posted by **Vassilis Prevelakis** on 13 Jan 2006, 9:00 p.m.,*
in response to message #1 by Not a Geek

Turn the calculator OFF and then while pressing the decimal dot key, turn it back on. This is, probably, how you changed it in the first place.

**vp

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WARNING: New scam

*Message #1 Posted by **Vassilis Prevelakis** on 13 Jan 2006, 6:44 p.m.*

I got the following email (excerpts):

```
From aw-confirm@ebay.com  Fri Jan 13 17:31:46 2006
From: "aw-confirm@ebay.com" <aw-confirm@ebay.com>
Subject: Question from ebay member
MIME-Version: 1.0
Content-Transfer-Encoding: 7bit
X-Priority: 3
X-MSMail-Priority: Normal
X-MimeOLE: Produced By Microsoft MimeOLE V6.00.2600.0000


[...]


Your registered name is included to show this message originated from eBay.
<A href="http://ssiiggnniinn.100free.com/ws/
eBayISAPIdllSignInfavoritenav=2sid2=ruproduct=pp=co_partnerId=2
ru=i1=ruparams=pageType=pa2=bshowgif=pa1=pUserId=errmsg=
UsingSSL-runame-iteid=1/signin.htm"
target=_blank><FONTcolor=#003399>Learn more</FONT></A>.


[...]
```

This is a *fake* message. Notice the **http://ssiiggnniinn.100free.com** url!

Apart from that, the email did *not* include my registered name, and the **To:** field was not my registered ebay email address.

BEWARE

**vp

Re: WARNING: New scam

*Message #2 Posted by **Howard Owen** on 13 Jan 2006, 10:50 p.m.,*
in response to message #1 by Vassilis Prevelakis

I've been getting a lot of these. They usually ask questions such as "what forms of payment do you accept for your item?" Aside from the fact that the reply URL, as you point out, is spoofed, and actually points to some other site than eBay, the mail headers should also show a spoof in the last Received: header listed. The last header listed should be the first one generated. But sometimes the miscreants add phony Received: headers so the first real one isn't the last one listed. Regardless, the first real Received: header usually contains a spoof of the originating system's name. Knowing this can be helpful in identifying malicious mail when other clues are inconclusive.

For example, here's a sample from a virus laden mail that hit my mailbox a couple of weeks back:

```
Received: from vansbro.se (ASt-Lambert-151-1-23-237.w82-120.abo.wanadoo.fr
```

```
[82.120.234.237]) by [...]
```

So this one claimed to be from 'vansbro.se' but actually originated from 'ASt-Lambert-151-1-23-237.w82-120.abo.wanadoo.fr'.

Re: WARNING: New scam

*Message #3 Posted by **Marcus Aurelius** on 15 Jan 2006, 9:16 a.m.,*
in response to message #1 by Vassilis Prevelakis

I've gotten so many of these of different variations that I closed my eBay account. The fun of trading on eBay is not worth exposing yourself, (however they're getting your email off eBay?), to these scam artists.

Re: WARNING: New scam

*Message #4 Posted by **Howard Owen** on 15 Jan 2006, 12:25 p.m.,*
in response to message #3 by Marcus Aurelius

It's doubtful that your membership in eBay or PayPal has anything at all to do with the phishing spam you are getting. Spam is a volume game, and the miscreants who send out that stuff just don't have time to target groups of people. They assume that some percentage of the multiple millions of messages they send will reach people who have eBay accounts, and that some percentage of those will be selling. Since eBay is popular, they are obviously right to think that. But then they also have to get some percentage (of the percentage, of the percentage) of targets who are dumb enough to fall for the (usually) transparently false scam spam spew. As long as you can tell the difference (which you obviously can) then you are safe.

Regards,
Howard

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The brazilian Hurricane, Earth Quake and Terrorist Actions!

*Message #1 Posted by **Artur - Brasil** on 13 Jan 2006, 9:20 a.m.*

Although not particulary concerned to calculators, but just to complement an old post by Luiz Vieira, from Brazil too.

I believe we, brazilians citizens, do not need to have earth-quakes, or hurricanes or terrorist actions! We have our Government doing very well this role.

When we import goods, just see what happens in Customs: - take the goods price: lets say an HP calculator at US$100; - add the shipping costs: US$40 => total US$140;

Well, the Federal tax IPI will be 60% over total = 84US$;

But not only the Federal Government is hungry! The State is too! But State is furious with Federal Government! So, it will add to total costs, the Federal Tax, giving another new calculus-basis: 140 + 84 = 224 US$!!! So, you will have to pay a tax over the Federal tax! You must calculate 18% over the new price: 224 * 18% = US$40. This "would" be the State Tax, but I've said "would". Include the US$40 in the new price and calculate it again!!!! 224 + 40 = 264 US$. Now, 264 * 18% = 47 US$

Finally, you have the final product cost:

original product price: 100US$ shipping costs: 40US$

In Brazil: Federal Tax: 84US$ State tax: 47US$

So, your new calculator have a final price of: 311US$

Now you can imagine why we are a so 3rd world country, always called "in development" ... It does not care how we citizens fight to bring some technology, the Brazilian Government works hard to defeat us and keep our country in the list of the worst in the world in many aspects!

This is why I appreciate so much USA actions: at least it seems your Government works for improving and to defent your Country...

Just an opinion of a very desgusted and tired citizen .....

Artur

Re: The brazilian Hurricane, Earth Quake and Terrorist Actions!

*Message #2 Posted by **bill platt** on 13 Jan 2006, 10:27 a.m.,*
in response to message #1 by Artur - Brasil

Hi Artur,

Sounds like you-all need to have a tea party :-)

Re: The brazilian Hurricane, Earth Quake and Terrorist Actions!

*Message #3 Posted by **E. Young** on 13 Jan 2006, 1:16 p.m.,*
in response to message #1 by Artur - Brasil

Big government is usually the problem. Its appetite for your hard earned money is insatiable. When someone on the street robs you it's called a crime. When the government does it to you it's called taxation, and how dare the average citizen have the nerve to want to keep as much of his/her hard earned money as possible.

Re: The brazilian Hurricane, Earth Quake and Terrorist Actions!

*Message #4 Posted by **bill platt** on 13 Jan 2006, 2:15 p.m.,*
in response to message #3 by E. Young

When the number of people working for the government (state and federal) exceeds 50% of the total working population, we are done for. I think we are fast approaching that ratio.

```
my Conservative Accounting Theory


Government = Overhead
Overhead = non-productive expense
Reduce overhead to increase profit


Profit = pursuit of happiness
```

Edited: 13 Jan 2006, 2:15 p.m.

O.T. - My name in the list...(was: The brazilian Hurricane, Earth Quake and Terrorist Actions!)

*Message #5 Posted by **Vieiera, L. C. (Brazil)** on 13 Jan 2006, 1:38 p.m.,*
in response to message #1 by Artur - Brasil

Hi Arthur, all;

sorry to bring such unfortunate 'old news', but these are facts. Not ot extend the issue more than it deserves, but we here are the ones that face it. And it seems that God knows it well, because in some extent, we do not suffer that much for other external causes; our government does it so well that it´s been enough...

Thanks for your pacience.

Luiz (Brazil... why not?)

123456 to remove

Re: O.T. - My name in the list...(was: The brazilian Hurricane, Earth Quake and Terrorist Actions!)

*Message #6 Posted by **Vieira, L. C. (Brazil)** on 13 Jan 2006, 1:39 p.m.,*
in response to message #5 by Vieiera, L. C. (Brazil)

I keyed in a different password... sorry!

Re: The brazilian Hurricane, Earth Quake and Terrorist Actions!

*Message #7 Posted by **bill platt** on 13 Jan 2006, 1:44 p.m.,*

in response to message #1 by Artur - Brasil

Now to add insult to injury, that $100 HP calculator is not only trebled in cost by the taxes, but the average salaries are lower in Brazil. By how much, I don't know. In the U.S., mechanical engineers are paid generally between $35,000 (beginners in inexpensive cities) to $150,000 (15+ years experience, expensive city). I am not including "bosses" "partners" etc but salaried degreed workers.

I wonder what the Brazilian range is?

The net result is that in the U.S. even these "collector" calculator prices are pretty much only pennies against our earnings--but in Brazil, if feels like it felt in the U.S. in 1979--expensive.

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Converting hp3468 from 115 to 230V ?

*Message #1 Posted by **Francois** on 12 Jan 2006, 4:36 p.m.*

Hello,

Is it easy to convert an US HP3468 Digital MultiMeter from 115 VAc to 230 VAC for use in France ? (It's quite difficult to find in europe, so before searching in the US I prefer asking if transformation is possible or not)

Is the power supply a transformer or a switching supply ?

Thank you Francois

Re: Converting hp3468 from 115 to 230V ?

*Message #2 Posted by **Ronald** on 12 Jan 2006, 5:07 p.m.,*
in response to message #1 by Francois

Hi,

Yes this is very simple. Drop me a mail when you have aquired one and I will mail you the page from the service manual. It is just soldering one wire at another place on the circuit board.

Ronald

Re: Converting hp3468 from 115 to 230V ?

*Message #3 Posted by **Etienne Victoria** on 12 Jan 2006, 6:37 p.m.,*
in response to message #1 by Francois

Bonsoir,

Oui, c'est simple, je le décris dans le fil ci-après: ici. Cordialement

Etienne

Hello,

Yes, it's quite simple and described in the post hereafter: here.

Best.

Etienne

Re: Converting hp3468 from 115 to 230V ?

*Message #4 Posted by **Francois** on 13 Jan 2006, 3:33 p.m.,*

in response to message #3 by Etienne Victoria

Thank you for the information, now i have to find a 3468. It's more easy in US I think.

Merci pour ton post, Etienne, cela semble vraiment simple. Utilises tu couramment le 3468 ?

Best regards François (North of France)

Re: Converting hp3468 from 115 to 230V ?

*Message #5 Posted by **Etienne Victoria** on 13 Jan 2006, 3:51 p.m.,*
in response to message #4 by Francois

Finding one should be easy --> Ebay has plenty!

I use mine on a regular basis when repairing Hp-calcs, printing out voltage measurements.

Friendly regards from Fourqueux (78) (free advertisement)

A ta disposition pour toute info.

Etienne

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HP-97 card reader repair question

*Message #1 Posted by **David Ramsey** on 12 Jan 2006, 4:20 p.m.*

OK, almost done with Easterling's 97. The keyboard problem was due to the fact that someone had worked on the calc previously and re-installed the white plastic keyboard spacers incorrectly: instead of spacer-gold foil-spacer it had been put back together as gold foil-spacer-spacer. This lifted the contacts another millimeter or so and prevented the "0" key from making good contact when pressed.

The broken battery contact was replaced with a good contact from an HP-82162A printer with a bad print head.

The card reader wouldn't pull cards, so I took it apart. The rubber roller was in the "rock hard stage just before gummy", so I scraped it off and replaced it with standard O-rings. The inside of the reader, including the read/write head, was kinda dirty so I cleaned that up as well (btw, ultrasonic jewely cleaners work great for cleaning those nylon balls).

The reader now pulls cards very well and will write cards my other calcs will read, but reading a card always produces an "ERROR" display. Any ideas? I have another 97 card reader I can use if I have to...

Re: HP-97 card reader repair question

*Message #2 Posted by **Randy** on 12 Jan 2006, 7:32 p.m.,*
in response to message #1 by David Ramsey

Since it writes okay I would start with the 3.3uf bypass cap across the motor. No joy? Next up are the two 22uf caps in series with the head. That usually takes care of it.

Re: HP-97 card reader repair question

*Message #3 Posted by **David Ramsey** on 12 Jan 2006, 10:10 p.m.,*
in response to message #2 by Randy

Thanks Randy. Presumably these caps are readily available at my local Radio Shack...

Re: HP-97 card reader repair question

*Message #4 Posted by **David Smith** on 13 Jan 2006, 12:13 p.m.,*
in response to message #1 by David Ramsey

Foil, Spacer, Spacer IS THE CORRECT ORDER!!!! I've worked on a couple hundred of the machines and all the ones that worked and had not been futzed with were in that order. The only ones that were not in that order had been obviously klutzed with.

To fix your read problem replace the 6.8 uF (or so) blue dipped tantalum electrolytic cap on the chip power lines.

Re: HP-97 card reader repair question

*Message #5 Posted by **David Ramsey** on 13 Jan 2006, 1:58 p.m.,*
in response to message #4 by David Smith

> Quote:
>
> Foil, Spacer, Spacer IS THE CORRECT ORDER!!!! I've worked on a couple hundred of the machines and all the ones that worked and had not been futzed with were in that order. The only ones that were not in that order had been obviously klutzed with.

Weird. It's not that way on my other 97, and redoing it this way sure seemed to fix the keyboard problem. Do you see any disadvantage to leaving it this way?

> Quote:
>
> To fix your read problem replace the 6.8 uF (or so) blue dipped tantalum electrolytic cap on the chip power lines.

Will do...

Re: HP-97 card reader repair question

*Message #6 Posted by **Vassilis Prevelakis** on 13 Jan 2006, 2:45 p.m.,*
in response to message #4 by David Smith

```
David Smith on 13 Jan 2006, 12:13 p.m. wrote
> Foil, Spacer, Spacer IS THE CORRECT ORDER!!!!
```

This is what the book [1] says:

http://www.series80.org/Misc/hp97-keys.gif

**vp

[1] p. 3-15 of the HP-97 Service Manual (file 97serv.pdf in the MoHPC DVD collection)

Re: HP-97 card reader repair question

*Message #7 Posted by **David Smith** on 15 Jan 2006, 11:26 a.m.,*
in response to message #6 by Vassilis Prevelakis

Apparently somewhere along the way HP changed the stamped sheet. I think they did it to get more bend (and spring) to the contacts. They probably changed the order of the spacers to get keep the contact clearance consistent. If the spacers are in the wrong order you either get swicthes that are shorted closed or never make contact. I know what the service manual says. I also know that most of the machines are actually configured differently. When I first noticed that the spacers were in a different order, I tried fixing them like the manual said. I then started having problems with the keyboards. I just got in two machines last week and both had the spacers together.

Re: HP-97 card reader repair question

*Message #8 Posted by **David Ramsey** on 21 Jan 2006, 7:10 p.m.,*
in response to message #4 by David Smith

> Quote:

> To fix your read problem replace the 6.8 uF (or so) blue dipped tantalum electrolytic cap on the chip power lines.

You mean this one, right? I read that as 6.9uF. Would it be prudent to replace any other while I'm at it?

http://www.neko.com/neko_images/caps.jpg

Re: HP-97 card reader repair question

*Message #9 Posted by **David Smith** on 22 Jan 2006, 1:25 p.m.,*
in response to message #8 by David Ramsey

Bad Booze Rots Our Young Guts But Vodka Goes Well -> Blue, Gray = 6.8

That is probably the one, but the ones that go bad are usually all blue. It is on the power lines to the chip. The exact value is not critical, better too large than small.

The other two caps are in series with the head windings. I have seen some readers with a small extra cap... don't remember where it goes. (looks like yours has it)

Re: HP-97 card reader repair question

*Message #10 Posted by **David Ramsey** on 22 Jan 2006, 2:26 p.m.,*
in response to message #9 by David Smith

There are only four caps on the board, all visible in that photo.

Whether the one I pointed out is on the power lines to the chip or not, I can't say...no schematics.

My last question regards polarity: there are no obvious polarity markings on the cap or the circuit board. How to I discern which way to orient the replacement part?

Re: HP-97 card reader repair question

*Message #11 Posted by **Randy** on 22 Jan 2006, 4:15 p.m.,*
in response to message #10 by David Ramsey

HP convention for polarized 'thangs is that (+) has a square PC pad, the (-) is a standard round pad. Same goes for pin 1 of DIP's.

The 6.8 uf cap is in a motor timing circuit, the 3.3 uf next to it is the Vss bypass cap. Whenever I have a dodgy 97 and the switches have been adjusted, I just replace all four caps and move on. The 22uf's in series with the head tend to give me the most grief. FWIW, never had a problem with the older hermetics in the 67, only the dipped red lollypops that are on your 97.

Re: HP-97 card reader repair question

*Message #12 Posted by **David Smith** on 22 Jan 2006, 11:45 p.m.,*
in response to message #10 by David Ramsey

HP97 service manual is on the museum CDROMS...

Re: HP-97 card reader repair question

*Message #13 Posted by **David Ramsey** on 28 Jan 2006, 7:18 p.m.,*

in response to message #12 by David Smith

Yes, and I will order the Museum manuals any day now, honest!

In the meantime I only need one last check of my profound Capacitor Ignorance. Here's one of the 22uf caps I picked up at Radio Shack:

http://www.neko.com/neko_images/22uf.jpg

Will this be a functional replacement? I don't know the significants of the "35v" marking, although obviously that's much higher than the voltage in the card reader.

Radio Shack did not have separate 6.8uf and 3.3uf caps. The closest I found were in a "Pack 'o 100 capacitors". I don't know if the caps shown below are 6.8uf or 68uf, nor do I know how to tell the polarity:

http://www.neko.com/neko_images/capacitors.jpg

Advice solicited. Surprisingly, I CAN solder.

Re: HP-97 card reader repair question

*Message #14 Posted by **David Smith** on 29 Jan 2006, 7:03 a.m.,*
in response to message #13 by David Ramsey

No, that Radio Schack cap is an aluminium electrolytic (BTW, most RS stores are getting out of the parts business... and would you like a cell phone with that blank stare). It has a much poorer performance in this application than a tantalum capacitor. I have never had any problems with the head winding caps or the smaller electrolytic. The one that fails is the one on the power line to the chip. The blue ones are particularly bad. The cap will test good on most cap checkers, but it develops a high ESR (equivalent series resistance).

Re: HP-97 card reader repair question

*Message #15 Posted by **David Ramsey** on 29 Jan 2006, 12:42 p.m.,*
in response to message #14 by David Smith

Thanks for the info, David. Another forum member has offered to send me all four caps, which (as I noted) beats ordering them from DigiKey.

Yeah, Radio Shack's component selection wasn't too impressive. I remember when they had tube testers in all the stores.

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Museum night

*Message #1 Posted by **Matthias** on 12 Jan 2006, 3:43 p.m.*

Hi

Here in Switzerland in my City there is each year a large museum´s night where all museums open until 2 am. This year I was asked by a computer museum if I would present some of the HP calculators and their accessories. What a honour for me, but I can not decide, what I want to present there. As I was informed, I will have some vitrines to present things (but I can not decide what). Secondly I want to show some of the calculators in daily work, so that the people can touch and use them... As I never did this before I please you to help me finding a cool selection of the spirit of HP.....

Yours, Matthias

Re: Museum night

*Message #2 Posted by **Ronald** on 12 Jan 2006, 5:11 p.m.,*
in response to message #1 by Matthias

Hi

I would take HP9100 HP-01 HP 35 Version 1 (showing the "thinking error" of having a red dot that it is switched on and at the same time seeing the Red digits in the display. HP 10 for it the only algebraic at that time and he is just cute to look at.

From the modern ones I would take a 65, a 27 and ofcourse a fully loade HP41CX with quite some things hooked up by the IL loop, maybe drive the 3468 multimeter via the HP41 to measure the charging current to a HP92 ?

Succes

Ronald

Re: Museum night

*Message #3 Posted by **Thomas Radtke** on 12 Jan 2006, 5:26 p.m.,*
in response to message #1 by Matthias

Hmmm, I could imagine two interesting subsets: (1) The calcs which presents relevant innovations (first scientific, first programmable and so on) and (2) visually different models. The latter seems to be the worser choice to HP calc fans at first look. But then I'm sure a lot of visitors would enjoy the varity of styles, especially if they are HP illiterate.

Just my 2 cents,

Thomas

P.S.: Don't foget to take some picture (and post the link here:)!

Re: Museum night

*Message #4 Posted by **bill platt** on 12 Jan 2006, 5:42 p.m.,*
in response to message #3 by Thomas Radtke

Explanatory cards, large print, nicely designed, with no more than 25 words per model, are essential.

"1st Programmable Pocket Calculator" "1st Pocket Calculator with external memory storage"

etc

Just my tuppence

Re: Museum night

*Message #5 Posted by **Dave Shaffer** on 12 Jan 2006, 5:45 p.m.,*
in response to message #1 by Matthias

I agree on the '35 with its LEDs. In addition, if you have a 9100 series, put it next to the '35 - to show the evolution in size, with comparable capabilities, in just a few years. Also, stress (and perhaps even show by opening it up) that the guts of the 9100 had no integrated circuits.

Re: Museum night

*Message #6 Posted by **Peter Geiser** on 12 Jan 2006, 5:55 p.m.,*
in response to message #1 by Matthias

Congratulations! When? Where exactly?

I would suggest major technology break-throughs, and also some special models (the blue one, see-through-models). Comparison charts could be interesting as well (e.g. speed, functions, etc. also compared to PCs.)

What about a small competition?

If it should be educational, peraps something about accuracy of computations.

Best regards Peter

Re: Museum night

*Message #7 Posted by **Walter B** on 12 Jan 2006, 5:59 p.m.,*
in response to message #1 by Matthias

Well, if you'll have "some vitrines", then you can show the different calculator lines (Classics, Woodstocks, etc.). To keep it simple and avoid confusion, you can limit your exhibition to the RPN and RPL models. Other calcs are plenty, but this logic is really something special. So you can prepare some explanatory material and let people play with 2 or 3 HP21 connected to their chargers (providing some kind of locking to keep diffusion rate low).

If your shelf space is very limited, then I propose to show the models 9100 (any), 35, 45, 65, 25C, 34C, 41 (any), 15C, 28C, 42S, 48SX, and 48GX with their dates of production and some very schematic, clear info about their features and/or their relative computing power versus costs.

Just my 0,02 sfr.

Re: Museum night

*Message #8 Posted by **Karl Schneider** on 12 Jan 2006, 10:51 p.m.,*
in response to message #1 by Matthias

> Quote:
>
> Secondly I want to show some of the calculators in daily work, so that the people can touch and use them...

If theft is not a concern (e.g., security cable or housing present), I would recommend the following models to cover the "handheld era":

- HP-35 (any)
- HP-67
- HP-41CX with peripherals
- HP-15C (or -16C) and HP-12C, side-by-side
- HP-42S and HP-17BII, side-by-side
- HP-48SX or HP-48GX
- HP-49G+ (??)

This display would cover the the following:

- LED era from inception to completion
- Revolutionary "PC predecessor" 41
- Both fine RPN lines from the 1980's, scientific and business
- RPL calculator/data collector
- The outsourced present

Intermediate models (such as Spices and ordinary Woodstocks) and ill-conceived models (e.g., HP-28C) need not be displayed, IMO.

Regards,

KS

Re: Museum night

*Message #9 Posted by **Stephen Easterling** on 13 Jan 2006, 8:09 a.m.,*
in response to message #8 by Karl Schneider

When you say "outsourced present," do you mean outsourced from Singapore? I thought that the Singapore factory was the first placed it was outsourced from the USA.

There are a lot of great ideas here on this thread and the opportunity sounds very exciting. In my personal collection, I don't have all of the models, but I'm trying to have all the models that had something special (e.g., the 55 was the first model to have a built-in timer / stopwatch feature). The other Classic I have is the 35. The Woodstocks are special because they got EVEN SMALLER during a time that we didn't think it was possible. Remember, this is one reason why the original 35 became so popular was the progression of techonolgy in a device so small. I have a 22 and 25 (business & scientific), but you may want to display a 25C or 29C to demonstrate size and continuous memory. For the Spice family, you should probably omit it, but instead, display a 19C if you have one, to show the different cosmetics but at the same time the printing capability, which was pretty important back then for many users. You may also want to show a Topcat, but this is optional. Next, your 41 series where HP is getting really serious with the peripherals,

and your Voyagers (like someone else mentioned, 12C, 15C, & 16C to show the diversity of this platform to cater to all professionals). A 17BII and 42S for the Pioneers, anything from the Champions because they're unlike anything HP had done before, and a 48 series (e.g., GX with some cards and your printer). Next, something from China, like the current offerings: 12CP, 33S, 49G+. I forgot to mention, but start with a big iron 9800-series and maybe a sliderule (something pre-calculator era). I would not allow anything to be touched unless you have a backup. Don't set out your only mint condition 67 or 41CX for someone to casually scratch the display, etc. The name, year it was released, and a couple of sentences (no more) to highlight it's uniqueness. Don't forget to list a few links for folk to find more info on HP calculators.

Edited: 13 Jan 2006, 8:10 a.m.

Re: Museum night

*Message #10 Posted by **Massimo Gnerucci (Italy)** on 13 Jan 2006, 1:34 p.m.,*
in response to message #9 by Stephen Easterling

> Quote:
>
> (...)display a 19C *if you have one*
> (...) I would not allow anything to be touched *unless you have a backup*
> (...) *your only mint condition* 67 or 41CX

:-)

Sorry Stephen: you obviously don't know Matthias

Greetings,
Massimo

Re: Museum night

*Message #11 Posted by **Matthias** on 13 Jan 2006, 3:44 p.m.,*
in response to message #10 by Massimo Gnerucci (Italy)

Hi Massimo

Good joke, yes!

I thought about shwing some series in vitrines: classics, Woodstock, Spice, Sting, Voyager, Pioneer, Clameshell and Chamion Serie. Second I want to presend the HP-IL interface: HP-41 / HP-71 with some acessories... Someone want´s to send me his Mountain EPROM burner? Matthias

Re: Museum night

*Message #12 Posted by **Massimo Gnerucci (Italy)** on 13 Jan 2006, 11:05 p.m.,*
in response to message #11 by Matthias

Hi Matthias,
unfortunately I cannot help you with the burner.
BTW, when and where will this show take place?
Maybe I could pay a visit if time permits.

Greetings,
Massimo

Re: Museum night

*Message #13 Posted by **Matthias** on 14 Jan 2006, 12:54 a.m.,*
in response to message #12 by Massimo Gnerucci (Italy)

Hi

The museum´s night is on the 27th of january. If you don´t know Basel, then it´s very recommented to come here for this weekend. I will be in a shool where a computer museum is shown. Further informations I can give you, when you really decide to come.

Matthias

Re: Museum night

*Message #14 Posted by **Meindert Kuipers** on 13 Jan 2006, 2:52 a.m.,*
in response to message #1 by Matthias

Good idea. I remember there are some HP's (inclding the 41) at the Science Museum in London. Also show your mechanical calculator and slide rules to show progress in technology.

Meindert

Re: Museum night

*Message #15 Posted by **Bob** on 13 Jan 2006, 7:48 a.m.,*
in response to message #1 by Matthias

How about also having a PC with an internet connection that is set to this website for folks to look around on. It is a computer museum after all.

That way, people can see alot of different models and the vibrant community of people who appreciate this technology in addition to seeing some first hand.

Re: Museum night

*Message #16 Posted by **PeterP** on 13 Jan 2006, 6:39 p.m.,*
in response to message #15 by Bob

IMHO this is a fabulous idea, as it would allow people to get more information on any of the models that MW is willing to share with the broader public. (loved the comment from Massimo btw...)

Cheers

Peter

Re: Museum night

*Message #17 Posted by **Jan** on 13 Jan 2006, 8:35 a.m.,*
in response to message #1 by Matthias

Hi Matthias,

I would exhibit at least the following models with some short explanation

HP-35, 1st version since it is the 1st scientific handheld that started the whole thing.

HP-80 as the 1st financial handheld.

HP-65, being the 1st programmable. Some reference to the apollo-soyoez mission would be interesting as well.

HP-91/97, just as interesting models. The desktop nature of it is hardly seen nowadays.

HP-2X, just as a representative of the woodstock series with emphasis on the small size.

HP-41 (any version(C/CV/CX)) with peripherals. Reference to the space-shuttle program would also add something extra.

HP-34C representing the spice series, innovative due to root finder and numerical integration capabilities.

HP-12C being the most long living model until now (introduced in 1981 and still in production). A monument to HP's craftsmenship.

HP-15C representing the (scientific) voyager models, innovative due to matrix calculation and complex number handling.

HP-28C because of its peculiar book-like design and the large display

HP-42S representing the pioneers series.

HP-48 (any version) as an interesting, long lasting model (an S- and a G-series model would be nice)

Some reference to RPN on a small poster would be illustrative for the special character of the HP calculators throughout the years.

good luck

Don't forget the Fraternal Twins!

*Message #18 Posted by **Paul Brogger** on 13 Jan 2006, 2:02 p.m.,*
in response to message #1 by Matthias

Maybe it's simply because they're the core of my small collection, but I think the fact that one can record a program on a 67, then load & run it on a 97 (& vice-versa) is way-cool geek stuff.

If you expect that magnetic cards might be a part of your demonstrations, then by all means include a group of compatible siblings & show how well they get along.

Re: Don't forget the Fraternal Twins!

*Message #19 Posted by **Massimo Gnerucci (Italy)** on 13 Jan 2006, 11:02 p.m.,*
in response to message #18 by Paul Brogger

> Quote:
>
> Maybe it's simply because they're the core of my small collection, but I think the fact that one can record a program on a 67, then load & run it on a 97 (& vice-versa) is way-cool geek stuff.

Good idea!

And don't forget to pass them through a 41 too; just to give those algorithms another 10+ years of life...

Greetings,
Massimo

Re: Museum night

*Message #20 Posted by **Museum** on 27 Jan 2006, 6:48 a.m.,*
in response to message #1 by Matthias

This is justa reminder:

Today is the Museumsnacht in Basel, Switzerland: 18h-2.00h I will presend a lot of calculators and equipment stuff.

Yours´ Matthias

Re: Museum night

*Message #21 Posted by **Walter B** on 27 Jan 2006, 8:23 a.m.,*
in response to message #20 by Museum

Don't forget to take some pictures and publish them in this forum. It's a pity I can't be in Basel tonight. d:-(

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anyone know the newport, ri, hp-41 person?

*Message #1 Posted by **erik** on 12 Jan 2006, 3:09 p.m.*

a year or two ago i put out the call for one of the spring sets used in the hp-41 battery box and the only response i got was from, i believe, a gentleman who lives in newport, ri. sadly, and for some reason, i didn't repond to him then and i can't find his email now. does anyone here know who this fellow might be and how i might contact him? tia. erik (btw/ on the wanted board, i've put out a call for the spring again, if you've got a spare one ....)

Edited: 12 Jan 2006, 6:00 p.m.

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Mom and Dad

*Message #1 Posted by **Ron** on 12 Jan 2006, 12:05 a.m.*

So here's the deal - Like my mom, I go snooping around in junk stores on a fairly regular basis. Best HP deal I ever found in one was a 12C for about two bucks.

My dad on the other hand, can't stand those stores, so he seldom enters one. So he called me over the Christmas break, as he was standing in a store waiting for my mom (mom likes to shop), and asked if he should buy this calculator for $.98. It didn't have any batteries, so he couldn't tell if it worked. It was a 15C, so of course I told him to grab it. So he walks down the aisle a few steps, and lo and behold, there was another one! Two 15Cs for a buck a piece! But don't answer yet - Turns out, it was half price day, so he got both of them for a buck. :^) (Yeah, I feel kind of guilty for hoarding.)

He also found a 48GX once for $10 at a different store, also while waiting on my mom.

I hope I can grow up to be like my dad some day ;^)

Re: Mom and Dad

*Message #2 Posted by **Namir** on 12 Jan 2006, 6:16 a.m.,*
in response to message #1 by Ron

Ron,

Are your parents open to adopt more children?????

Namir

Re: Mom and Dad

*Message #3 Posted by **Stephen Easterling** on 12 Jan 2006, 1:51 p.m.,*
in response to message #1 by Ron

Where do they shop?! I have never been to any store that would have calcs like that just lying around for sale. Were they in nice condition or for spare parts only?

Re: Mom and Dad

*Message #4 Posted by **Thomas Radtke** on 12 Jan 2006, 5:16 p.m.,*
in response to message #1 by Ron

I know this comes not even close to your luck but let me share it nonetheless: Just got my Sharp PC-1500 that I've 'won' on ebay. Used condition but ok. It was a big surprise that the seller left a 16KB module in it which is usually worth more than the calculator itself:).

Thomas

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custom menu use in HP48GX

*Message #1 Posted by **Don Davis** on 11 Jan 2006, 4:08 p.m.*

I have some programs in a subdirectory which I would like to be able to run from a custom menu in the Home directory. I have no problem maiking the cst variable list in the subdirectory iteself and getting this to work from there. However, I have forgotten how to put the path in the cst for the home directory so that the subdirectory programs will run from home.

I am pretty sure I have done this successfully in the past, but I am not at a place where I can reach my notes or even a HP48 user's guide. Any responses are appreciated.

Thanks, Don

Re: custom menu use in HP48GX

*Message #2 Posted by **Ron Allen** on 11 Jan 2006, 5:56 p.m.,*
in response to message #1 by Don Davis

I am relying on memory myself since I have the 49. If this doesn't work right come back. By that time I might locate my 48 and will have tried it out.

I think that all you need to do is to create your cst list while you are inside the subdirectory it applies to. You may have as many CST menus as you have subdirectories.

Ron

Re: custom menu use in HP48GX

*Message #3 Posted by **Don Davis** on 11 Jan 2006, 6:28 p.m.,*
in response to message #2 by Ron Allen

Ron,

The custom menu does work if I create it and use it while in the subdirectory where the programs it calls are located. I would like a custom menu to reside in the Home directory, but which calls programs in a sub-directory. I know I did this before, but I can't recall how exactly...

Thanks, Don

Re: custom menu use in HP48GX

*Message #4 Posted by **Ron Allen** on 11 Jan 2006, 7:13 p.m.,*
in response to message #3 by Don Davis

Don,

my quick response is to consider the fact that any object you put into the CST variable (or other name

of an object), even icluding a spare list of variables inside a variable on the CST list, at HOME will iniate the same activity as it would otherwise. Therefore you could have any number of program objects taking you to any subdirectory and back. You would then have the choice of going to another custom menu directly and working with it, or automate that trip as well.

In case you forgot how to create subdirectories a trip to "memory" then "new" should get you to familiar ground.

Re: custom menu use in HP48GX

*Message #5 Posted by **Ron Allen** on 11 Jan 2006, 6:32 p.m.,*
in response to message #1 by Don Davis

Don,

I only remembered a little of the CST use in the 48, but I was right about just storing a list representing the variables in your CST. Or you can go to a helper by pressing left shift then the CST button. Press menu twice to get into the control subdirectory and create your custom menu. The simpler way for a bare menu is still to store a list {of the variables} representing your menu into 'CST'

The custom menu can be enhanced in several ways, mostly by using the shift left and right method. This is all detailed in chapter 30 in the user's guide, part number 00048-90126.

Don't know if you can access a download of the manual, but you might can buy one through this forum. In the meantime, detail any additional enhancements for your subdirectories and I might be able to answer them.

Ron

Re: custom menu use in HP48GX

*Message #6 Posted by **Jonathan Purvis (New Zealand)** on 11 Jan 2006, 9:43 p.m.,*
in response to message #1 by Don Davis

To change to a directory and run a program, use its full path, eg:

```
{ HOME dir1 subdir1 program } EVAL
```

To restore the current directory after running, use this:

```
\<< PATH { HOME dir1 subdir1 program } EVAL EVAL \>>
```

Re: custom menu use in HP48GX

*Message #7 Posted by **Don Davis** on 12 Jan 2006, 7:35 a.m.,*
in response to message #1 by Don Davis

Thanks for the helpful replies - with your help (and finding a manual), here is what I settled on:

I three programs in a subdirectory (path is Home->Optics->Cnvrt) which I want to appear in a custom menu in the home directory. When I run them from this custom menu, I want to remain in (or return to) the home directory. The three programs are labeled "->dBm", "->mW", and "l<->f".

My CST variable in the home directory looks like this:

{ { "-dBm" {<< OPTICS CNVRT -dBm HOME>>}} { "-mW" {<< OPTICS CNVRT -mW HOME>>}} { "l-f" {<< OPTICS CNVRT l-f HOME>>}}}

This works fine. It seems inelegant in that it actually switches directories, runs the program, and then switches back. I would prefer to just run the program via a called path from home, but they are really small short conversions, so it is no matter.

Thanks for the advice ..

Best regards, Don

Re: custom menu use in HP48GX

*Message #8 Posted by **Ron Allen** on 12 Jan 2006, 7:27 p.m.,*
in response to message #7 by Don Davis

Looks just like the model code in the manual, glad you found what you need.

I'm curios. The program labels look like you might be into fiber optics? My son-in-law has qualified in optic networks as an employee of QWEST. I understand that to be a not-so-frequent certification.

I have set aside space in my 49G+ for solving multiple equations to verify depth of field and other optics questions to use in my hobby of photography. The 49g+ is 3-4 times as fast as the 48gx in solving the full set of equations for hyperfocal, depth of field, etc. Had not thought before of accessing programs and functions directly from the HOME Menu to make the frequent use of them more efficient. Thanks for the idea,

Ron

Re: custom menu use in HP48GX

*Message #9 Posted by **Don Davis** on 14 Jan 2006, 10:18 a.m.,*
in response to message #8 by Ron Allen

Ron,

Thanks for the help. Yes, I worked in fiber for a long time - from 1986 until 2002. The market for fiber is sort of down right now, so I am in RF for the moment. I keep a few fiber related quick routines in case something comes up. For a while I did work on optical power induced damage in fibers (hence the quick mW to dBm keys) and later in DWDM (hence the wavelength to frequency key for C and L band work). Very simple calculations, but nice to have them on a menu key. Good luck to your son-in-law. Tell him to put in lots of fiber so the market for products picks back up!!

regards, Don

> Quote:
>
> Looks just like the model code in the manual, glad you found what you need.
>
> I'm curios. The program labels look like you might be into fiber optics? My son-in-law has qualified in optic networks as an employee of QWEST. I understand that to be a not-so-frequent certification.
>
> Ron

Re: custom menu use in HP48GX

*Message #10 Posted by **James M. Prange (Michigan)** on 18 Jan 2006, 4:35 a.m.,*
in response to message #7 by Don Davis

> Quote:
>
> Thanks for the helpful replies - with your help (and finding a manual), here is what I settled on:
>
> I three programs in a subdirectory (path is Home->Optics->Cnvrt) which I want to appear in a custom menu in the home directory. When I run them from this custom menu, I want to remain in (or return to) the home directory. The three programs are labeled "->dBm", "->mW", and "l<->f".
>
> My CST variable in the home directory looks like this:
>
> { { "-dBm" {<< OPTICS CNVRT -dBm HOME>>}} { "-mW" {<< OPTICS CNVRT -mW HOME>>}} { "l-f" {<< OPTICS CNVRT l-f HOME>>}}}
>
> This works fine. It seems inelegant in that it actually switches directories, runs the program, and then switches back. I would prefer to just run the program via a called path from home, but they are really small short conversions, so it is no matter.

Maybe try using "path names" in the programs, such as:

```
\<< { OPTICS CNVRT dBm } RCL EVAL \>>
```

where "\<<" and "\>>" represent the program delimiters. Substitute your actual directory and variable names.

Effectively, the above is equivalent to saving the current directory (in this case, HOME), switching to the CNVRT directory, recalling the contents of variable dBm, switching back to the original directory, and finally evaluating the contents of the variable.

If you want to be able to use this from somewhere other than the home directory, then make the program:

```
\<< { HOME OPTICS CNVRT dBm } RCL EVAL \>>
```

Your CST variable could be something like:

```
{
  { "\->dBm" \<< { HOME OPTICS CNVRT dBm } RCL EVAL \>> }
  { "\->mW" \<< { HOME OPTICS CNVRT mW } RCL EVAL \>> }
  { "l<->f" \<< { HOME OPTICS CNVRT lf ) RCL EVAL \>> }
}
```

("\->" represents the "right arrow" character.)

Regards,
James

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hp 12cp and hp33s

*Message #1 Posted by **E. Young** on 11 Jan 2006, 12:53 p.m.*

Since I'm an engineer I never gave much thought to the HP12c or 12cp. After seeing an image of the 12cp, it seems like its secondary function colors are blue and red/orange.

The red/orange color seems vastly superior to the purple used on the 33s. I think it would be great if HP dropped the purple on the 33s and went with the red/orange color of the 12cp.

Hp, now that you have addressed the bugs in the display and keyboard, please take another look at the design of the 33s. It seems to me that using different (and better) secondary function colors should be relatively easy to do. If you do a successor to the 33s (and I hope you do), please go back to traditional hp colors, give us a large enter key, and forget about styling gimmicks like the angled keys. We are not mouth breathing morons who need to be stimulated by "cool" product styling, but are people who appreciate quality products where form follows function. i doubt that the styling of the 33s would influence anyone's decidion to buy it, because those who would buy a calculator just becuase they think it looks "cool" are probably just going to buy lower end models from TI, Casio, Sharp, etc. If you want to compete at the shallow end of the pool, keep your sytling gimmicks there.

Re: hp 12cp and hp33s

*Message #2 Posted by **Jan** on 11 Jan 2006, 1:33 p.m.,*
in response to message #1 by E. Young

I agree completely with this

Re: hp 12cp and hp33s

*Message #3 Posted by **bill platt** on 11 Jan 2006, 1:50 p.m.,*
in response to message #1 by E. Young

> Quote:
>
> "give us a large enter key"

To which I say, "to what end?" Are you going to calculate better with a large enter key? What makes it so important, anyway? Somehow, we get along fine with a "small" shift key, and a "regular" sized R/S key....

> Quote:
>
> We are not mouth breathing morons

I like this one--I can see an image of a particularly stupid teacher I had once...

Re: hp 12cp and hp33s

*Message #4 Posted by **E. Young** on 11 Jan 2006, 2:29 p.m.,*

in response to message #3 by bill platt

Bill,

Regarding the enter key, a larger key is what I'm used to, and I do think I would calculate better with a large enter key. It's also very appropriate that the enter key be large because the enter key unleashes the power of RPN. It's what helps to separate the RPN users from the users of lesser calculators.

Re: hp 12cp and hp33s

*Message #5 Posted by **bill platt** on 11 Jan 2006, 2:57 p.m.,*
in response to message #4 by E. Young

Hi Modulus,

> Quote:
>
> It's what helps to separate the RPN users from the users of lesser calculators

Be careful here! RPN users =/ superior. Lesser Calculators =/ non-RPN. Superior calculators are HP quality, or some other quality. One might easily argue in favor for SHARP classics for instance. HP made some non-RPN from the *very* beginning and they were superior products in their time. They also made some dud-RPN models(10c).

Regards,

R. Hooke

Re: hp 12cp and hp33s

*Message #6 Posted by **E.Young** on 11 Jan 2006, 3:21 p.m.,*
in response to message #5 by bill platt

Dear Mr. Hooke: Good one!!

I was taking some poetic license. I define a lesser calculator as one that is non-RPN, not one that is non HP. RPN in my opinion is completely superior to algebraic entry. I would take an HP 10c over the best offering from TI, Sharp, etc. any day of the week. The advanced programming capabilites of the high-end TI's (or HP's)mean nothing to me. For basic number crunching, especially when you have lots of chain calculations, you cannot beat RPN.

This is a digression from my original post though. HP, I beg you as one who is addicted to RPN: continue to improve the 33S! Now fix the colors!

Regards

Re: hp 12cp and hp33s

*Message #7 Posted by **Wayne Brown** on 12 Jan 2006, 11:30 a.m.,*
in response to message #3 by bill platt

> Quote:
>
> Are you going to calculate better with a large enter key? What makes it so important, anyway?

If the **ENTER** key had always been the same size as other keys, it wouldn't matter. But the large **ENTER** came to symbolize RPN and served as a banner announcing, "This calculator is *different*!" The size reduction was done in an effort to make HP calcs look more like the competition's so people would be less "intimidated" by something unfamiliar. That's what bothers me so much about it. It's an example of the way HP has "sold out" to the lowest common denominator.

HP's advertising used to imply strongly that they (and their customers) were *better* because they were *different* from everyone else. Now they want to look and be just like everyone else, and the small **ENTER** is just one example of that. My attitude is, if they're ashamed of the big **ENTER** key, then I'm ashamed to be seen with their products.

Re: hp 12cp and hp33s

*Message #8 Posted by **bill platt** on 12 Jan 2006, 11:58 a.m.,*
in response to message #7 by Wayne Brown

HI Wayne,

I thinnk it is much less complicated---

Simply, they get more keys if they make it smaller!

Re: hp 12cp and hp33s

*Message #9 Posted by **Wayne Brown** on 12 Jan 2006, 6:49 p.m.,*
in response to message #8 by bill platt

Maybe, but it only gains them one extra key, which hardly seems worth throwing away a longstanding company tradition. Plus it happened about the same time that other changes in color, keyboard layout, case design and shape, etc. were happening -- changes that made HP calculators look a lot more like other brands (TI in particular). And don't forget how they de-emphasized RPN by adding (in some cases) a *default* algebraic mode. I think it's clear that HP's marketing tactics changed from "Our customers prefer our calcs because they're smarter" to "You don't have to be smarter to use our calcs."

HP's original approach was, "You're part of a small, elite group if you use our products." Their current approach is more like, "We're a modern, mainstream group now and if you use our products you'll fit in with all the other cool people."

Re: hp 12cp and hp33s

*Message #10 Posted by **bill platt** on 12 Jan 2006, 7:03 p.m.,*
in response to message #9 by Wayne Brown

> Quote:
>
> which hardly seems worth throwing away a longstanding company tradition

Traditions are meant to be broken. Else you have stagnation.

How many people do you know who keep up the tradition of switching from a wool hat to a straw hat on memorial day?

Or even better--how many people do you know who make a wreath out of some of a deceased's hair, mingled with hair of his/her progeny?

Obsolete traditions are quaint reminders of the past, not paradigms on which sound business decisions are taken.

Edited: 12 Jan 2006, 7:10 p.m.

Re: hp 12cp and hp33s

*Message #11 Posted by **Ron Ross** on 11 Jan 2006, 2:13 p.m.,*
in response to message #1 by E. Young

Why not modify the Hp17Bii+ into a scientific. That platform might even support the features and functions of an Hp42s+ with only a new keyboard mask and a new software burned into ROM. Add a serial port if you make any hardware modifications and you would sell 2-3 to me RIGHT NOW (I don't know how good the keyboard of the new Hp17Bii+ is compared to the Hp33s, but if its compariable, I would buy 2-3).

This should be a fairly easy release for Hp aside from marketing and this calculator robbing sales from the Hp33s (which Hp wouldn't mind) and the Hp48/49 series (which is why the Hp42s was probably dropped as it either didn't compete well or if it weren't available, people bought the Hp48G before).

But the Hp17Bii+ calculator released in a scientific version ie the Hp42s+ would be a much more stylish and conservative calculator for the professional. Toss in an RS-232 or USB port and you now have sensible back up for the 32K of RAM on board. Also add in the old Hp48G units conversion routine since you have a two line display and sell it for $80-100 and IT WOULD SELL LIKE HOTCAKES.

Make an algebraic mode and Voila, you would now have a real contender even against Ti for a field calculator for the Masses (who don't want to touch an RPN calculator).

Enough of my RANT! Most of you have heard me go off the deep end before!

Re: hp 12cp and hp33s

*Message #12 Posted by **bill platt** on 11 Jan 2006, 2:50 p.m.,*
in response to message #11 by Ron Ross

> Quote:
>
> IT WOULD SELL LIKE HOTCAKES

Have you or anyone you know been to an IHOP or HoJo's recently? :-)

Re: Hotcakes at IHOP

*Message #13 Posted by **Paul Brogger** on 11 Jan 2006, 5:33 p.m.,*
in response to message #12 by bill platt

IHOP: old, sticky syrup EVERYWHERE. A least-favorite place to eat.

Re: iHoP

*Message #14 Posted by **gifron** on 11 Jan 2006, 11:44 p.m.,*
in response to message #12 by bill platt

In college towns, IHOP is hopping! Open all night, student friendly, free wireless internet, free coffee refills, syrup shots... It just doesn't get any better.

For me though, one of my least favorite places; ever since I was a kid.

Re: hp 12cp and hp33s

*Message #15 Posted by **Stephen Easterling** on 11 Jan 2006, 3:16 p.m.,*
in response to message #11 by Ron Ross

I had two 49G+ calcs, both with keypad problems. But once I downloaded then new ROM 2.00, my keypad problems were solved. I had a new 17BII+, but my keypad problems with it were worse with no way to fix it. Incidentally, I also had keypad problems on two 12CP calcs and decided to wait for the latest upgrade. I hope I like it when I get it. As for the 17BII+, I think it offers incredible potential as a "42S+" or as a "43S." For me, and don't cast stones, I actually love the 33S and prefer its cosmetics over the existing 17BII+. Regarding the chevron-shaped keys and new colors on the 33S, that design change alone probably helped HP to sell orders of magnitude more than the buyers represented on this small (but awesome) forum. I could be wrong, but this is just my opinion. Thanks, HP, for making the 33S and 12CP in the first place and rolling over and for NOT giving up in light of TI's and Casio's success.

Edited: 11 Jan 2006, 3:18 p.m.

Re: hp 12cp and hp33s

*Message #16 Posted by **E. Young** on 11 Jan 2006, 3:26 p.m.,*
in response to message #15 by Stephen Easterling

Stephen,

I respectfully disagree with you regarding cosmetics, but I too am thankful that HP does make the 33s.

Do you really like the purple though?

Also, do you know if the 33s is selling well?

Re: hp 12cp and hp33s

*Message #17 Posted by **bill platt** on 11 Jan 2006, 3:50 p.m.,*
in response to message #16 by E. Young

I have been following the stock in the local Wallyworld. So far, in 1 month (Dec 11 through Jan 11) there have been zero purchases of their 33sstock (4 units). I live in a small coastal town where there is a distinct lack of representation of the 18-30 year old crowd.

Re: hp 12cp and hp33s

*Message #18 Posted by **E. Young** on 11 Jan 2006, 4:04 p.m.,*
in response to message #17 by bill platt

It might be selling better at college book stores, and then there's internet sales. Way back in the late '80's when I was in school an HP calculator was considered an advanced and highly desired machine, but I don't know if that's still the case.

Re: hp 12cp and hp33s

*Message #19 Posted by **Stephen Easterling** on 11 Jan 2006, 4:16 p.m.,*
in response to message #16 by E. Young

I don't have any inside info regarding 33S sales and at my local Wal-Mart they have not been selling too well, either. I'm not sure if this is indicative of college bookstore sales, though, but I would assume that the opinions on this forum (regarding cosmetics) may not be the best litmus test for a new calc since most here prefer the older traditional styles over anything new. I think HP tried to impress the current college kids, but forgot that most current working science professionals still buy new calcs, too. Yeah, many DO use the same calcs for decades, but many also replace them from being dropped too many times (or too much chalk dust!) or just got lost or stolen. Hey, what do they have to lose! I think maybe HP SHOULD come out with a traditionally-styled calc (and call it the 43S!). As for the 12CP, I prefer its looks over my regular 12C, plus it's also much faster for all the date calcs I have to do.

Re: hp 12cp and hp33s

*Message #20 Posted by **Norris** on 11 Jan 2006, 5:18 p.m.,*
in response to message #19 by Stephen Easterling

Go to amazon.com and search for "33S calculator". When you get to the HP-33S page, you will find a list of associated items that shoppers also looked at when shopping for the 33S. This is a standard amazon.com feature, it's the list entitled:

"Customers who viewed this item also viewed..."

So what else do people shop for when they shop for a 33S ? Four items are listed:

(1) A review guide for the Fundamentals of Engineering exam
(2) A review guide for the Fundamentals of Land Surveying exam
(3) A review guide for the Professional Mechanical Engineering exam
(4) A review guide for the Professional Civil Engineering exam.

The implication is that the 33S sells particularly well to NCEES exam candidates. If this is true, then it further suggests the following points:

(a) Sales of the 33S are probably relatively small. Not many people take NCEES exams; the number of new candidates each year is on the order of a few tens of thousands. And many of them buy other approved NCEES-approved calculators, like Casios or TIs. HP can't be selling more than 10,000-20,000 units to NCEES examinees per year. And if NCEES examinees are their best market, then total 33S sales can't be very large.

(b) If HP overhauled the 33S design, it would probably not improve sales as far as NCEES examinees are concerned. The 33S already enjoys "monopoly" status as the only NCEES-approved model with RPN or programmability. Any candidate that values these features is going to buy a 33S, with or without improvements. The only way that HP could improve sales in the NCEES market would be to lower the price, to better compete with the non-programmable options from Casio and TI.

Edited: 11 Jan 2006, 5:23 p.m.

Seat-of-the-pants Market Research

*Message #21 Posted by **Paul Brogger** on 11 Jan 2006, 5:36 p.m.,*
in response to message #20 by Norris

May I compliment you on a brilliant bit of market research? Nice contribution!

Re: Seat-of-the-pants Market Research

*Message #22 Posted by **Norris** on 12 Jan 2006, 12:21 p.m.,*
in response to message #21 by Paul Brogger

Another indicator of the close association between the 33S and the NCEES exam market is the number of vendors that are currently publishing and distributing 33S NCEES exam software. The list (which may be incomplete) includes:

www.newcalc.com
www.chotkeh.com
www.33ssurveyor.com
www.softwarebydzign.com
www.ppi2pass.com ("Essential Equations" book series)

Note that these are not just different distributors of the same product -- each of these vendors is offering an original product in competition with others.

Edited: 12 Jan 2006, 12:21 p.m.

Re: hp 12cp and hp33s

*Message #23 Posted by **Jan** on 11 Jan 2006, 4:19 p.m.,*
in response to message #11 by Ron Ross

Well Ron, I think you hit a potential jackpot for HP. I have been asking myself why the design of the 17bII+ is restricted to business models only. It would do perfectly for an RPN scientific. Maybe a big ENTER key would be fine as well. For the non RPN users an algebraic entry mode would be nice (User should be able to choose between both modes. Don't misunderstand me: I would stick to RPN anyway). I also like the keys of the 17bII+: rings a bell from a distant past and they offer the possibility of direct keyboard access to many functions (with their sloped edges). Don't know what they are made of in the 17bII+, but soft keys are of course off limits. You could produce a remake of any succesful model this way (a 15cII would be a nice thing as well)

HP here's a chance I would say!

Re: hp 12cp and hp33s

*Message #24 Posted by **Ron Ross** on 11 Jan 2006, 4:38 p.m.,*
in response to message #23 by Jan

I speak from my experience in manufacturing. Making a 43s out of an existing 17Bii+ ONLY involves software and a new keyboard mask. The re-release an Hp42s manual with updates (sorta EXACTLY what Hp did with the Hp33s).

While I miss the large enter key, a new user who doesn't know anything else, would actually find it more awkward (it is, if you look at the enter key in a rational way, the large enter key WAS a MISTAKE!). That we like it is merely our nostalgia and use of a large enter key. And since nothing left in production (aside from the 12c & hey, I say make an Hp15cp too!) has a large enter key, you use what you have (if you want to push another calculator on the market w/o any additional manufacturing costs.

But so many calculators on the market (and all Hp) only rob sales from Hp's other offerings. That is why Hp isn't offering any additional calculators (aside from the cheap King-po algebraic units). Sad, but true.

Re: hp hp33s -- should "boot" to ALG mode

*Message #25 Posted by **Paul Brogger** on 11 Jan 2006, 5:43 p.m.,*
in response to message #24 by Ron Ross

The amazing thing is that H-P chose to have the 33s "boot" to RPN by default.

That's got to be confusing to at least half of the youngsters attracted to its appearance, while defaulting to ALG would be no problem at all for most (all?) RPN buyers. (I wonder how many of Wal-Mart's units are returned because they "don't work right"?)

Thanks, H-P, for the 33s. (You should probably change it to default to ALG.)

Re: hp 12cp and hp33s

*Message #26 Posted by **Ben Salinas** on 11 Jan 2006, 6:50 p.m.,*
in response to message #11 by Ron Ross

> Quote:
>
> IT WOULD SELL LIKE HOTCAKES.

I doubt that it would. I don't think many today would buy an $80 scientific calculator, when you get a $100 TI Graphing Calculator. Whether or not someone actually uses the graphing features of their calculator, the fact that it graphs makes users think it is more powerful.

I feel that the best thing companies like TI have going for them is their name. In high school, most people would refer to their graphing calculator not as a graphing calculator but as their "TI-89" or "TI-83" or, most often, their "TI." The brand name replaced the actual product (kind of like Kleenex or Xerox... I blow my noise with generic Kleenexes.) When you have this brand recognition, you begin to associate the brand with quality. Then, companies like Casio and HP become "generic" companies. When going to the store, you see 8 TI calculators for every one HP calculator. This is partially due to the fact that TI makes a wider variety of calculators (but only slightly, perhaps?).

Let's consider for the moment this situation. A high school student needs a calculator for a class. His teacher says, "Go buy a calculator." Every other student in the class had a TI-89. His teacher only knows how to use a TI-89. The textbook has special sections about the TI-89. He goes to the store, and he now has a choice. He could buy 8 varieties of a TI graphing calculator, or a Casio graphing calculator, or an HP 49g+. He is going to buy the TI-89, almost certainly. Why would he buy any other calculator?

Well, he begins to use this calculator. He gets used to it, and believes it is the best calculator ever. It is very powerful, and can do almost anything (anything it can't do, he pretends doesn't matter, or says "My TI-89 can't do it, how can you expect me to do it!?!") As he grows older, he goes to college. He has the choice to keep his existing calculator (or buy a calculator similar to it), or get something completely new and different. He chooses to keep his same calculator.

He goes out to work, and uses a calculator. The calculator breaks one day. He goes out and buys the new model of the same calculator. When he has kids, and they need calculators, he buys the same model for them. The cycle continues.

People enjoy being familiar with things, and people enjoy being good at things. If you know English really well, and live in America, is there any reason to learn Russian? Sure. There are some reasons. Maybe your family all speaks Russian, and you would like to have something in common with them. Maybe you are going to get a job in Russia. Maybe you grew up speaking Russian as well as English. Maybe you are curious, and would like to learn something new. Otherwise, probably not. Most people will just happily

continue to speak English.

TI is picking up users when they are in middle school and high school. They feel there is no reason to switch over to buying a more expensive calculator to learn something more "complex." (and perhaps there is no reason... isn't it a matter of preference).

How many of you all would give up what you are familiar with in order to try something new? How many of you all are willing to use Algebraic, instead of RPN? The answers to these questions are evident in posts such as "Bring back the 15c" and "I want a big enter key" and "RPN is the best thing ever."

I bet other calculator users feel the same way about what they know.

-Ben Salinas

12345

Re: hp 12cp and hp33s

*Message #27 Posted by **Ron Ross** on 12 Jan 2006, 8:26 a.m.,*
in response to message #26 by Ben Salinas

Your reasoning is EXACTLY why the Hp42s ceased to exist. It cost about the same as an Hp48G when it was available.

But many Hp42s users still paid that! Why? Because IT WASN'T a graphics calculator!

But I concede that this is probably the reason Marketing at Hp decided to discontinue the Hp42s.

Re: hp 12cp and hp33s

*Message #28 Posted by **Wayne Brown** on 12 Jan 2006, 11:40 a.m.,*
in response to message #26 by Ben Salinas

> Quote:
>
> How many of you all would give up what you are familiar with in order to try something new? How many of you all are willing to use Algebraic, instead of RPN? The answers to these questions are evident in posts such as "Bring back the 15c" and "I want a big enter key" and "RPN is the best thing ever."

Except that I always used algebraic calculators and never touched an RPN model until the age of 33, when I fell in love with the HP-16C in 1988. I didn't buy my first HP-41 until they'd been out of production for eight or nine years. And I didn't start using a 48GX until the 49G had been around for a year or two. In my case, I didn't choose the older stuff until *after* I had seen how bad the newer junk was.

Re: hp 12cp and hp33s

*Message #29 Posted by **Norris** on 12 Jan 2006, 2:40 p.m.,*
in response to message #26 by Ben Salinas

> Quote:
>
> TI is picking up users when they are in middle school and high school. They feel there is no reason to switch over to buying a more expensive calculator to learn something more

"complex."

This is true, but the problems for HP calculators run much deeper than that. TI has ***always*** owned the middle school and high school market, even in the 1970s and 1980s, which were the "Good Old Days" as far as most HP calculator enthusiasts are concerned. In those days, people who were pursuing technical careers (in science, engineering, surveying, finance, etc.) typically "discovered" HP calculators in college, or in grad school, or when they started working professionally.

Now things are different -- but it's not because TI has invaded HP's traditional market. It's the PC (which was a rarity in the 1970s and 1980s) that has invaded HP's traditional market. The real competitor for HP calculators is Microsoft Excel, not TI. Most technical professionals now rely on Excel as their primary tool for numerical calculations, not TI or HP calculators.

Someday middle and high school students will be routinely issued laptop PCs. And when that happens, TI's calculator division will suffer the same pains as HP's.

Edited: 12 Jan 2006, 2:52 p.m.

Re: hp 12cp and hp33s

*Message #30 Posted by **Ron Ross** on 12 Jan 2006, 2:55 p.m.,*
in response to message #29 by Norris

I don't think Ti is challenged by the laptop nearly as much as the Hp calculator line is (Hp's customers were more likely geeks in technological settings that made use of PC's when appropriate). I also don't think the PC will replace the calculator anywhere (except the power user, who couldn't bear to do his work with anything less).

Ti's future competetion will be the cheap PDA. The one that can play games and music and still offer an okay graphics calculator. Kids that have no need of anything beyond simple algebra (most of them, Sadly), will buy this great new device as they only need the graphics calculator for 3-4 months of their limited mathematics life and move on. "Hey, my $100- PDA does that! And it plays awesome GAMES AND MUSIC TOO! Ditch that TI JUNK!" (I kinda agree with that very last line) B^)

But for the on the fly designer or casual number cruncher, nothing beats a full featured calculator with buttons. And no PDA advocate can understand that.

Re: hp 12cp and hp33s

*Message #31 Posted by **E. Young** on 12 Jan 2006, 5:24 p.m.,*
in response to message #26 by Ben Salinas

I had always used TI calculators, until my junior year of college. I new that HP used a different entry system, and that some time would be required to become familiar with it. Learning how to do something new in college is not a big deal, it is what you are supposed to be doing anyway.

After spending a very small amount of time "getting used to it", it was plainly apparent just how superior it was. The HP was faster and easier to use. Therefore, it did allow me to calculate better, much better. Comparing learning to use an HP to learning a new language is a bad analogy. I still have that calculator, and it is 18 years old and still functions perfectly. While using TI's, which I had been using up until my junior year in college, I was replacing my calculator all the time because. All through high school I don't remember anyone having an HP. It was all TI, and I never heard of HP until I was in college. Then while in college I saw many engineers who had HP's. Why then make the switch to

HP if most were presumably familiar with non-HP's? Because of the reputation HP had for making a calculator that was powerful and high quality. There was also an ego aspect to it as well because it also showed the distinction between engineers and non-engineers.

The reason that HP has lost market is because in my opinion, they became stagnant in the mid '90s and stopped being as innovative. They also let the build quality slip. The main reason to buy an HP in my opinion is because of RPN. I doubt that many of the current fans of RPN became turned on to it in grade school, but in college. The question then is why are fewer being turned on to HP and RPN in college now than in the past? I don't but the argument that the computer spelled the end of upper-end calculators. Furthermore, back when HP's were more prevalent in college, they were more expensive than they were now, and students had less disposable income than they seem to have now.

Would an advanced scientific calculator sell really well now? Probably not. I think the reason is because HP dropped the ball in the mid to late part of the 90's. As I said before, the strength of an HP is RPN, and always has been. They should try to make the case for RPN instead of surrendering to algebraic. Surely engineering students even today should be able to see the superiority of RPN.

Re: hp 12cp and hp33s

*Message #32 Posted by **bill platt** on 12 Jan 2006, 5:47 p.m.,*
in response to message #31 by E. Young

> Quote:
>
> I doubt that many of the current fans of RPN became turned on to it in grade school

for me, it was 10th grade.

Whole new world, now. My son is in third grade, and yesterday he announced to me that that day they used a calculators to solve a problem :-\

I asked him what kind. "Texas Instruments. There was even a picture of one in the book."

So much for learning arithmetic.

Re: hp 12cp and hp33s

*Message #33 Posted by **jan** on 14 Jan 2006, 3:44 p.m.,*
in response to message #32 by bill platt

In response to that particular quote by E. Young: I was 6 or 7 years old when I was introduced to RPN by my father who brought a 45 to our home one day from his job in order to do some work in the evening. I could do addition and substraction of one digit numbers by myself already (I was after all in the 1st year of grammar school). And now there was this odd machine that could do the same by pressing a few buttons! I took RPN for granted of course: odd machines should be operated in an odd way. I did not even realise there was another entry system possible: only later I came across the TI's with algebraic entry. However, the true value of RPN became clear to me when I was old enough to do real mathematics, that is when I was 14.

Re: hp 12cp and hp33s

*Message #34 Posted by **Norris** on 12 Jan 2006, 6:49 p.m.,*
in response to message #31 by E. Young

> Quote:
>
> The question then is why are fewer being turned on to HP and RPN in college now than in the past? I don't but the argument that the computer spelled the end of upper-end calculators.

Think about it. If calculators were still valued for complex numerical calculations, then vendors would sell commercial calculator software. They certainly used to -- the Museum, for example, lists 11 "applications pacs" and 40 "solutions books" for the HP67, and 22 "ROM modules" and 32 "solutions books" for the HP41. And today's graphing calculators (both TIs and HPs) have far more memory, speed, programmability, and graphics capability than those older models. So where is the slick commercial software to take advantage of today's powerful TI and HP hardware?

With few exceptions, it doesn't exist. There was a clearly a market for professional calculator software in the 1970s and 1980s, but now it's almost entirely gone. Why? Probably because professionals don't do complex number-crunching on calculators anymore (either HPs or TIs). All serious work is done on PCs.

There are only a few exceptional cases where there is still a market for calculator software: secondary education (where PCs are rare), field surveying (where PCs are impractical) and NCEES licensing exams (where PCs are banned). But these are the exceptions that prove the rule: calculator software only survives when PCs aren't a viable alternative.

> Quote:
>
> Furthermore, back when HP's were more prevalent in college, they were more expensive than they were now, and students had less disposable income than they seem to have now.

Yes, but it was still a lot easier for a student to spend several hundred dollars on an HP than several thousands on a PC -- if PCs were even available when you were in college. Students and professionals were willing to spend big bucks for calculators (and accessories like extra memory, or printers, or software) because PCs weren't a viable alternative. The rules are different now.

> Quote:
>
> Surely engineering students even today should be able to see the superiority of RPN.

The TI vs. HP calculator argument has only slightly more relevance to modern engineering students than an argument about Post vs. K&E slide rules.

Edited: 12 Jan 2006, 6:52 p.m.

Re: hp 12cp and hp33s

*Message #35 Posted by **E. Young** on 13 Jan 2006, 9:49 a.m.,*
in response to message #34 by Norris

You seem to be focused on the decreasing relevance of advanced graphing calculators, and I agree. I say that for an upper end scientific, such as a 33s or a 32sII that there is still a potentially large market since these machines are still very relevant even today where there is a pc on every desk.

Computers have not spelled the end of upper end scientific calculators. I define upper end as a high quality scientificsuch as a 32Sii or 33s type of machine, not a graphing model like the 40 series. The 40 series are in competition with pc's and they loose badly. Certainly computers have put a huge dent in the attractivness of the graphing calculators. The majority of average calculations for most engineers in practice are not overly complex. A high quality sceintific calculator is far superior to a computer for average calculations. The complex stuff is properly handled on a pc. In addition, when a pc is used, the answers need to be checked, and to do that you need a calculator. Blind reliance on computer output is an invitation to disaster.

I also disagree with you that it was easier for a student to plop down a large sum of money back in the old days for a high end calculator. The vast majority of engineering students who had HP's that I encountered had machines like the 11c. Only very few had a 41.

The debate is not HP vs. TI. HP is valued mainly because it provides RPN machines. The relevant point is the clear superiority of RPN vs. algebraic. If modern engineering students are being taught in such a way that they can't function without a computer then that is a huge deficiency in modern engineering education. If you need a computer to calculate a simple span bending moment or to check equilibrium for a statically indeterminate structure, then your ability to be a good engineer in practice, not academia has been hamstrung. Your statement about the HP/TI debate being as relevant as argument about Post vs K&E slide rules makes no sense. Almost nobody uses a slide rule anymore, but almost every engineer will have a calculator. RPN is clearly more efficient than algebraic, and this is clearly a point that needs to be made. It would only be irrelevant to someone who does all calculations on a pc, or to someone who does little more than the type of calculations that can be handled by counting your fingers.

To summarize, I do believe that there is only a minor market for an advanced calculator such as HP 48's and 49's because of the availability of the pc. I still say that there is a market for a quality sceintific in the mold of the 32sII or the 33s with RPN and some limited programming ability. The pc is NOT the end of sceintific calculators in the 33s mold-they simply cannot be beat for performing average calculations, which I say comprise the bulk of engineering calulations for most (but not all) engineers. You could take away my pc today and I could still function fine as an engineer. If you took away my 32SII's or my 33S you would seriously hamper my ability as an engineer. I could of course get by with an algebraic from TI, Sharp, etc., but my productivity in performing average calculations would be lowered.

Re: hp 12cp and hp33s

*Message #36 Posted by **E. Young** on 13 Jan 2006, 9:52 a.m.,*
in response to message #35 by E. Young

I have a typo in my post. When I referenced indeterminate structures I should have said determinate structures.

Re: hp 12cp and hp33s

*Message #37 Posted by **Norris** on 13 Jan 2006, 1:32 p.m.,*
in response to message #35 by E. Young

> Quote:
>
> To summarize, I do believe that there is only a minor market for an advanced calculator such as HP 48's and 49's because of the availability of the pc.

You presumably mean "in the professional market". There is obviously a huge demand for advanced graphing calculators in the education market; TI and Casio sell (literally) millions of them. In 2003, TI issued a press release after selling its 25,000,000th graphing calculator.

> Quote:
>
> I still say that there is a market for a quality sceintific in the mold of the 32sII or the 33s with RPN and some limited programming ability.

Then why is the programmable scientific calculator -- with or without RPN -- virtually extinct? TI, Casio, and Sharp have all marketed such models in the past, and have all dropped them. For a while -- after the 32SII was discontinued and before the 33S was introduced -- there were (literally) zero programmable scientifics being manufactured for the US market.

Now there is the 33S, which is crippled by the limitations of the 32SII design that it inherited. But there is good reason to suspect that the 33S sells largely to NCEES exam candidates. NCEES demands a "crippled" design; they will not approve calculators with features like I/O or text editing. HP has no incentive to produce a better programmable scientific calculator, because any significant improvements would instantly disqualify it from an important market.

Edited: 13 Jan 2006, 2:20 p.m.

Re: hp 12cp and hp33s

*Message #38 Posted by **E. Young** on 13 Jan 2006, 4:23 p.m.,*
in response to message #37 by Norris

There is no such thing as virtually extinct. Either you are or are not. Obviously there is a market for progamable scientific calculators or HP wouldn't be making one-they also would not have re-entered this market after the termination of the 32SII. They make the 33s to make money; if there was no money to be made with the 33s they would not make it despite the vocal outrage of RPN adherents. If you tell me that HP only makes the 33S because of HP's calculator legacy and that it makes no proffit on the 33S, then you have to prove that in a better way than by considering the browsing habbits of people on amazon.com.

You are also incorrect to say that the 33s is crippled. Despite its cosmetic flaws, it is now a fine machine. Not that it doesn't need improvement in some areas. Text editing or I/O would largely be a waste in a programmable scientific. I can think of no time that I have ever wished for these abilities in my calculators. The NCEES is concerned about calculators being able to communicate with eachother, and with people being able to enter test questions into their calculators. It should be possible to better utilize the memory of the 33s and still not run afoul of the NCEES.

The programmable scientific market may only be a niche, but it exists. HP fills this niche because they use RPN. The others don't use RPN, so any programmable scientific by them would therefore be hamstrung from the outset. They would not be able to compete with HP in this niche, and I'm sure they see no need to try.

Re: hp 12cp and hp33s

*Message #39 Posted by **Norris** on 13 Jan 2006, 5:43 p.m.,*

in response to message #38 by E. Young

> Quote:
>
> Obviously there is a market for progamable scientific calculators or HP wouldn't be making one-they also would not have re-entered this market after the termination of the 32SII.

I don't deny that there is a niche for scientific programmables. I own and use a 33S, and heartily recommend it to NCEES exam candidates, even if they are not accustomed to RPN. I just don't think it's a very big niche -- not big enough for HP, or any other company, to put much investment in.

> Quote:
>
> You are also incorrect to say that the 33s is crippled.

The 33S has a much larger memory than the 32SII, but the same small number of labels and variables. Unfortunately, this greatly limits the effective programmability of the 33S. It's not possible to store more than a few moderately complex programs in a 33S, although its memory is large enough to hold far more. I'm not the first person here to call it "crippled".

> Quote:
>
> Text editing or I/O would largely be a waste in a programmable scientific. I can think of no time that I have ever wished for these abilities in my calculators.

Do you ever wish to edit long equations? If so, you will quickly tire of the primitive "backspace" key on the 33S, which forces you to retype everything that it touches.

Do you ever wish to enter long programs? If so, you will find that it takes hours of tedious one-finger typing to do so on a 33S (one sofware vendor, hp33ssurveyor.com, estimates 3-5 hours to load their product).

Do you ever wish to back up those programs that took hours to load? If so, you can't do it on the 33S.

> Quote:
>
> HP fills this niche because they use RPN. The others don't use RPN, so any programmable scientific by them would therefore be hamstrung from the outset. They would not be able to compete with HP in this niche, and I'm sure they see no need to try.

Other manufacturers could sell RPN calculators if they wanted too. Aurora, for example, currently distributes an RPN financial calculator (the FN-1000) which is an unabashed clone of the HP-12C (except for its much lower price). Aurora could just as well clone RPN scientific calculators (and I wish they would)...but they apparently don't think it's worthwhile.

Edited: 14 Jan 2006, 1:05 p.m.

Re: hp 12cp and hp33s

*Message #40 Posted by **Wayne Brown** on 13 Jan 2006, 12:06 p.m.,*
in response to message #34 by Norris

> Quote:
>
> The TI vs. HP calculator argument has only slightly more relevance to modern engineering students than an argument about Post vs. K&E slide rules.

What's there to argue about? K+E rules were clearly superior. (The Versalog was a nice rule, but somebody forgot to give it the A and B scales. I prefer a nice K+E 4081-3 any day!)

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HP-97 battery contact replacement

*Message #1 Posted by **David Ramsey** on 10 Jan 2006, 10:31 p.m.*

I'm working on Stephen Easterling's HP-97. His original complaint was that the "0" key did not work.

When I received the calc, the first thing I noticed were the corroded batteries (bad Stephen! You left them in!) One of the battery contacts had previously broken and been crudely soldered back into place. Unfortunately the solder joint broke flush with the plastic of the battery compartment when I removed the original batteries.

Anyone have any suggestions for fabricating a replacement battery contact? I'm thinking of using wire from a small paper clip, held in place on the other side of the battery compartment with a healthy dollop of plastic-friendly epoxy...

Re: HP-97 battery contact replacement

*Message #2 Posted by **Vassilis Prevelakis** on 11 Jan 2006, 7:33 a.m.,*
in response to message #1 by David Ramsey

Many machines use the same battery pack as the HP-97. You can salvage the battery connections from one of these machines.

My favorite is the HP 82143 printer which is often cannibalized to get an HP-41 interface cable.

**vp

Re: HP-97 battery contact replacement

*Message #3 Posted by **David Ramsey** on 11 Jan 2006, 11:51 a.m.,*
in response to message #2 by Vassilis Prevelakis

Bingo! Why didn't I think of that? I have an 82143 with a bad print head that would be perfect...

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HP85

*Message #1 Posted by **Gary Abernathy** on 10 Jan 2006, 6:43 p.m.*

I've got an HP 85 in excellent condition with most of everything that could be bought for it. The tape drive has the common problem of the drive wheel has rotted. The tape is fine and will read if tape is held tight against the wheel to provide traction.

I need the part that provides the traction. Any idea where I could find it, or what would work?

Re: HP85

*Message #2 Posted by **David Ramsey** on 10 Jan 2006, 10:28 p.m.,*
in response to message #1 by Gary Abernathy

I've successfully repaired the drive wheels in desktop calc tape readers using heat-shrink tubing.

Take out the drive wheel (or tape drive assembly). Scrape off all the remains of the disintegrating drive wheel rubber. Get the bare metal wheel as CLEAN AS POSSIBLE.

Now hit your local electronics supply or Radio Shack. Find the smallest heat shrink tubing that just fits over the drive wheel. Back home, use a razor blade or very sharp knife to cut a piece just a millimeter or so less wide than the drive wheel. Slip it over the drive wheel and use a match or heat gun to shrink it.

Others have used 2 or 3 rubber O-rings of the proper size. These will probably result in a quieter drive, but the heat shrink tubing is easier to find.

Re: HP85

*Message #3 Posted by **Etienne Victoria** on 11 Jan 2006, 5:22 a.m.,*
in response to message #1 by Gary Abernathy

Hi,

If you don't succeed in getting the part, I've put online a small procedure to rebuild it: here.

After you get your rubber wheel ready, voidware has a documented procedure to take apart and rebuild your Hp-85: here.

Greetings from France!

Etienne

Re: HP85 capstan repair

*Message #4 Posted by **Vassilis Prevelakis** on 11 Jan 2006, 7:16 a.m.,*
in response to message #1 by Gary Abernathy

For capstan repair/replacement info check http://www.series80.org/Articles/capstan-repair.html

For a detailed discussion on how to take apart an HP-85 to get to the capstan (and a novel way to attach heat-shrink tubing to the capstan), check http://www.voidware.com/calcs/hp85rep.htm

**vp

For info on HP-85 related items check the links section at http://www.series80.org/#links

Re: HP85 capstan repair

*Message #5 Posted by **Gary Abernathy** on 12 Jan 2006, 9:01 p.m.,*
in response to message #4 by Vassilis Prevelakis

Thanks to all for the inputs. I'm sure I can now fix the problem.

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HP-75 I/O Utilities

*Message #1 Posted by **Gileno** on 10 Jan 2006, 3:21 p.m.*

I need the lex of that HP-75 I/O Utilities. Please Thank's

Re: HP-75 I/O Utilities

*Message #2 Posted by **Vassilis Prevelakis** on 11 Jan 2006, 7:26 a.m.,*
in response to message #1 by Gileno

Quoting from http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=76286#76286

> Quote:
>
> ... the HPILCMD LIF supplied with the HP-75 I/O Utilities.
>
> http://www.series80.org/Misc/HPILCMD.bin
>
> The file in HP LIFUTIL format (*DFS to LIF file type preserved* xfer type).
>
> You can get the LIFUTIL binary from ftp://ftp.hpmuseum.org/lif/lifutil
>
> If you run into trouble the easiest way to remove the header is to copy the file skipping the first 0x200 (512) bytes. i.e.
>
> ```
> dd if=HPILCMD.bin of=HPILCMD bs=256 skip=2
> ```
>
> And then you have to restore the directory info:
>
> ```
> HPILCMD       -8055        5      256      18
> ```
>
> Best Regards
>
> **vp

**vp

Re: HP-75 I/O Utilities

*Message #3 Posted by **Gileno** on 11 Jan 2006, 3:58 p.m.,*
in response to message #2 by Vassilis Prevelakis

Would you have recording in a card? Thank's

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Clonix-41

*Message #1 Posted by **Phil Green** on 10 Jan 2006, 1:38 p.m.*

Hi, Can anyone tel me how I can obtain a Clonix-41 module? Regards Phil Green

Re: Clonix-41

*Message #2 Posted by **PHILIPPE** on 10 Jan 2006, 3:03 p.m.,*
in response to message #1 by Phil Green

The magician who createt this jewel is Diego Diaz. You can contact him via this forum or he will contact you.....

Philippe

Official site http://www.clonix41.org/

Re: Clonix-41

*Message #3 Posted by **Diego Diaz** on 10 Jan 2006, 5:42 p.m.,*
in response to message #1 by Phil Green

Hi Phil, Philippe!! ;-)

Thanks for your kind words and your interest in my projects. I've received your mail (thanks), but rather prefer answering your questions thru this forum, as others may also be interested.

According to your mail, you can produce the PCB and get the required components to build a Clonix yourself... That's great, so far only a couple of people have already done so (properly)... please do not hesitate in consulting me with any questions you may have.

As for the hardware issues (shells and connectors), I'm affraid I'm not of much help, I get these buying Memory Modules (82106A) mostly at eBay or (occasionally) receiving an unused Module directly from the customer... and this is by far the most difficult part of the Clonix project, as some modules fail to open cleanly thus becoming useless, and some connectors break while twisting the solder wires to match Clonix PCB requirements... as for the technical aspects, the Clonix module is fairly simple to build, provided you have a steady hand, appropriate tools and good SMD soldering experience... these are the main reasons why I don't sell DIY kits. However, you more likely fulfill these requirements according to your webpage... :-))

Furthermore, the new PCB layout requires the PIC microcontroller chip to be physically cutted and such an "operation" is not recommended to the faint hearted!! :-)

In abstract: it's an easy job but not a begginer's job.

Please let us know of your progress if you finally decided to give a go to this project.

A tech note, the limitting resistor in the V+ line is 100 Ohms instead 47 Ohms (as shown in the preliminary

schematic).

Good luck and best wishes.

Diego.

Edited: 10 Jan 2006, 5:55 p.m.

Re: Clonix-41

*Message #4 Posted by **Christoph Klug** on 11 Jan 2006, 10:23 a.m.,*
in response to message #3 by Diego Diaz

Dear Diego,

please give me the web link for downloading your new power saving and bankswitching compatible Clonix software update ...

Best regards - Christoph Klug

Re: Clonix-41

*Message #5 Posted by **Diego Diaz** on 11 Jan 2006, 11:21 a.m.,*
in response to message #4 by Christoph Klug

Hi Christoph,

Here you'll find it:

http://www.clonix41.org/Projects/Clonix-41/Cloni41_00.htm

It's the last entry in the "Downloads" menu on the left.

Hope you find it usefull.

Best wishes.

Diego.

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New Web Site

*Message #1 Posted by **Namir** on 10 Jan 2006, 12:28 p.m.*

Hi All. I started my own web site to post programs for different calculators and programming languages. There are some listings for thr HP-71B, 42S, and upcoming ones for the HP41C. I also have some listing for True BASIC.

The link to the web site is here

You can also download my PowerPOint presentation that I gave at the HHC2005. The ZIP file contains two presentations. One is for the root-seeking methods and the other is for HP's SOLVE feature.

This is a labor of love. I update this web site weekly/daily.

I Hope you enjoy it!

Namir

Edited: 10 Jan 2006, 12:34 p.m.

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HP-48SX display problem

*Message #1 Posted by **Fabio Albonico** on 9 Jan 2006, 11:59 a.m.*

I have some problem with the display of my HP-48SX. Normally a vertical line of pixel near the middle (a little on the right) doesn't light. Sometimes if I stroke hardly the calculator on the desk (on a paper) then I light on and the display is ok. As anybody similar problem?

Re: HP-48SX display problem

*Message #2 Posted by **Michael Fink** on 10 Jan 2006, 11:55 a.m.,*
in response to message #1 by Fabio Albonico

Ok, I am not suggesting the following as a repair method, but anyway, I got a similar problem with my SX fixed in a quite unexpected way.

Actually, my USA made 48-SX had the opposite symptom: a vertical line of pixels and most of the indicators were permanently on. After the problem persisted for half a year, I made up my mind and ebayed myself another SX, this unit made in Singapore. When I was just about to transfer my programs from the old SX to the new one, I was interrupted and put the two calculators side by side in a drawer.

Two days later, I was surprised that the display problem had magically disappeared, and my old SX has been working perfectly ever since. Despite my strictly rational upbringing, I cannot help wondering if the old SX started to realize that the situation was becoming serious for "him" and stopped acting up. Or maybe it was a little encouragement from a friend from overseas that got it working again. Other theories welcome :-)

Re: HP-48SX display problem

*Message #3 Posted by **bill platt** on 10 Jan 2006, 11:58 a.m.,*
in response to message #2 by Michael Fink

I sold an Indonesian 20s to a friend, as his Singapore 20s had a black "spot" in the corner of the display, and he wanted to be sure he had a working unit.

Lo and behold, one day not long thereafter, he turned on the Singapore 20s and the spot was gone!

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HP 12c and HP 12 cp at CES

*Message #1 Posted by **Kalevipoeg** on 9 Jan 2006, 11:52 a.m.*

Have you read an interesting story of the HP 12c history at HP Newsroom

Link here

There is also a big image of the newest HP 12c platinum at HP Newsroom

Link to HP Newsroom

Yes, it´s the 25th anniversary of the HP 12c

BTW it´s also the 90th anniversary of "Consul" The Educated Monkey (not a HP calculator :-) but I heard it is still in production)

Online Consul Here

Re: HP 12c and HP 12 cp at CES

*Message #2 Posted by **tony(nz)** on 11 Jan 2006, 3:08 a.m.,*
in response to message #1 by Kalevipoeg

> Quote:
>
> Have you read an interesting story of the HP 12c history at HP Newsroom

Thanks Kalevipoeg - I hadn't seen it. I see the last sentence claims the platinum has "extra financial functions". I don't know what these are.

> Quote:
>
> There is also a big image of the newest HP 12c platinum at HP Newsroom

Great pic!

> Quote:
>
> Yes, it´s the 25th anniversary of the HP 12c
>
> BTW it´s also the 90th anniversary of "Consul" The Educated Monkey (not a HP calculator :-) but I heard it is still in production)

Now, that is cool. I'd never seen Consul before. Cheers, Tony

Re: HP 12c and HP 12 cp at CES

*Message #3 Posted by **Gene Wright** on 11 Jan 2006, 10:13 a.m.,*
in response to message #2 by tony(nz)

Well, isn't X^2 a financial function? :-)

Seriously (maybe), they may be thinking of the extra cash flow registers. Not really a function, but ...

Then again, they may not know the difference between extra functions and extra "financial" functions.

Gene at Macworld

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HP 48GX - Low batterie alarm

*Message #1 Posted by **Henk** on 9 Jan 2006, 7:30 a.m.*

For years I own a 48GX. It always worked fine until this morning.... I got a LowBat(s) alarm even after preplacing the batteries. (Yes I checked, these were new and full). I consulted HP Netherlands but it seems they can open the calculator but will not be able to close it again.... (They said it, not me..)

Does anybody know a remedie?

Regards,

Henk

Re: HP 48GX - Low batterie alarm

*Message #2 Posted by **Jan** on 9 Jan 2006, 11:11 a.m.,*
in response to message #1 by Henk

Henk,

Maybe the battery contacts of the calculator are not OK. I would check for corrosion and make sure the contacts are pushed hard enough against the poles of the battery by GENTLY (!) pushing or bending them a little.

good luck

Re: HP 48GX - Low batterie alarm

*Message #3 Posted by **JB** on 9 Jan 2006, 12:50 p.m.,*
in response to message #2 by Jan

a newly purchased, but used, 49 did the same thing until it was reset, so you might try that.

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To db: RPN calc

*Message #1 Posted by **Raymond Del Tondo** on 8 Jan 2006, 10:07 p.m.*

Hi Dennis,

thanks for the 2K hint,
however it's yours;-)

Regards

Raymond

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eBay Loses Another Customer

*Message #1 Posted by **Marcus Aurelius** on 8 Jan 2006, 8:48 p.m.*

Thought I'd buy/sell a few calculators on eBay. Almost immediately I started getting multiple scam emails regarding eBay and PayPal, at least one a day. I'm not sure how these crooks do it, sophisticated bots that trawl all transactions, or an inside accomplice with access to users lists. eBay pays only lip service to chasing these down, I forwarded many on to the spoof guys there, but there's no stopping these crooks. Something just isn't right about eBay, and the best way to halt this is to simply stop doing it, which I have now done. Hope the rest of you haven't been as spammed as I was.

Re: eBay Loses Another Customer

*Message #2 Posted by **Howard Owen** on 8 Jan 2006, 11:28 p.m.,*
in response to message #1 by Marcus Aurelius

I get spammed with this stuff all the time. Thing is, it started way before I became active on PayPal or eBay.

I have noticed some scams that seem directly related to my activity on eBay. Since the record of my transactions is partially public, through the concluded auction listings, and through the feedback mechanism, I conclude that this is the source of the information used in the phishing attacks. I've never once seen a come-on that was linked to private information from a specific eBay auction or PayPal transaction. So I conclude that the stuff eBay and PayPal say they keep private, they actually do keep private.

For the record, I have sold a little, and bought a lot on eBay. I've never been ripped off. My record there has been far better than my experience in meatspace has been. The same is true of PayPal. I've been their customer almost from the beginning, with a similar spotless record of trouble free (though sometimes expensive) transactions.

Regards,
Howard

Re: eBay Loses Another Customer

*Message #3 Posted by **Eddie Shore** on 10 Jan 2006, 3:59 p.m.,*
in response to message #1 by Marcus Aurelius

I get Paypal spams and I am not even a seller on ebay, nor have an account with Paypal.

Re: eBay Loses Another Customer

*Message #4 Posted by **John Garza** on 16 Jan 2006, 11:28 p.m.,*
in response to message #1 by Marcus Aurelius

Heck, I even conducted experiments. Over the course of six months or so, I went through three new ISP accounts with different email addresses linked to my ebay account. All seemed ok, no spam, so I tried ebay - a week or two later the spam started coming on that one account. I switch to another spam free account, same thing all over again, like clockwork. I even used an email account ONLY for ebay - everything else went to

other accounts - Spam came and I can only assume it was infiltrated via ebay. Either trolling bots or an inside job, I agree.

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Ill conditioning and calculator precision

*Message #1 Posted by **Rodger Rosenbaum** on 7 Jan 2006, 9:54 p.m.*

Valentin Albillo gave an example a while ago of a very ill-conditioned linear system:

"If in doubt, you may want to consider this example I've set up, where the solution of some engineering problem requires solving this small 7x7 system of linear equations, where the coefficients are the result of some measurement, say Volts, with just one decimal of precision:

1.3 x1 + 7.2 x2 + 5.7 x3 + 9.4 x4 + 9.0 x5 + 9.2 x6 + 3.5 x7 = 45.3
4.0 x1 + 9.3 x2 + 9.0 x3 + 9.9 x4 + 0.1 x5 + 9.5 x6 + 6.6 x7 = 48.4
4.8 x1 + 9.1 x2 + 7.1 x3 + 4.8 x4 + 9.3 x5 + 3.2 x6 + 6.7 x7 = 45.0
0.7 x1 + 9.3 x2 + 2.9 x3 + 0.2 x4 + 2.4 x5 + 2.4 x6 + 0.7 x7 = 18.6
4.1 x1 + 8.4 x2 + 4.4 x3 + 4.0 x4 + 8.2 x5 + 2.7 x6 + 4.9 x7 = 36.7
0.3 x1 + 7.2 x2 + 0.6 x3 + 3.3 x4 + 9.7 x5 + 3.4 x6 + 0.4 x7 = 24.9
4.3 x1 + 8.2 x2 + 6.6 x3 + 4.3 x4 + 8.3 x5 + 2.9 x6 + 6.1 x7 = 40.7

which has the quite obvious, unique solution:

x1 = x2 = x3 = x4 = x5 = x6 = x7 = 1.0 (Volts)"

His point is well made, but I haven't seen much posted here about what one should do in a case like this. The HP48G can solve his example system, and gets the right answer. But, let's perturb the first element in the right hand column matrix so its value is 45.4 rather than 45.3; now the exact solution is:

Transpose[71083, -8, 63379, 63741, 45, -63738, -133356]

It doesn't seem reasonable that such a small perturbation should cause such a large change in the solution. This is what ill-conditioning does. What can we do about this? (I'll be rounding numerical results in what follows)

The statisticians have developed methods for dealing with this problem. Let the system to be solved be Ax = b, where A is the design matrix, Valentin's 7x7 matrix and b is the column matrix. The first thing to do is to calculate the correlation matrix of the A matrix; it is:

[1 .481 .77 .274 -.00652 -.033 .951]
[.481 1 .474 -.166 -.698 -.131 .391]
[.77 .474 1 .676 -.339 .526 .909]
[.274 -.166 .676 1 -.125 .924 .533]
[-.00652 -.698 -.339 -.125 1 -.347 -.052]
[-.033 -.131 .526 .924 -.347 1 .252]
[.951 .391 .909 .533 -.0519 .252 1]

We see that column 3 and column 7 are highly correlated, as are row 3 and row 7. I suspect this is a result of Valentin's method of construction.

One of the things a statistician would do is delete a row or column if it's highly correlated with another, and solve the reduced system. In this case if we drop row 7 (which is highly correlated with row 3) from A and b, the system

can be solved as an underdetermined system (can your calculator do this easily?). The result is:

Transpose[1.09 .961, 1.01 .908 1.02 1.11 .964]

This result is much more reasonable and is actually not too (numerically) difficult to solve, because dropping the 7th row from A gave a matrix with a condition number of 189 (using the 2-norm) instead of the 3.17E12 condition number of the original A matrix.

Now for a small challenge. It is possible to perturb only two elements of the original A matrix, adding .1 to one and subtracting .1 from one, giving a result which is only a distance of .1414 (in R[7x7] hyperspace; subtract the two and compute the norm of the difference) away from the original. The perturbed matrix has a condition number of 399. Can you (and your calculator) find the perturbed matrix? If we solve the system with this matrix, get get a result:

Transpose[1.6 .961 1.47 1.37 1.02 .651 -.0000167]

This time we solved a full rank system, not an underdetermined one. The result is more reasonable than the unperturbed system, but we can do better.

Let's find a matrix which is a distance of .1 (in hyperspace) from the original, using at least 6 digits (up to 12, perhaps) to perturb ALL the elements of the original A matrix. The matrix of perturbations should have the minimum size (norm) to generate a new matrix just about .1 (in hyperspace) from the original. This perturbed matrix should have a condition number of about 399, and gives a full rank system which can be easily solved to give:

Transpose[1.09 .961, 1.01 .908 1.02 1.11 .964]

the same result we got when we deleted row 7 and solved the underdetermined system above. Can you and your calculator find the required perturbation matrix?

If we perturb elements of the Valentin's original A matrix and solve the system, we get wildly varying results, the result of the ill-conditioning. And this happens even if the perturbations are .5 LSD or less; this would be within the measurement error of the given numbers.

But if we use the matrix which is .1 away from the original to represent the original, we can perturb the elements by .5 LSD and still get results that are reasonably close to the unperturbed solution. It is backward error analysis championed by Wilkinson that leads us to this technique. A lot of this is explained in the HP15 Advanced Functions handbook.

How easy is this to do on your calculator? Can you guess which manufacturer's calculators make it easy? No, it's not Radio Shack.

Re: Ill conditioning and calculator precision

*Message #2 Posted by **Marcus von Cube, Germany** on 8 Jan 2006, 6:50 a.m.,*
in response to message #1 by Rodger Rosenbaum

Roger,

can you explain, in a few words, what a correleation matrix is and how it can be read. Another term asking for explanation is the matrix condition number. What do these numbers tell?

Marcus

Re: Ill conditioning and calculator precision

*Message #3 Posted by **Rodger Rosenbaum** on 8 Jan 2006, 8:25 a.m.,*
in response to message #2 by Marcus von Cube, Germany

> Quote:
>
> Roger,
>
> can you explain, in a few words, what a correleation matrix is and how it can be read. Another term asking for explanation is the matrix condition number. What do these numbers tell?
>
> Marcus

In a few words, eh? Most of the later HP calcs had statistical functions which included the "corr" function. If you input a set of x,y pairs of data, the correlation function tells you if the x and y data sets are linearly related. The correlation matrix tells you all at once the same thing, pairwise, for the columns of a data matrix. The maximum absolute value for the correlation coefficient is 1, so looking at the correlation matrix can tell you which pairs (if any) of columns are (nearly) linearly related. If a pair of columns have a correlation coefficient nearly +-1, then the two columns carry nearly the same information, and you can probably delete one of them without changing the system solution much; you will be losing one variable in your model, but it's probably redundant.

The condition number tells you how numerically unstable the solution of the system will be with respect to perturbations in the system design matrix.

Use the search function at: http://mathworld.wolfram.com/
and you can find out more about these things.

Re: Ill conditioning and calculator precision

*Message #4 Posted by **Marcus von Cube, Germany** on 8 Jan 2006, 9:38 a.m.,*
in response to message #3 by Rodger Rosenbaum

Rodger,

I'm still trying to understand your answer fully.

This is the correlation matrix slightly reformatted:

```
[ 1        .481    .77     .274   -.00652 -.033    .951 ]
[ .481    1        .474   -.166   -.698   -.131    .391 ]
[ .77      .474    1       .676   -.339    .526    .909 ]
[ .274   -.166     .676    1      -.125    .924    .533 ]
[-.00652 -.698   -.339   -.125    1      -.347   -.052 ]
[-.033   -.131    .526    .924   -.347    1       .252 ]
[ .951    .391    .909    .533   -.0519   .252    1    ]
```

It is symmetric with respect to the diagonal and has just ones on the latter. This is clear, because each row is correlated perfectly to itself and the correlation shouldn't depend on the sequence of the rows (row 1 is correlated to row 5 in the same way as row 5 to row 1.) I can see, how to read the matrix for the correaltion between rows, but how do I see the correlation between columns? Is there another symmetry which I didn't detect yet?

> Quote:
>
> We see that column 3 and column 7 are highly correlated, as are row 3 and row 7.

Why did you choose rows 3 & 7. Isn't the correlation between rows 1 and 7 even higher? Can I say the same for the columns?

Marcus

Re: Ill conditioning and calculator precision

*Message #5 Posted by **Rodger Rosenbaum** on 8 Jan 2006, 1:02 p.m.,*
in response to message #4 by Marcus von Cube, Germany

Quote:

Rodger,

I'm still trying to understand your answer fully.

This is the correlation matrix slightly reformatted:

```
[ 1        .481     .77      .274    -.00652 -.033     .951 ]
[ .481     1        .474    -.166    -.698   -.131     .391 ]
[ .77      .474     1        .676    -.339    .526     .909 ]
[ .274    -.166     .676     1       -.125    .924     .533 ]
[-.00652 -.698    -.339    -.125     1      -.347    -.052 ]
[-.033   -.131     .526     .924    -.347    1        .252 ]
[ .951     .391     .909     .533    -.0519   .252     1    ]
```

It is symmetric with respect to the diagonal and has just ones on the latter. This is clear, because each row is correlated perfectly to itself and the correlation shouldn't depend on the sequence of the rows (row 1 is correlated to row 5 in the same way as row 5 to row 1.) I can see, how to read the matrix for the correaltion between rows, but how do I see the correlation between columns? Is there another symmetry which I didn't detect yet?

Actually, the matrix I have shown is for the correlation between columns. That is the convention for correlation matrices; they're always showing the correlation between columns. To see the correlation between rows, you need to transpose the original matrix before computing the correlation matrix. I should have shown another matrix for the row correlations. I did compute it; I just didn't display it. Sorry.

Why did you choose rows 3 & 7. Isn't the correlation between rows 1 and 7 even higher? Can I say the same for the columns?

What is shown *is* the correlation between columns, as I mentioned above. I can't bring myself to type in the whole matrix of row correlations right now, but the row 3 to row 7 value is .999035, the highest of all the row or column correlations. You could type in those two rows as two-variable data in any late model HP calc and then use the "corr" function to see if you get the same value.

Marcus

Re: Ill conditioning and calculator precision

*Message #6 Posted by **Marcus von Cube, Germany** on 8 Jan 2006, 3:17 p.m.,*
in response to message #5 by Rodger Rosenbaum

Rodger,

> Quote:
>
> I can't bring myself to type in the whole matrix of row correlations right now, but the row 3 to row 7 value is .999035, the highest of all the row or column correlations. You could type in those two rows as two-variable data in any late model HP calc and then use the "corr" function to see if you get the same value.

I tried with the following value pairs:

(4.8, 0.3)
(9.1, 7.2)
(7.1, 0.6)
(4.8, 3.3)
(9.3, 9.7)
(3.2, 3.4)
(6.7, 0.4)

The correlation is about 0.6 so nowhere near 1 as you mentioned. Who is wrong?

Marcus

Re: Ill conditioning and calculator precision

*Message #7 Posted by **Rodger Rosenbaum** on 8 Jan 2006, 4:35 p.m.,*
in response to message #6 by Marcus von Cube, Germany

> Quote:
>
> Rodger,
>
> I tried with the following value pairs:
>
> (4.8, 0.3)
> (9.1, 7.2)
> (7.1, 0.6)
> (4.8, 3.3)
> (9.3, 9.7)
> (3.2, 3.4)
> (6.7, 0.4)
>
> The correlation is about 0.6 so nowhere near 1 as you mentioned. Who is wrong?
>
> It looks like you have got row 3 and row 6, not 3 and 7. For 3 and 6, I get .660085
>
> Marcus

Re: Ill conditioning and calculator precision

*Message #8 Posted by **Marcus von Cube, Germany** on 9 Jan 2006, 2:35 a.m.,*

in response to message #7 by Rodger Rosenbaum

Rodger, you are right, I can't count rows :-(

Let's try again with the correct data:

(4.8, 4.3)
(9.1, 8.2)
(7.1, 6.6)
(4.8, 4.3)
(9.3, 8.3)
(3.2, 2.9)
(6.7, 6.1)

The correlation is about 0.999. If you add the right hand sides (45.0, 40.7), the correlation jumps to 0.99998. This means, that the equations are *almost* linearly dependent and the system is in fact underdetermined.

Can you elaborate, how underdetermined linear systems can be tackled?

Marcus

Re: Ill conditioning and calculator precision

*Message #9 Posted by **Palmer O. Hanson, Jr.** on 9 Jan 2006, 4:35 a.m.,*
in response to message #8 by Marcus von Cube, Germany

Valentin issued the following challenge "Now, get your preferred HP calculator or computer software and try to solve it ... ... See what results you get and how they compare with the actual, unique solution." In the absence of other responses I decided to see what my stable of machines and software could do.

HP Machines

The only HP machines that I have which can handle this problem are the HP-41 and the HP-28S. I have two programs for the HP-41: the MATRIX routines in the Math Pac and Valentin's "seq" program from from V7N5P64 of the PPC Calculator Journal. The solutions for the two routines are

```
                    MATRIX                                    seq

          X                   A*X                   X
A*X

     1.303525198          45.30000002          3.384562443
45.3
     0.999961733          48.4                   .999699401
48.40000002
     1.270628871          45.0                 3.126121577
45.00000003
     1.272175068          18.60000001          3.138268917
18.60000002
     1.000187803          36.7                 1.001475407
36.7
     0.727829119          24.9                -1.138236042
36.7
     0.4305555556         40.70000001         -3.473684211
40.70000001
```

where even though many of the calculated values of X are quite different from the

exact solution of all ones, and some values of X are even of the wrong sign, the product of the matrix A and the solution vector X yields values which are never in error by more than 3e-8 and half are exact. I like to think of this situation as that the computer solution is correct in the computer's world even though it is far from correct in the mathematical world or in the real world..

Two solutions are directly available using the keyboard functions on the HP-28S: dividing the vector B by the matrix A, and multiplying the vector B by the calculated inverse of matrix A, where page 66 of the HP-28S Reference Manual states that Matrix B divided by Matrix A "uses 16-digit internal computation precision to provide a more accurate result than obtained by applying INV to A and multiplying the result by B.". The solutions for the two methods are

```
                    B/A
INV A * B


          X                         A*X                              X
A*X


    -2.4919254825             45.3                              -15
-87.195614
     1.00049786612            48.4
0.99753          -181.673058
    -2.521175647              44.0000000002                      21
-164.100568
    -2.5412934091             18.5999999999                      11
-7.815059
     0.997556494395           36.7
0.99913          -143.847882
     4.54123894334            24.9                              -19.1
-18.666223
     8.40909090909            40.7                              -37.5
-146.267475
```

I admit that I may be doing something wrong with my HP-28S. I have checked and rechecked my matrix entries. Also, when I enter X values obtained from some non-HP machines and multiply A times X I get correct results.

Results from Some non-HP Machines

Radio Shack Model 100:

The best results were obtained with my Radio Shack Model 100 using a simultaneous equation solution adapted from the "Mathematics Library: Application Software for the Sharp EL-5500 and PC-1403 Scientific Computers" by Swinnen and Thomas. The best results were obtained using the default double precision mode of the Model 100 which offers fourteen digits. The Model 100 offers an easy way to observe the results which would be obtained with a shorter word length by defining all variables as single precision variables, essentially changing the Model 100 to a six digit computer. The actual results were

```
    14 Digit               6 Digit


0.99819033841188          12.5676
1.0000002281400            0.998543
0.99838647109897          11.3157
0.99837725241896          11.3747
0.99999888029820           1.00717
1.0016227226229          - 9.37452
1.0033951110401          -20.7060
```

For the 14 digit case the product of matrix A with the solution vector yields values

which are within 2e-12 of the values in vector B. For the 6 digit case the product yields values which are within 6e-04 of the values in vector B.

The TI-85:

The simultaneous equation routine of the TI-85, which is also a fourteen digit machine, yields results which are almost as good as the double precision results from the Model 100

0.99570145279720
1.0000005419083
0.99616733305820
0.99614543563180
0.99999734033633
1.0038545050843
1.0080645161290

The matrix routines of the TI-59 and TI-95, thirteen digit machines, yield solutions which are substantially degraded relative to those from the Model 100 and TI-85. For both machines the product of matrix A and the solution vector X yields values which are within 3e-11 of the values in matrix B..

The CC-40 and TI-74:

The CC-40 and TI-74 operate in base 100. As a result they are not truly 14 digit machines since some values will be limited to 13 digits. Even so, I was surprised by the results from the matrix routines in the Mathematics modules of those machines:

```
       X             A*X


     1.45          43.48608
     0.9999        48.21909
     1.16          47.14495
     1             18.51455
     1.0002        38.2778
     0.64          23.90822
     1             42.6484
```

where the differences between the A*X values and the corresponding B values vary between 0.18 and 2.14 (no negative exponents). At least the A*X calculations indicate that the solution isn't acceptable. I kind of remember encountering something like this back when the CC-40 first came out and finding that the solution was obtained by calculating the product of the inverse of matrix A with vector B. Note that the HP-28S results from that technique were also very bad.

With a simultaneous equation program adapted from the "Mathematics Library: Application Software for the Sharp EL-5500 and PC-1403 Scientific Computers" by Swinnen and Thomas the TI-74 and CC-40 obtain a much better solution

0.99484589988833
1.000000649766
0.99540450571417
0.99537824997733
0.99999681097517
1.004621678939
1.009669621273

which is only slightly less accurate than the solutions from the full fourteen digit machines such as the Model 100 and TI-85. The product of matrix A and the solution vector X yields values which are within 4e-12 of the vector B values. Tentative conclusion: for ill-conditioned problems the matrix inversion method of solution is a bad way to go.

Re: Ill conditioning and calculator precision

*Message #10 Posted by **Rodger Rosenbaum** on 9 Jan 2006, 6:58 a.m.,*
in response to message #9 by Palmer O. Hanson, Jr.

"Tentative conclusion: for ill-conditioned problems the matrix inversion method of solution is a bad way to go. "

It would be interesting if you would try my suggestion of adding .1 to the first element of the column matrix, so that it is 45.4 rather than 45.3; I gave the exact solution in my first post.

With such a small perturbation, one would expect the solution to still be [1 1 1 1 1 1 1].

If the matrix inversion method is a bad way to go, how about some other method? Got any ideas?

Some results for the modified system

*Message #11 Posted by **Palmer O. Hanson, Jr.** on 10 Jan 2006, 4:56 a.m.,*
in response to message #10 by Rodger Rosenbaum

Rodger suggested that I redo the problem but with the b(1) value changed from 45.3 to 45.4. Some results follow.

HP-28S

```
                    B/A
INV A * B

        X                    A*X                    X
A*X

 1010776.54039            45.399996              1010764.5
-86.78026
    -126.465124009        48.3999857                -126.681
-181.440996
  901227.742405           44.9999421               901251.3
-164.212648
  906376.678178           18.60000092              906390.2
-7.617314
     626.42174829         36.6999899                  626.42334
-143.940652
 -906360.718282           24.89999815            - 906384.3
-18.533922
-1896317.61364            40.699875              -1896363.6
-146.364698
```

where the largest difference between the A*X and B values for the the B/A case 5.79e-5. The similarity of results for the solution matrix X by the two methods is more like other results that I recall when testing the 28S, say the 7x7 su-Hilbert with a vector of all ones. I don't recall seeing the lack of similarity between the A*X values, but I 'm not sure I did that calculation. I

will have to search my files.

Again, I am concerned that I may be doing something wrong with my HP-28S.

Radio Shack Model 100:

Again, these results were obtained with my Radio Shack Model 100 using a simultaneous equation solution adapted from the "Mathematics Library: Application Software for the Sharp EL-5500 and PC-1403 Scientific Computers" by Swinnen and Thomas. The actual results were

```
     14 Digit                    6 Digit


 71057.6081486                  45.1833
    -7.9967989123177             0.955531
 63356.360139385                40.3235
 63718.230789577                40.4464
    44.984289163027              1.04639
-62715.23113977                -38.4262
133308.36227832                -81.7585
```

For the 14 digit case the product of matrix A with the solution vector yields values which are within 3e-8 of the values in vector B. For the 6 digit case the product yields values which are within 8e-04 of the values in vector B even though the calculated X values have no obvious relationship to the expected X values..

Other Machines

As with Valentin's original problem the results from the CC-40 were not as good as with the Model 100 for the modified problem.

Results from the remaining machines mentioned in my earlier submission will take a little more time to obtain since for those machines I have to enter the entire problem rather than edit existing files.

Re: Some results for the modified system

*Message #12 Posted by **Rodger Rosenbaum** on 10 Jan 2006, 8:57 a.m., in response to message #11 by Palmer O. Hanson, Jr.*

> Quote:
>
> "Rodger suggested that I redo the problem but with the b(1) value changed from 45.3 to 45.4. Some results follow.
>
> HP-28S

```
                    B/A
INV A * B


        X                    A*X
X                         A*X


 1010776.54039             45.399996
1010764.5                 -86.78026
    -126.465124009         48.3999857
```

```
-126.681              -181.440996
  901227.742405            44.9999421
901251.3                -164.212648
  906376.678178            18.60000092
906390.2                 -7.617314
     626.42174829          36.6999899
626.42334            -143.940652
 -906360.718282            24.89999815          -
906384.3                -18.533922
-1896317.61364             40.699875            -
1896363.6               -146.364698
```

where the largest difference between the A*X and B values for the the B/A case 5.79e-5. The similarity of results for the solution matrix X by the two methods is more like other results that I recall when testing the 28S, say the 7x7 su-Hilbert with a vector of all ones. I don't recall seeing the lack of similarity between the A*X values, but I 'm not sure I did that calculation. I will have to search my files.

Again, I am concerned that I may be doing something wrong with my HP-28S."

No, you're ok. I get exactly the same thing on the HP48SX, except that the value -126.681 in the table above should be -126.4681, an obvious typo

"Radio Shack Model 100:

Again, these results were obtained with my Radio Shack Model 100 using a simultaneous equation solution adapted from the "Mathematics Library: Application Software for the Sharp EL-5500 and PC-1403 Scientific Computers" by Swinnen and Thomas. The actual results were

```
     14 Digit                    6 Digit


 71057.6081486               45.1833
    -7.9967989123177          0.955531
 63356.360139385             40.3235
 63718.230789577             40.4464
    44.984289163027           1.04639
-62715.23113977             -38.4262
133308.36227832             -81.7585
```

For the 14 digit case the product of matrix A with the solution vector yields values which are within 3e-8 of the values in vector B. For the 6 digit case the product yields values which are within 8e-04 of the values in vector B even though the calculated X values have no obvious relationship to the expected X values.."

I think the Radio Shack 100 is running a Microsoft Basic equivalent to the common GWBASIC. I think it is doing 56 bit arithmetic for the high precision calculations, which is equivalent to about 17 digit precision. Would you compute 1000000/7-142857 on the 100 and see what you get? From this we can tell how many equivalent digits are available.

Re: Some results for the modified system

*Message #13 Posted by **Palmer O. Hanson, Jr.** on 11 Jan 2006, 9:48 a.m.,*
in response to message #12 by Rodger Rosenbaum

For 1000000/7142857 I get .1400000028 .

I am not familiar with that test but I presume that the result means that the machine uses 14 digits.

I have tested the Model 100 years ago with a derivative of a Kahan program known as "Little Bits of Paranoia" which reported that it was a fourteen digit, base ten machine with a guard digit. Recently, when I decided to do some of the single precision work I tested in single precision and got six digits, base ten with a guard digit.

I have completed testing of your revised problem with the HP-41 Math Pak and with the TI-85. I should be able to get those results out tonight.

Re: Some results for the modified system

*Message #14 Posted by **Rodger Rosenbaum** on 11 Jan 2006, 10:03 a.m.,*
in response to message #13 by Palmer O. Hanson, Jr.

"For 1000000/7142857 I get .1400000028 .

I am not familiar with that test but I presume that the result means that the machine uses 14 digits."

Make that 1000000/7 - 142857

The exact result of 1000000/7 should be:
142857.142857142857142857142857.....

Subtracting off the leading 142857 should leave 14-6 = 8 digits after the decimal point if you have a 14 digit machine, and 17-6 = 11 digits after the decimal point if you have a 17 digit machine.

If it's a 14 digit machine, you should get .14285714; if it's a 17 digit machine, you should get .14285714286, or something close to that.

Re: Some results for the modified system

*Message #15 Posted by **Palmer O. Hanson, Jr.** on 11 Jan 2006, 11:17 p.m.,*
in response to message #14 by Rodger Rosenbaum

Sorry about not seeing the mionus sign.

On the Model 100 1000000/7 - 142857 = .14285714 which says it is a fourteen digit machine. That agrees with my paranoia result.

Some more results

*Message #16 Posted by **Palmer O. Hanson, Jr.** on 12 Jan 2006, 9:24 a.m.,*
in response to message #15 by Palmer O. Hanson, Jr.

In his submission "Calculator Precision: Sure" of December 21 Valentin Albillo proposed the following set of linear equations for investigation of the effects of word length on the accuracy of the solution. His system has the unique solution:

x1 = x2 = x3 = x4 = x5 = x6 = x7 = 1.0

In a response Rodger Rosenbaum proposed examination of a modified set of equations where the only modification was the change of the B1 value from 45.3 to 45.4 The exact solution for the modified set of equations is

```
x1 =        71083
x2 =           -8
x3 =        63379
x4 =        63741
x5 =           45
x6 =       -63738
x7 =      -133356
```

My first response to Rodger's proposal included results obtained with the Radio Shack Model 100 and the HP-28S. Results from additional machines follow.

The HP-41 MATRIX Routine in the Math Pak with the Modified Set of Equations:

```
          X                  A*X


    -822.2517531          45.399997
       1.0649402          48.4
    -733.098423           45.0
    -737.3942465          18.6
       0.50966796         36.699997
     739.402556           24.9000016
    1545.638889           40.699995
```

Many of the calculated values of X are grossly different from the exact solution listed above; however, the product of the matrix A and the solution vector X yields values which are never in error by more than 5e-6 from the vector B values and three are exact.

The CC-40 and TI-74 with the Modified Set of Equations:

The CC-40 and TI-74 operate in base 100. As a result they are not truly 14 digit machines since some values will be limited to 13 digits. With a simultaneous equation program adapted from the "Mathematics Library: Application Software for the Sharp EL-5500 and PC-1403 Scientific Computers" by Swinnen and Thomas the CC-40 yielded the following results

```
x1 =    71675.9882
x2 =       -8.07475664
x3 =    63907.71966
x4 =    64272.7403
x5 =       45.36690284
x6 =   -64269.7322
x7 =  -134468.506
```

which is only slightly less accurate than the solutions from the full fourteen digit machines such as the Model 100 and TI-85. The product of matrix A and the solution vector X yields values which are within 7.9e-7 of the vector B values.

Some Thirteen Digit Results:

The TI-59 and TI-95 are thirteen digit machines. The TI-59 exhibits the famous anomaly in which multiplication is not always commutative, and in addition does not use an add/subtract guard digit. In the TI-95 multiplication is commutative and there is a guard digit. Solutions for Valentin' original problem from the ML-02 program in the Master Library module of the TI-59 and from the matrix routines in the Mathematics module for the TI-95 follow:

TI-59	TI-95
1.740824864135	0.6835858242542
0.9999066058071	1.000039889642
1.660533625121	0.7178790660364
1.664307494855	0.7162672061226
1.000458374646	0.9998042233199
0.3357027223239	1.283728430019
-0.3898635477583	1.593625498008

Both solutions are substantially degraded relative to those from the Model 100 and TI-85. For both machines the product of matrix A and the solution vector X yields values which are within 3e-11 of the values in matrix B.

How Many Exact Answers to Valentin's original problem from the HP-28S (or from any other machine)

Multiply the A matrix by a vector of all ones and it is not surprising that the result will be exactly the B matrix. Multiply the A matrix by a vector which includes the solution from the TI-95 rounded to twelve digits, Voila! The result is exactly the B matrix. I'm suggesting that on any machine there are probably an infinite number of vectors which can be multiplied by the A matrix and yield the exact B matrix.

Re: Some more results

*Message #17 Posted by **Rodger Rosenbaum** on 13 Jan 2006, 7:26 a.m.,*
in response to message #16 by Palmer O. Hanson, Jr.

Palmer said:

"The TI-59 and TI-95 are thirteen digit machines. The TI-59 exhibits the famous anomaly in which multiplication is not always commutative, and in addition does not use an add/subtract guard digit. In the TI-95 multiplication is commutative and there is a guard digit. Solutions for Valentin' original problem from the ML-02 program in the Master Library module of the TI-59 and from the matrix routines in the Mathematics module for the TI-95 follow:

TI-59	TI-95
1.740824864135	0.6835858242542
0.9999066058071	1.000039889642
1.660533625121	0.7178790660364
1.664307494855	0.7162672061226
1.000458374646	0.9998042233199
0.3357027223239	1.283728430019
-0.3898635477583	1.593625498008

Both solutions are substantially degraded relative to those from the Model 100 and TI-85. For both machines the product of matrix A and the solution vector X yields values which are within 3e-11 of the values in matrix B.

How Many Exact Answers to Valentin's original problem from the HP-28S (or from any other machine)

Multiply the A matrix by a vector of all ones and it is not surprising that the result will be exactly the B matrix. Multiply the A matrix by a vector which includes the solution from the TI-95 rounded to twelve digits, Voila! The result is exactly the B matrix. I'm suggesting that on any machine there are probably an infinite number of vectors which can be multiplied by the A matrix and yield the exact B matrix."

Valentin's original problem has, as he says, a unique solution. This is when doing continuous, traditional arithmetic. The discretized arithmetic of calculators spawns the spurious solutions of which you have given an example. Another is:

```
x1 = .220440311016
x2 = 1.00009827737
x3 = .304929663701
x4 = .300958473026
x5 = .999517658758
x6 = 1.6990307756
x7 = 2.46253405849
```

Notice that this one is even further from [1 1 1 1 1 1 1]. I was able to generate lots of them.

The product of A times the X you gave, and the one I

gave, has non-zero digits out to the 15th place, and the loss of these in the rounding process makes it appear that the X is a solution, but only in the discretized arithmetic of the calculator; it's not a true solution.

However, I doubt that there are an infinite number of these false solutions. The HP28, for example, has a 12 digit mantissa; this means that it can represent all possible 12 digit integers, of which there are 10^12 positive and (10^12)-1 negative. The HP28 has 999 possible exponents. Therefore a total of about 2*999*10^12 numbers can be represented on it, somewhat short of infinity. :-)

But, back to the original purpose I had when I started this thread. I noticed that a slightly different perturbation of the column matrix has even greater effect. Change the third element of the column matrix in Valentin's original problem from 45 to 45.1--now the exact solution is:

```
x1 = -2128901625
x2 = 268387
x3 = -1898169427
x4 = -1909014362
x5 = -1317226
x6 = 1908985003
x7 = 3994038147
```

This is a tremendous change in the solution for an apparently insignificant change in one element.

Try something I described in an earlier post; add .1 to the {3,7} element of the A matrix, and subtract .1 from the {7,7} element. This tiny change reduces the condition number of the A matrix from about 3E12 to about 400, and using this slightly perturbed A matrix with the perturbed column matrix mentioned just above gives a HP48G solution:

```
x1 = 1.20999247798
x2 = 1.01325966115
x3 = 1.26616078717
x4 = 1.29157926088
x5 = .997263593179
x6 = .690061410742
x7 = .499897531935
```

This isn't as close to [1 1 1 1 1 1 1] as we would like, but given what the solution was with just the third element in the column matrix perturbed and using the original A matrix, this inprovement is an astounding result considering that only two tiny perturbations were made to the A matrix.

My purpose here is to show that with proper techniques

we can find reasonable solutions to very ill-conditioned systems. Systems as badly conditioned as Valentin's example are unlikely to occur in practice; they must be artificially constructed. But, if we can handle *them*, then we can certainly handle the ones we encounter in real life problems.

Palmer, it would be good if you tried solving the system on your various calculators, consisting of the column matrix perturbed in the third element, and the {3,7} and {7,7} elements of the A matrix perturbed as I described. I think you will find that you don't get wildly varying results with these changes. For example, on my HP48S, which uses the same matrix routines as the HP28, I get about 9 or 10 digit agreement with the solution posted above, whether I use the divide key or invert the A matrix and multiply times the column matrix.

We've seen repeatedly how ill-conditioned systems are not correctly solved (exactly), and the more digits your calculator has, the better the results. This is to be expected. But now we should move on to new pastures and learn how to deal with these ill-conditioned systems, even with calculators that don't do arithmetic with lots of digits.

My favorite way to handle them involves the use of the singular value decomposition. Routines written in Fortran for the SVD can be found at:

http://www.netlib.org/lapack/single/

These could be most easily implemented on a machine that has Basic rather than keystroke programming. Or, you could just get an HP48G which has the SVD and lots more built-in. I find the HP48G very handy for experimenting with advanced matrix algebra.

The book, "Numerical Recipes", has a good section on the use of the SVD for dealing with ill-conditioned systems. I hope I can stir up some interest in this.

Re: Ill conditioning and calculator precision

*Message #18 Posted by **Rodger Rosenbaum** on 9 Jan 2006, 6:36 a.m.,*
in response to message #8 by Marcus von Cube, Germany

> Quote:
>
> Rodger, you are right, I can't count rows :-(
>
> Let's try again with the correct data:
>
> (4.8, 4.3)

(9.1, 8.2)
(7.1, 6.6)
(4.8, 4.3)
(9.3, 8.3)
(3.2, 2.9)
(6.7, 6.1)

The correlation is about 0.999. If you add the right hand sides (45.0, 40.7), the correlation jumps to 0.99998. This means, that the equations are *almost* linearly dependent and the system is in fact underdetermined.

The convention is that the terms "overdetermined" and "underdetermined" refer only to whether the system has more equations than unknowns, or fewer equations than unknowns. So Valentin's system is neither. But the fact that system exhibits near linear dependencies (another way to put it is to say that the system is near rank deficient) means that it is ill-conditioned. This can be true even *without* any high correlations, but high correlation can sometimes indicate where linear dependencies lie. In this case, it gave us the clue that dropping row 7 might be a good thing to do.

Can you elaborate, how underdetermined linear systems can be tackled?

To my mind, one of the most elegant methods uses the pseudoinverse. There is some discussion of the pseudoinverse at mathworld.wolfram.com.

But an underdetermined system can still be ill-conditioned, and may need to be attacked by techniques suggested by backward error analysis. What I like to do is to find another matrix only a small distance from the original A, with much smaller condition number and use *it* to solve the system.

The Lawson and Hanson reference at:
http://mathworld.wolfram.com/LeastSquaresFitting.html
is a good place to get detailed discussion of these things.

Marcus

Re: Ill conditioning and calculator precision

*Message #19 Posted by **Marcus von Cube, Germany** on 9 Jan 2006, 10:50 a.m., in response to message #18 by Rodger Rosenbaum*

Thanks for the answer!

It'll take some time to digest it all.

Marcus

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Ill conditioning and calculator precision

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49G+ SD card

*Message #1 Posted by **Michel Beaulieu** on 7 Jan 2006, 9:30 p.m.*

I just cannot find the information in the manual or guide : what is the specification for the SD card that are compatible with the HP-49G+. Any size? speed? Maker (only HP one?), High speed? etc...

Thanks Michel

Re: 49G+ SD card

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 7 Jan 2006, 9:54 p.m.,*
in response to message #1 by Michel Beaulieu

Hello, Michel (still owing you an answer about the Cx...);

I have an earlier HP49G+ with a 256MBytes SD card. If I am not wrong, this is the biggest 'memory size' the HP49G+ can handle.

Currently, the one that's installed in the HP49G+ (and working fine) is a SimpleTech PROX High-speed SD Card (STI-PROXSD/256). The one that I also used and worked fine is a FUJIFILM 256 MB SD card, no extra specifications found in the card, neither in the small cardboard that comes with it. It claims to be 'Compatible with all SD Secure Digital Devices'. Now it is in my digital camera.

Nope this helps.

Luiz (Brazil)

(I'll brief you soon about the otehr subject...)

Re: 49G+ SD card

*Message #3 Posted by **Gene Wright** on 7 Jan 2006, 10:09 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Hi.

There is actually no upper limit on the size of the SD card the HP49g+ can address. 1GB cards have been used sucessfully.

Some of this is explained in the HP learning module on using SD cards with the hp49g+ found on the HP site here:

[url: http://www.hp.com/calculators/docs/learning_modules/49gplus/49gPlusSD.pdf]

Don't worry that it says "for use with ROM 1.22". Nothing significant has changed with ROM upgrades since then.

That said, the best way to format a card for use on the 49g+ is to allow the 49g+ to format the card for you, which is again explained in the link above.

Good luck, gene

Re: 49G+ SD card

*Message #4 Posted by **Gene Wright** on 7 Jan 2006, 10:10 p.m.,*
in response to message #3 by Gene Wright

Oops. Thought I had that link correct. :-)

Typos: show no mercy...

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 7 Jan 2006, 10:41 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Hi, all;

first of all, thaks (Gene and Tim) for the extra info. I was not aware of the fact that the HP49G+ could go beyond 256MB through SD card addressing.

Now for the main reason: I wrongly wrote 'Nope' instead of 'Hope' in my previous post... and thanks to the new editing policy, I could not edit it.

Please, forgive me adding an extra post, consumming some (unecessary) bytes and time, but I do not like detected mitakes being left aside...

Cheers.

Re: 49G+ SD card

*Message #6 Posted by **Tim Wessman** on 7 Jan 2006, 10:07 p.m.,*
in response to message #1 by Michel Beaulieu

Any size will work up to 2GB. The super ultra 60x speed ones won't receive any benefit because they require some additional circuitry the 49g+ doesn't have(the same stuff that make SD-wifi card work).

The 32x speed cards do recieve speed benefit, but only when you are storing huge files. I run a 512 Sandisk Ultra2 card in mine, but that is only because I need the high speed for data storage and fast access for some files with a C program I wrote. It isn't 32x, but more like 8x faster write, 2x read.

My recommendation is to just get whatever cheap card you find. All of them should work.

TW

Re: 49G+ SD card

*Message #7 Posted by **Ron Allen** on 8 Jan 2006, 4:50 p.m.,*
in response to message #6 by Tim Wessman

FWIW,

I use a Lexar 128mb SD with no problem.

I am still operating on some old ROM and must be missing some good things like file types, etc. The

change I have been waiting for is the ability of the SD/ G+ combination to support subdirectories.

Does the latest ROM (build 80) substantially improve this support?

Happy new year!

Re: 49G+ SD card

*Message #8 Posted by **John Smitherman** on 8 Jan 2006, 5:08 p.m.,*
in response to message #7 by Ron Allen

Michel, I have used a 64MB Legacy and a 512MB SanDisk both with no problems. With the ubiquitous 1GB SD's you should be able to find 64, 128 and 256MB SD's at dirt cheap prices.

Regards,

John

Re: 49G+ SD card

*Message #9 Posted by **Tim Wessman** on 8 Jan 2006, 11:32 p.m.,*
in response to message #7 by Ron Allen

Support subdirectories? In what way. Since the beginning you have been able to store and recall from subdirectories. Copying in the filer from one SD directory to another isn't possible, but that isn't a huge thing.

Yes I would upgrade to the latest rom found on hpcalc.org 2.05 something if I remember right.

TW

Re: 49G+ SD card

*Message #10 Posted by **Ron Allen** on 9 Jan 2006, 9:28 p.m.,*
in response to message #9 by Tim Wessman

Thanks Tim, I was referring to chapter 26 page 7 of the "User Guide" where it says, "... no subdirectory tree can be built into port 3..." It then states that a future ROM upgrade may address this. I have taken this to mean that I run the risk of eliminating some duplicate named variables now isolated between subdirecoties (or at least prioritized in case of conflicts). Not talking about locals/globals distinction.

I have had my 49g+ since 11/04, which could make a difference if I wanted to back up all of main memory to an SD card. I admit that I could be reading the statement wrong with respect to the 49g+.

Thanks again - I believe the current ROM version is "build 80" with an unsupported "build 83" available to brave hearts.

Ron

Re: 49G+ SD card

*Message #11 Posted by **ECL** on 9 Jan 2006, 11:21 p.m.,*
in response to message #10 by Ron Allen

Ron,

Where did you obtain Build 83? Are you referring to the build that experiences key bounce? HPs support site has Build 80, I'm curious if I missed something.

ECL

Re: 49G+ SD card

*Message #12 Posted by **sjthomas** on 10 Jan 2006, 12:21 a.m.,*
in response to message #11 by ECL

Check here for various ROM updates, including the more recent [albeit unofficial] build 88.

Edited: 10 Jan 2006, 12:23 a.m.

Re: 49G+ SD card

*Message #13 Posted by **Ron Allen** on 10 Jan 2006, 3:09 p.m.,*
in response to message #11 by ECL

yes, ECL

I posted a question about current level a couple of weeks back and received a response with some information about an unsupported build 83. Among other things, I do recall that it went beyond 80 to address key bounce. Not being interested in testing an unofficial release, I neglected to copy it. I can locate it in archives probably when I get more time.

I just received my connectivity kit zip file which I still haven't been able to unzip as yet.

Instead of key "bounce" I am experiencing what I would call key "wobble." The keys, especially the "enter" seem to be wearing out with no snap to them. My old 48GX still feels solid when I press the keys. I am a little surprised that HP would produce such flimsy switches, but going corporate seems to lower standards just about everywhere. (Too many MBAs in the mix. Optimize for who's benefit?)

Thanks for responding,

Ron

Re: 49G+ SD card

*Message #14 Posted by **David** on 11 Jan 2006, 12:07 a.m.,*
in response to message #13 by Ron Allen

Did you accidentally keep the Enter key depressed while the calculator was in storage? It happened to my 49g+ once, and the Enter key lost the click temporarily. Luckily after a week or two, the Enter key got its click back. Now I have to be cautious to store my 49g+ while not getting anything weighing down on top of the calculator. Also, I don't want to deform the black pouch either.

Re: 49G+ SD card

*Message #15 Posted by **Ron Allen** on 11 Jan 2006, 12:47 a.m.,*
in response to message #14 by David

Wierd, David!

Don't think I accidently pressed enter while in storage, but don't know for sure. Would that affect other keys like the 2 key? Did power remain on during the extended pressing?

I have read about key bounce and such, as well as some varying lack of confidence after the 48GX experience. All in all I have been pleased with HP products and the ability to use such power in the field. Besides, I am hooked on RPN programming.

Thanks for responding!

Ron

Re: 49G+ SD card

*Message #16 Posted by **Crawl** on 8 Jan 2006, 10:04 p.m.,*
in response to message #1 by Michel Beaulieu

I once got a SanDisk 128 card to use with a 49G+, and it didn't work. I might have been able to transfer one or two files to it correctly, but eventually all the files on it would become corrupted.

I exchanged it for a Kingston card, and haven't had any problems with it.

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just who are these scamers? and ...

*Message #1 Posted by **erik** on 7 Jan 2006, 6:13 p.m.*

and what do they hope to get? shortly after I placed an ebay auction ad on the classifieds section here, this slid into my mailbox:

GOOD DAY SELLER, I WILL LIKE TO CONTACT YOU ABOUT THIS PRODUCT . hp-38e, hp-35, hp-21, hp-19c, hp-32e, hp-22, hp-10c, hp-10, hp-29c, hp-45. The 29C is boxed and comes with LOTS of stuff. The 19C comes with case, battery charger, battery and more. Both are in great working condition .....AND WILL ALSO LOVE IF U COULD MAIL ME ABOUT THIS GOOD AND WE CAN HAVE A GOOD DEAL ..... TKAE CARE HAVE A NICE DAY .....YOURS MR J. ALEX

so what i want to know is, who is this MR J. ALEX and what's his game? anyone here know? i just can't imagine he's legit.

Re: just who are these scamers? and ...

*Message #2 Posted by **Jim L** on 7 Jan 2006, 6:38 p.m.,*
in response to message #1 by erik

Sounds like one of these.

> Quote:
>
> Buyer doesn't seem to know much about your item. (May even refer to it as "your item" or "your product".)

Re: just who are these scamers? and ...

*Message #3 Posted by **Howard Owen** on 7 Jan 2006, 7:06 p.m.,*
in response to message #1 by erik

It's clearly machine generated. I don't know what the scam is, but I'm certain there is one.

Edited: 7 Jan 2006, 7:08 p.m.

Re: just who are these scamers? and ...

*Message #4 Posted by **Les Bell** on 7 Jan 2006, 7:36 p.m.,*
in response to message #1 by erik

Probably an advance fee fraud in which the buyer will offer to pay by a bank (cashier's) cheque he has - for more than your sale price, with you to reimburse the difference, also by bank cheque. His bank cheque is drawn on a foreign bank, and will turn out to be a forgery - by which time, you'll have shipped the goods and a genuine bank cheque.

Only, you won't have, because you know better. . .

Best,

--- Les
[http://www.lesbell.com.au]

Re: just who are these scamers? and ...

*Message #5 Posted by **Garth Wilson** on 7 Jan 2006, 10:13 p.m.,*
in response to message #4 by Les Bell

I'm on a forum about tandem bicycles, which are a big target of this kind of thing. There have been various things suggested, one of them being that you go ahead and ship an appropriate-sized box; but instead of putting your multi-thousand-dollar tandem in there, you fill it with pieces of wood, wads of newspaper, old shoes, a few Chinese products that don't work, etc.. You might save a dumping fee, and the customer will have to pay a hefty customs fee to pick up their surprise pack.

Scamming the Scammers

*Message #6 Posted by **chic thomson** on 9 Jan 2006, 5:40 a.m.,*
in response to message #5 by Garth Wilson

heres an interesting read from about a year ago
http://pages.sbcglobal.net/dumbmrblah/Scamming%20the%20Scammer.htm

Re: just who are these scamers? and ...

*Message #7 Posted by **David Smith** on 9 Jan 2006, 11:27 a.m.,*
in response to message #1 by erik

Would you like some Herbal Viagra with your HP-29C? MASSIVE GROWTH GUARANTEED IN DAYS!!!!!

Re: just who are these scamers? and ...

*Message #8 Posted by **Howard Owen** on 9 Jan 2006, 11:54 p.m.,*
in response to message #7 by David Smith

Or perhaps you could calculate just how fast mortgage rates are rising off the historic lows we are offering. You could figure out what All Investors Need to Know about our IMPORTANT BUSINESS PROPOSAL, regarding the OEM So|=tw/=\re you can buy when you Reestablish Your PAYPAL Account. Just go to http://warezRUz.tv

Or, not. 8)

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Re-assembling the 42s

*Message #1 Posted by **Dan L. Cleary** on 7 Jan 2006, 5:51 p.m.*

I want to start by saying thanx to Paul Brogger for describing how to disassemble a pioneer. "THANK YOU".. My calc has had recurring symptoms of quick battery death and vertical lines in the display x 2. After buying the new 33s for the PE exam and as a replacement, I have just not been happy without my trusty 42s. I have tried to send it in for repair to Fix that calc, but they felt it was hopeless. Finally I got the courage to open it up. Turns out that the springs that go been curcuit board and back of housing (possible ground??)were in contact with a slightly green corroded circular pad. My calc had fallen a few times while using in my work vehicle, and I think it got slightly damp. Anyway wanted to pass these symptons on, it works fine now, although it always worked, but ate batteries and had annoying vertical lines. My question is how fasten it securely back together? I did not shave the heat posts, but reheated and straightened. This worked great on the upper four because I heated the tip of a phillips head and after reassembly, I reshaped the posts. But should I use glue on the others?

Re: Re-assembling the 42s

*Message #2 Posted by **Paul Brogger** on 9 Jan 2006, 12:48 p.m.,*
in response to message #1 by Dan L. Cleary

First of all, "You're welcome."

For mine, in shaving the lower heat stakes, I didn't *truncate* them so much as reduce the diameter of the mushroomed heads. Then they could be snapped back through the plastic front and provide a tight (but not completely re-secured) bond.

I would recommend you NOT use any glue -- the stuff could probably wick into the keyboard sandwich and destroy it.

If you really want to re-fasten the lower heat stakes, you'll need to take off the foil overlay, or cut through it. The latter is certainly damaging -- the former seems likely. (As alluded to in the article, I haven't messed with keyboard overlays. I know some do, but it just doesn't seem necessary.)

With regard to the vertical lines -- you might try unseating the PCB and cleaning the PCB-to-LCD contacts, and reassembling. It's yet more invasive, but I should think it's indicated. (I think my earlier article gives some detail on how-to.)

With regard to reduced battery life -- don't I remember someone saying that a bad capacitor somewhere on the board can cause that? Maybe someone will chime in on that, or you could start another thread with that as the subject in hopes of grabbing someone's attention.

Good luck, and keep us posted!

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install

*Message #1 Posted by **Ger** on 7 Jan 2006, 8:39 a.m.*

Hi! I have a big question: how can i install int48? I don't remember. I have a hp 48gx. Thaks

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New HP-71B software - DICE-1.0

*Message #1 Posted by **Howard Owen** on 7 Jan 2006, 2:06 a.m.*

This is a combination of a slightly reworked version of YATZ71 and a new game ROLLERS. The latter is an implementation of High Rollers for the 71B. The distribution now includes card images for the HP-71X emulator, so this excellent software from HrastProgrammer is supported. The documentation has been reworked with an INSTALL document, an overall README file and separate READMEs for YATZ71 and ROLLERS.

Available here in ZIP format.

Enjoy!

Edited: 7 Jan 2006, 2:07 a.m.

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HP 11C 'pr error' message

*Message #1 Posted by **Marc Bailey** on 6 Jan 2006, 3:23 p.m.*

I received an HP 11C as a Christmas gift and do not have a manual with it. When I turn the calculator on sometimes it displays 'pr error' and I have to turn it off and back on to get it to work. I researched and found the self test instructions and keyboard test instructions and it passes both. Does anyone now what this message is? Thanks in advance for your help.

Re: HP 11C 'pr error' message

*Message #2 Posted by **Namir** on 6 Jan 2006, 3:28 p.m.,*
in response to message #1 by Marc Bailey

Marc,

I strongly suggest you get the museum CD/DVD to get the manuals for the HP-11C. I think you will enjoy the machine much more with the docuemntation.

The mesage you got is basically a reset message. The calculator should work fine.

Namir

Edited: 6 Jan 2006, 3:28 p.m.

Re: HP 11C 'pr error' message

*Message #3 Posted by **Randy** on 6 Jan 2006, 5:48 p.m.,*
in response to message #1 by Marc Bailey

The only time you should see Pr Error is when you leave the batteries out for too long and the continuous memory is cleared.

Based on your description, the unit has either a bad battery contact, bad batteries, or worse, the internal memory back-up capacitor is faulty. It's not a common problem so it's a bit hard to tell what could be wrong if it happens when turning on and off as with normal use.

Re: HP 11C 'pr error' message: a small suggestion

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 6 Jan 2006, 11:19 p.m.,*
in response to message #3 by Randy

Hi Randy, Marc, guys;

what about removing the batteries, wait for, say, ten to twenty seconds, then placing them back to the compartment; or simply slightly pushing them away from each other while inside their compartment for just a few seconds.

If the calculator shows 'Pr Error' in these circumstances, then I think that a bad capacitor (or a bad contact with the capacitor terminals) is the best guess. Provided no key is pressed when without batteries, the Voyagers might retain RAM contents for some time, even more than an hour or close to this. In this case, depending on which internal construction it has, resoldering or even replacing the capacitor will not be that hard.

If the calculator passes [ON]/[+] or [ON]/[*] self tests without problems, then I'd guess internals are fine.

Just a suggestion of mine.

Hope you succeed!

Luiz (Brazil)

Edited: 6 Jan 2006, 11:20 p.m.

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Palm TX devices and running Power48 - problems now solved

*Message #1 Posted by **Gene Wright** on 6 Jan 2006, 2:46 p.m.*

http://www.1src.com/forums/showthread.php?t=100396

has a discussion of this problem and a link to an updated (not by the author, but it works) version of power48 that runs on my Palm TX.

link to the fixed version (case-sensitive):

http://www.metaviewsoft.de/Power48.zip

FYI. Gene

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Equation problem in Hp32II

*Message #1 Posted by **Ravinder Walia** on 6 Jan 2006, 12:09 p.m.*

Hello everyone,

I have a HP32II and stored an equation

D=10xLOG(W/0.001)

If I try solving the equation for D, by pressing EQN and then enter everything is fine.

However I can't get it to work for to solve W. I just got this calculator and don't have a manual. I can use the number crunching fine but this is my first attempt at storing an equation.

Any help greatly appreciated.

Re: Equation problem in Hp32II

*Message #2 Posted by **Antoine M. Couëtte** on 6 Jan 2006, 12:19 p.m.,*
in response to message #1 by Ravinder Walia

Assuming that "LOG" is the Napier Logarithm - if decimal, there is one constant to multiply with - and assuming that I correctly rewrote your equation, did you attempt solving for W with W=1000 EXP (D/10)?
Antoine

Re: Equation problem in Hp32II

*Message #3 Posted by **Ravinder Walia** on 6 Jan 2006, 12:55 p.m.,*
in response to message #2 by Antoine M. Couëtte

I think that the rearranged equation would be

W=0.001xALOG(D/10)

and if I put this in, it works fine to solve for W.

What I wanted to do is enter the first equation which was

D=10xLOG(W/0.001)

And then use this single equation to solve for either W or D. I thought that there was a way to do this, but maybe there isn't.

Re: Equation problem in Hp32II

*Message #4 Posted by **Chris Dean** on 6 Jan 2006, 1:03 p.m.,*
in response to message #3 by Ravinder Walia

When trying to solve for W did you enter a value for D first?

Re: Equation problem in Hp32II

*Message #5 Posted by **Ravinder Walia** on 6 Jan 2006, 1:20 p.m.,*
in response to message #4 by Chris Dean

I entered the equation

D=10xLOG(W/0.001)

Then I did

[LEFT SHIFT]

[STO]

This brings up the equation. Then I pick to solve for W by

[LEFT SHIFT]

[7]

Which then ask me what variable to solve for. To pick W I do

[1]

To give me W. It then asks for a value for D. If I want 12

[12]

It then gives the error LOG(0).

I'm pretty sure I am doing something wrong, but not sure what.

Re: Equation problem in Hp32II

*Message #6 Posted by **Norris** on 6 Jan 2006, 1:52 p.m.,*
in response to message #5 by Ravinder Walia

I tried this equation on a 33S, which should be functionally equivalent to a 32SII as far as equations go, and had no problem solving the equation in question for D=12 (for the record, W=0.158489319246).

I also have a 32SII, but it's at home, so I can't try that until tonight

Re: Equation problem in Hp32II

*Message #7 Posted by **Chris Dean** on 6 Jan 2006, 2:10 p.m.,*
in response to message #6 by Norris

I actually make the answer W=3.3201169223e-3 for D=12. I am sorry but I cannot be of any more assistance as I do not have a 32SII and cannot replicate your problem.

Edited: 6 Jan 2006, 2:13 p.m.

Correction

*Message #8 Posted by **Norris** on 6 Jan 2006, 2:31 p.m.,*
in response to message #7 by Chris Dean

> Quote:
>
> I actually make the answer W=3.3201169223e-3 for D=12

You are using a natural (base-e) logarithm (LN function). But the equation appears to call for a base-10 logarithm (LOG function).

My initial answer also needs correction. For a base-10 logarithm, W=0.0158489319246, not 0.158489319246. I used the SHOW function on the 33S to get all the digits, but I forgot that that the display drops leading zeros. Oops.

Edited: 6 Jan 2006, 2:37 p.m.

Re: Equation problem in Hp32II

*Message #9 Posted by **Katie Wasserman** on 6 Jan 2006, 2:41 p.m.,*
in response to message #5 by Ravinder Walia

You can tell the calculator to look for a solution within a certain range in order to avoid it trying to calculate log(x); where x<=0.

To do this store one limit, say 1 in this case, in W and put the other limit, say .01 in this case, in the x register.

So you would do:

1 STO W .01 ENTER EQN (select your equation) SOLVE W D=12 R/S

I get W=1.58489319 E -2

Re: Equation problem in Hp32II

*Message #10 Posted by **John Smitherman** on 6 Jan 2006, 2:26 p.m.,*
in response to message #1 by Ravinder Walia

Ravinder, here is a link to the 33s manual which provides the same information as the 32sii manual on how to handle equations:

http://h10032.www1.hp.com/ctg/Manual/c00251639.pdf

Regards,

John

Re: Equation problem in Hp32II

*Message #11 Posted by **Ben Salinas** on 6 Jan 2006, 2:48 p.m.,*
in response to message #1 by Ravinder Walia

So, after a bit of fooling around, I think I found the solution. The 32sii uses a numerical approximation (Newton's Method?) to solve equations. It calls for guesses.

The two bounds the 32sii (and consequently, the 33s) use are the number stored in the variable (W, in this case) and the number stored on the top of the stack (the screen). Before, you probably had either 0, or a negative number stored in one of these. Try putting a small number in each. I put 1 in W (5 or 10 should also work fine) and 1E-5 on the stack.

If you limit the interval it has to solve over, then it will solve quicker.

-Ben

Re: Equation problem in Hp32II

*Message #12 Posted by **Norris** on 6 Jan 2006, 3:10 p.m.,*
in response to message #11 by Ben Salinas

I would have expected the 33S to behave in the same manner as the 32SII. Yet I can't duplicate the LOG(0) error on the 33S with the equation D=10xLOG(W/0.001) and D=12.

It doesn't seem to matter what kind of numbers are initially stored in W, or left on the X-register. Positive, negative, or zero, large or small...the 33S responds almost immediately with W=0.0158 regardless.

Needless to say, this is very frustrating. What I am I doing wrong ?? Why won't my calculator give me an error message, instead of the correct answer ?!?

Edited: 6 Jan 2006, 3:17 p.m.

Re: Equation problem in Hp32II

*Message #13 Posted by **Eamonn** on 6 Jan 2006, 6:08 p.m.,*
in response to message #12 by Norris

Hi Norris,

It may be that the HP-33s first attempts to re-arrange the equation so that it can directly solve for a real root. If it cannont do this, then it uses an iterative method (see appendix D of the HP-33s manual).

The HP-32sII, if I recall correctly, always uses an iterative method to solve for the root. I remember some discussion on this site about solving A=SQR(B) on the HP33s and that it could not directly find the negative root of B without some re-shuffling of the equation so that it could not be solved directly. Sorry, I don't have a link to this discussion.

The equation in the original post can be re-arranged and solved directly - I suspect that is why it doesn't matter what initial values are in the X register and the W variable on the HP-33s, but it does matter on the HP-32sII.

Best Regards,

Eamonn.

Re: Equation problem in Hp32II

*Message #14 Posted by **Ravinder Walia** on 6 Jan 2006, 6:13 p.m.,*
in response to message #11 by Ben Salinas

I think that the idea put forward by Ben is correct. I managed to follow his instructions and the equation solves.

I think that for an equation this simple it's not worth it, but at least I understand it a bit better now.

For those that might have been interested in what the equation was, it's a conversion from Watts to dBm, both units of power and used in radio frequency engineering.

Time to go and play some more.

Re: Equation problem in Hp32II (summing it up)

*Message #15 Posted by **Karl Schneider** on 7 Jan 2006, 1:22 a.m.,*
in response to message #14 by Ravinder Walia

A few good points by several people in this thread. I'll try to sum it all up.

To recap, the problem was to solve the equation

```
D = 10 * LOG(W/0.001)
```

for D = 12.0 on an HP-32SII in Equation mode.

Indeed, the HP-32SII solves only iteratively, unlike the HP-33S, which will return an algebraically-derived direct solution if it deems possible.

The 32SII will use the stored value of the variable to be solved, and the value in the x-register as the first guesses for the solution. This is true when solving an equation or a program.

In equation mode, when the user enters 12 as the prompted value of D, that unfortunately is one of the guesses for the solution of W. Pre-storing a positive value for W that is less than, or close enough to the solution W = 0.001*(10^1.2) = 0.015849 will ensure that the algorithm will converge. A larger pre-stored value will cause the algorithm to project the next guess for W from the first two guesses into the undefined non-positive region, causing an error.

Pre-storing a positive value of W that is less than the actual solution will bound it between 12, bringing convergence. Pre-storing W = 0.02 will also work. However, Pre-storing W = 0.1 will fail, as the next projection of W -- based on function values calculated at W = 0.1 and W = 12.0 -- is negative.

One way to get around this problem is to enter the equation as a program, so that two legitimate guesses can be entered.

The methods of the HP-33S are more adroit: It will solve the equation directly.

-- KS

Re: Equation problem in Hp32II

*Message #16 Posted by **Tizedes Csaba [Hungary]** on 9 Jan 2006, 2:31 a.m.,*
in response to message #1 by Ravinder Walia

Hi, try this (I have an HP32SII, but not here, so I can't to try now...):

```
D = 10*LOG(W/0.001)  is equal

D/10 = LOG(W)+3      and SOLVE it --- and you can to substitue L=LOG(W), if it is not
working:

D/10 = L+3           then SOLVE for L and W=10^L
```

Csaba

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HP41 - RS232 - PC Interfacing

*Message #1 Posted by **Christoph Klug** on 6 Jan 2006, 4:19 a.m.*

Dear HP41 and PC enthusiasts :

I need detailed information about the wiring between a 9pin PC COM1 serial port and the 25pin port of the HP-IL/RS232 Interface HP82164.

Tony Duell describes a solution for his Linux software tool, but unfortunately his document includes only the wiring between two 25pin connectors.

As I find out some different wiring diagramms exist, describing RS232 inferface connections between 25pin/25pin or 9pin/9pin or 9pin/25pin connections :-(

I am looking for a RS232 solution which works for HP41 and HP71.

Waiting for your help - Christoph Klug

Re: HP41 - RS232 - PC Interfacing

*Message #2 Posted by **Tony Duell** on 6 Jan 2006, 6:20 a.m.,*
in response to message #1 by Christoph Klug

Obviously I use the wiring scheme in my LIF Utilities distribution to link my handhelds to my own PC, which has a DE-9 serial port.

I use a normal PC modem cable -- the same one I use for my modem, actually, plugged into the PC. It has a DE-9 socket on the PC end, a DB25 plug on the 'modem' end, and is wired in the normal way for such cables (I will look up the wirelist if you really can't find the wiring for such a cable). There are no crossovers or the like in the cable.

I then connect that to the 'PC' socket of the adapter I documented in the LIF Utilities distribution, and plug the other end of the adapter into my 82164 with the internal DIP jumper set to the DTE position (this is, IMHO, the only sane way to use the 82164).

Re: HP41 - RS232 - PC Interfacing

*Message #3 Posted by **Christoph Klug** on 6 Jan 2006, 8:59 a.m.,*
in response to message #2 by Tony Duell

Dear Tony,

thanks - that information helps : You use a standart 9pin to 25pin RS232 connection :-)

Best regards - Christoph Klug

Re: HP41 - RS232 - PC Interfacing

*Message #4 Posted by **Garth Wilson** on 6 Jan 2006, 1:21 p.m.,*
in response to message #3 by Christoph Klug

Standard pin usage is as follows:

```
9-pin  desc  dir   25-pin
  1   (DCD)   I      8
  2     RD    1      3
  3     TD    O      2
  4    DTR    O     20
  5    GND           7
  6    DSR    I      6
  7    RTS    O      4
  8    CTS    I      5
  9   (RI)    I     22
```

The "I" and "O" above for "input" and "output" refer to what's connected to the DB-9 end. The DCD and RI are only used for modems, which you're not dealing with right now. All the DB-25 pins are defined except for 9, 10, 18, and 25 which are reserved, but it's rare to see more than the "big 8" actually used. Those are the ones shown above, minus RI. The FSI164A HPIL-RS232 interface converter used the extra pins for more channels. I just got the standard model, so I only have two channels; but there was the option to go up to 8, and they all went through the DB-25. The extra channels only had TD & RD, no handshaking lines.

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Wiring for HPILCOM = HP41 / PC Interfacing

*Message #1 Posted by **Christoph Klug** on 6 Jan 2006, 4:08 a.m.*

Dear HP41 & PC enthusiasts :

For using HPILCOM from Hans Brüggemann I need the correct wiring between the 9pin COM1 interface connector of the PC and the 25pin interface connector of the HP-IL/RS232 interface Box.

Please give additional informations about the needed COM1 mode : Hardware interfacing or software interfacing ?

Waiting for your help :-) Christoph Klug

Re: Wiring for HPILCOM = HP41 / PC Interfacing

*Message #2 Posted by **Hans Brueggemann [GER]** on 6 Jan 2006, 5:34 a.m.,*
in response to message #1 by Christoph Klug

christoph, set the COM1 (or, COM2, if you want) to the following mode : 9600 baud, 8 bits, 1 stopbit, no parity and sw flowcontrol. for the cabling, use a simple 25pin male to 9pin female cable. make sure, that your 82164 is in standard DTE configuration. the 9 pin serial connector on the pc has the following pin-out: 1(in)DCD, 2(in)RXD, 3(out)TXD, 4(out)DTR, 5GND, 6(in)DSR, 7(out)RTS, 8(in)CTS, 9(in)RING.

hope, that helps!

hans

Re: Wiring for HPILCOM = HP41 / PC Interfacing

*Message #3 Posted by **Gonzalo Fernandez (Spain)** on 6 Jan 2006, 5:57 a.m.,*
in response to message #2 by Hans Brueggemann [GER]

Hello:

Do you know where I can find the HPILCOM program?

gonzalo

Re: Wiring for HPILCOM = HP41 / PC Interfacing

*Message #4 Posted by **Etienne Victoria** on 6 Jan 2006, 6:16 a.m.,*
in response to message #2 by Hans Brueggemann [GER]

Hello Hans,

I would also be very happy to receive your HPILCOM solution!

If you don't mind, could you please email it to Etienne.victoriaREMOVEGARBAGE@orange.fr

Many thanks and happy new year from France!

Etienne

Re: Wiring for HPILCOM = HP41 / PC Interfacing

*Message #5 Posted by **Gonzalo Fernandez (Spain)** on 6 Jan 2006, 7:32 a.m.,*
in response to message #4 by Etienne Victoria

Hello Hans:

I would be grateful if you can send the HPILCOM program to gonzalo_fernandezNOSPAM@apb.es

thanks

Re: Wiring for HPILCOM = HP41 / PC Interfacing

*Message #6 Posted by **PeterP** on 6 Jan 2006, 5:27 p.m.,*
in response to message #5 by Gonzalo Fernandez (Spain)

Hello Hans,

Can I add my name to the growing list of people begging for your pgm? You can reach me at ppl4world NOSPAM at NOSPAM yahoo

I can understand if you do not want to, yet maybe you would consider adding it to TOS, in case you are willing to share it openly...

Cheers

Peter

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Charging Ni-MH batteries

*Message #1 Posted by **Mike T.** on 5 Jan 2006, 9:18 a.m.*

I've rebuilt the power pack for my HP33C using two Ni-MH batteries - Ni-Cd batteries are becoming harder to get hold of easily and have a number of other disadvantages when compared to their Ni-MH counterparts. These appear to work fine in the calculator, however as they are strapped together in the power pack they won't fit into my conventional battery charger.

Given the warnings about charging batteries in the calculator I'd planned to charge them outside the calculator using my reserve power pack (82103A) and AC adapter (62088B) BUT before I try it, does anyone know if this will work as the power pack was obviously only designed to charge Ni-Cd batteries...

I really don't want to damage the reserve power pack (which dispite its name is actually a little battery charger into which you plug the calculator's AC adapter).

Thanks.

Mike T.

Re: Charging Ni-MH batteries

*Message #2 Posted by **Hal** on 6 Jan 2006, 12:11 a.m.,*
in response to message #1 by Mike T.

Hi Mike, From my research, it looks like NiMH's need to be charged in a charger designed specifically for them. The battery voltage, as well as the *battery temperature* needs to be monitored during charging, and the charging rate modulated accordingly. I think it's not so much a matter of damaging your reserve power pack, but of damaging or ruining the expensive NiMH cells if you charge them in a device intended for NiCad's. If you Google Charging a NiMH battery there's lots of info on the subject that you can read.
Best regards, Hal

Re: Charging Ni-MH batteries

*Message #3 Posted by **Marcus von Cube, Germany** on 6 Jan 2006, 2:30 a.m.,*
in response to message #2 by Hal

> Quote:
>
> ...it looks like NiMH's need to be charged in a charger designed specifically for them. The battery voltage, as well as the battery temperature needs to be monitored...

I think, that's only true if you want to charge the batteries fast. Trickle charging, as done in the old devices, shouldn't be a problem. You probably don't get the full capacity but you shouldn't be able to kill the cells.

Re: Charging Ni-MH batteries

*Message #4 Posted by **David Smith** on 6 Jan 2006, 11:44 a.m.,*
in response to message #1 by Mike T.

They will charge just fine in the machine or extrnal charger. Multiply the charge time by the ratio of the increased in capacity of the new cells (usually 3-4 times).

Re: Charging Ni-MH batteries

*Message #5 Posted by **Chan Tran (USA)** on 6 Jan 2006, 12:09 p.m.,*
in response to message #4 by David Smith

I charged the 3000MAh sub C cells in my 97 for 2 or 3 days and they work great. Last a lot longer than original battery pack.

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25th anniversary of 15C's introduction in 2007

*Message #1 Posted by **Tizedes Csaba [Hungary]** on 5 Jan 2006, 4:12 a.m.*

Happy New Year for everyone! And maybe happier in 2007??? Who knows about any good news - will HP bring back 15C or not?!

Cs.

Re: 25th anniversary of 15C's introduction in 2007

*Message #2 Posted by **Tom Summer** on 5 Jan 2006, 11:26 a.m.,*
in response to message #1 by Tizedes Csaba [Hungary]

Great idea! I would highly appreciate it!!!

Re: 25th anniversary of 15C's introduction in 2007

*Message #3 Posted by **Namir** on 5 Jan 2006, 8:17 p.m.,*
in response to message #1 by Tizedes Csaba [Hungary]

The limited resources of the HP calculators division favors the NOT alternaitve!!!

Re: 25th anniversary of 15C's introduction in 2007

*Message #4 Posted by **Hugh Evans** on 6 Jan 2006, 11:23 a.m.,*
in response to message #1 by Tizedes Csaba [Hungary]

Why not force a 25th anniversary edition? Given that nonpareil now supports voyager ROMs, it should be possible to gut a 12c, put in a new board (and perhaps better tactile domes), silkscreen on new labels and sell it. By 2007 OpenRPN will have the facilities to make a conversion kit. Perhaps the threat of unauthorized 15c's would be enough to get HP working on it?

I would propose an ultra low-power MCU, and no I/O. To make the PCB fit properly we can invest in a heat-stake press. If anyone wants to do it, I am willing to supply web space and manufacturing/design help.

Let me know if you want to take on a project like this.

regards, Hugh

Re: 25th anniversary of 15C's introduction in 2007

*Message #5 Posted by **Chris Roccati** on 7 Jan 2006, 2:29 p.m.,*
in response to message #4 by Hugh Evans

Any of the MSP430F4xx would do quite easily: builtin LCD driver for up to 160 segments, up to 60KBytes of in-system programmable flash, 2KBytes of ram, up to 48 bits of programmable i/o (for the keyboard scanner -- you don't even need a multiplexer). All you need is a case, buttons and a 32KHz oscillator...

(OT) Why 'Open Hardware' projects fail

*Message #6 Posted by **Anon** on 7 Jan 2006, 7:38 p.m.,*
in response to message #5 by Chris Roccati

As has been mentioned many, many times before, the electronics is (relatively) easy. It is easier still to make grand plans that never appear all whilst making vague promises.

Sadly designing, building and producing the hardware on a large scale is quite hard. Unlike pure software project it requires many different skills - programmers, engineers (electrical and mechanical), technicians, industrial designers etc. Finding all these people and getting them to work for free is a challenge.

Then you have to consider the money involved. Even though the money required is very small compared to the value of time spent people are still reluctant to invest cash. Production tooling isn't cheap. Almost every single "open hardware" design involving production to date has failed.

Please note that I am not talking about 'IP cores' - designs written in hardware design languages like VHDL / Verilog. These skip the whole mass-production phase. Problems still exist with IP cores as seen here

Re: 25th anniversary of 15C's introduction in 2007

*Message #7 Posted by **Holger Veit** on 9 Jan 2006, 11:49 a.m.,*
in response to message #5 by Chris Roccati

> Quote:
>
> Any of the MSP430F4xx would do quite easily: builtin LCD driver for up to 160 segments, up to 60KBytes of in-system programmable flash, 2KBytes of ram, up to 48 bits of programmable i/o (for the keyboard scanner -- you don't even need a multiplexer). All you need is a case, buttons and a 32KHz oscillator...

I've done several MSP projects, and yes, in principle it is quite easy, really! But, and this is a very important "But": it is one issue to write a hello world program with the provided compiler - there is even a gcc available - and download it via boundary scan pins to the chip - the real challenge then is the final system, the prototyping and the production.

The above is basically unrealistic blurb copied from the data sheet, unfortunately: You almost never run the MSP with a single 32kHz quartz - for calculator purposes this is way too slow; you'll have to add a second one, and then lose those uA power consumption - the MSP will need more current. The 32kHz are realistic for power-down mode mainly.

Also: you either have 160 segments LCD (multiplexed!) or 48 I/O pins, so you'll have to carefully check what display you hook and how you merge it with the keybord scanner. Of course there are also some interdependences between the available pins and features like I2C bus, RS-232, A/D-D/A converters - if you start just straight forward, you'll find yourself blocked eventually with competing requirements - choose among 3 of the 7 requirements that you need; the chip can do all 7 things but only 3 at a time (typical effect).

The MSP chip itself is not easy to handle for a hobbyist, you better look at the TSSOP SMD package in the datasheet to check that you can solder this beast (you can - I learnt it, but if you are accustomed to DIL and std SMD SO packages, the pin distance is a challenge. There are of course adapters and prototype boards from Olimex and Elektronikladen.de, resp., but they are not useful for the product.

The LCD brings up a different question: the HP calcs have numerous special annunciators on their displays (low bat, flags, DEG/RAD mode, function keys) etc. As a hobbyist, you have to use an available LCD; you cannot produce a custom one - too expensive for the experiment. Unfortunately, you either find standard alphanumeric ones, with an own controller and incredible current requirements - you cannot use the MSP's LCD driver feature, or you find just normal 3 1/2, 4 1/2 digit multimeter displays (designed for ICM721x multimeters, which are unusable). You can try to cannibalize an alphanumeric display and control it by the MSP to reduce chip count and current, but the display itself has similar pin distances as the MSP itself, so better find a good PCB layout program and a good PCB producer (Sure there are some - but you'll have to find out the good, the bad, and the ugly yourself).

Of course, besides well-considered system design, you have to program the chip as well. This is no longer MSP specific, but still important. For a calculator, you want to have correct mathematics, so don't just take some multiplication/division routine or some trig functions, etc. from some text book, but invest a minute or two (or some thousands) on optimized and accurate algorithms. This is commonly neglected in almost all hobbyist projects - it was hard to get it compile at all, in all the hacking nights, so "someone else" should add the missing 5% (which turn out to be another missing 95%).

But then, the MSP might be a viable solution for such a project. However, numerous other controllers are then as well - concentrating a project on some single chip which appears attractive is seldomly successful. One better does not start with the chip, but with the design.

Holger

Re: 25th anniversary of 15C's introduction in 2007

*Message #8 Posted by **Marcus von Cube, Germany** on 10 Jan 2006, 2:37 a.m.,*
in response to message #7 by Holger Veit

Holger,

> Quote:
>
> For a calculator, you want to have correct mathematics, so don't just take some multiplication/division routine or some trig functions, etc. from some text book, but invest a minute or two (or some thousands) on optimized and accurate algorithms. This is commonly neglected in almost all hobbyist projects

That sometimes goes badly wrong even at big companies. One of the first TI LCD calcs, the TI-25 can't calculate 7^8 correctly. It yields 5764800 (exact integer!) instead of 5764801. It looks like the calculation goes IP(8*10^LOG 7).

Marcus

P.S: Are you the XFree OS/2 guy working in Birlinghoven?

Re: 25th anniversary of 15C's introduction in 2007

*Message #9 Posted by **Holger Veit** on 13 Jan 2006, 10:19 a.m.,*
in response to message #8 by Marcus von Cube, Germany

> Quote:
>
> That sometimes goes badly wrong even at big companies. One of the first TI LCD

> calcs, the TI-25 can't calculate 7^8 correctly. It yields 5764800 (exact integer!) instead of 5764801. It looks like the calculation goes IP(8*10^LOG 7).

IIRC, the TIs were well-known for lousy math for long time. Known problems with TI-52, TI-56, TI-58/59 were reported 20 years ago in the German Funkschau magazine. But HPs, particularly also older ones - no need to talk about Kinpo crap - also have certain artifacts even with or probably particularly because of BCD arithmetics.

> Quote:
>
> P.S: Are you the XFree OS/2 guy working in Birlinghoven?

Yes.

Re: 25th anniversary of 15C's introduction in 2007

*Message #10 Posted by **Chris Roccati** on 10 Jan 2006, 4:01 p.m.,*
in response to message #7 by Holger Veit

> Quote:
>
> You almost never run the MSP with a single 32kHz quartz - for calculator purposes this is way too slow

With a 32kHz external quartz, you get around 2MHz of MCLK: not a speed demon but still quite fast for the HP15C standards...

> Quote:
>
> you either have 160 segments LCD (multiplexed!) or 48 I/O pins, so you'll have to carefully check what display you hook and how you merge it with the keybord scanner.

With the full 160 segments you still have more than 30 gpio pins available, plus some input only or output only pins. With 16 pins you can control a very large matrix scanned keyboard. This if you don't plan to use an external binary decoder for the column scanner.

> Quote:
>
> The LCD brings up a different question: the HP calcs have numerous special annunciators on their displays (low bat, flags, DEG/RAD mode, function keys) etc.

We're talking about the **hypotetical** possibility of gutting an HP12 here, so the LCD is quite the easiest part...

> Quote:
>
> The MSP chip itself is not easy to handle for a hobbyist, you better look at the TSSOP SMD package in the datasheet to check that you can solder this beast

In fact even the smallest form factor may be TOO BIG for the intended use...

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Chargers for HP 25 calculator

*Message #1 Posted by **Bruno Rovito** on 4 Jan 2006, 5:35 p.m.*

I have an HP25 calculator that is in excellent working order. I have misplaced the charger. I need to be able to charge the batteries and I am wondering if I can use a charger for cell phones. I have determined the polarity of the charger connections and have used pieces of bent stainless steel wire inserted into the leads to serve as connection points for clip on leads. What I don't know is what voltage to look for in a cell phone charger? I can easily determine the polarity of the charger and solder on spring loaded clips to the leads of the cell phone charger to attach to the stainless wire clips I have rig up. Does anyone know what voltage I should be looking for in the discarded cell phone chargers that would work. I don't want to arbitrarily use any charger for fear of damaging the calculator. The two rechargeable batteries only need 2.5 to 3.0 volts but the calculator needs more to operate. I have determined this by using an adjustable DC power supply. I understand that the original chargers were unregulated and I am not sure if the cell phone chargers will work. Does anyone have any info that would help me out??

Edited: 4 Jan 2006, 5:37 p.m.

Re: Chargers for HP 25 calculator

*Message #2 Posted by **John Garza** on 4 Jan 2006, 6:19 p.m.,*
in response to message #1 by Bruno Rovito

Do NOT charge batteries in the calculator. It's too easy to fry the electronics. I remove the center plastic strip in the battery pack and insert (with a bit of force) AA alkalines. Works just fine for my 21,22,25C,and 29C.

-John

Re: Chargers for HP 25 calculator

*Message #3 Posted by **Jim Creybohm** on 4 Jan 2006, 6:48 p.m.,*
in response to message #1 by Bruno Rovito

I have done the same with my 25 - replaced my HP rechageables with AA's. Calculator lasts a very long time as a result - and no charger to worry about.

There is a number of comments about same here at the museum.

http://www.hpmuseum.org/batts/battery.htm

Try this link first. Hopefully it will help you out.

Re: Chargers for HP 25 calculator

*Message #4 Posted by **Stephen Easterling** on 4 Jan 2006, 6:52 p.m.,*
in response to message #1 by Bruno Rovito

I have an extra Woodstock charger I can sell you. I just did inventory and have an extra one. BTW, I thought that several on this forum warned against using AA batteries because their extra length applies too much

pressure against the contacts of your Woodstock and can easily break them. I am considering going to Radio Shack and buying the shorter "AA" rechargeable batteries and stand-alone charger so a charger never needs to be connected to the calculator.

Re: Chargers for HP 25 calculator

*Message #5 Posted by **Randy** on 4 Jan 2006, 7:31 p.m.,*
in response to message #4 by Stephen Easterling

The standard AA cells with the button + end issues are in reference to Spices, not Woodstocks.

Woodstocks don't care so much about length but are incredibly sensitive to both bad connections and batteries when connected to a charger. Woodstock safety tip #0: Never charge the batteries in the calculator using the HP wall wart. Never. To quote the Drink Driving adverts: "You can't afford it".

Re: Chargers for HP 25 calculator

*Message #6 Posted by **Stephen Easterling** on 4 Jan 2006, 10:31 p.m.,*
in response to message #5 by Randy

Thanks for the clarification regarding the use of standard alkaline "AA" batteries in the Woodstocks.

I'm a little confused, then, about how to recharge the battery pack using the HP charger. (Of course, I should just go read my owner's manual!,... but I don't really use mine very much having recently acquired a 22 & 25.) Wouldn't you simply hook up the HP charger with the battery pack in the calc and turned off?

Re: Chargers for HP 25 calculator

*Message #7 Posted by **Hal** on 5 Jan 2006, 10:28 a.m.,*
in response to message #6 by Stephen Easterling

Hi Steve, As I recall, the output of the woodstock AC adapter is on the order of 12vac. It's then rectified in the calculator, and regulated by the battery pack. Hence the danger...if the battery pack develops an open for any reason (bad contact, bad cell, etc.) you will apply overvoltage (around 10-12vdc) to the calc. The only safe way you can use an HP ac adapter is to acquire one of those woodstock external chargers (they look like a miniature calc with no keys or display, and the battery pack goes where the keyboard would be). These external chargers have rectifier circuitry in them, and the ac adapter connects up to them in the same fashion as to a calculator.
In my 29c I just use NiMH rechargables from radio shack, and charge them externally (with a radio shack wall charger). They last a long time and work great. You just have to cut the center rail out of the battery pack to get the cells in and out.
You raise a good point, however, about charging with the HP ac adapter connected to the calculator and just leaving the calculator off. I don't know if this is safe or not.
Can anyone else address this issue...can you protect a woodstock from unsafe voltages from the ac adapter by simply keeping it switched off while the adapter is connected?
Thanks and best regards, Hal

Re: Chargers for HP 25 calculator

*Message #8 Posted by **Stephen Easterling** on 5 Jan 2006, 11:40 a.m.,*
in response to message #7 by Hal

I'll read my Woodstock manual tonight to verify what HP says was the proper way for recharging (back then, at least). However, I'm growing more and more interested in the idea of

just having one or two sets of Radio Shack rechargeable and external charging system. Since most of my HPs are for collecting, I'll just insert the Radio Shack batteries whenever I feel like rotating the calc in/out of rotation for use. How does this sound?

Re: Chargers for HP 25 calculator

*Message #9 Posted by **hal** on 5 Jan 2006, 12:13 p.m.,*
in response to message #8 by Stephen Easterling

The manual will say that the battery pack must be in the calculator when the ac adapter is connected, and that you can use the calc while the battery is charging. This is not the safe way to do it however, twenty years later if you want to maximize the life of your machine. Regards, Hal

Re: Chargers for HP 25 calculator

*Message #10 Posted by **Stephen Easterling** on 5 Jan 2006, 12:18 p.m.,*
in response to message #9 by hal

Thanks for the advice! This sure makes it easier to negotiate the HP charger / battery pack issue.

Re: Chargers for HP 25 calculator

*Message #11 Posted by **hal** on 5 Jan 2006, 12:48 p.m.,*
in response to message #10 by Stephen Easterling

My pleasure. And please forgive my arithmatic mistake in my last post...let's see...2006 Enter 1976 subtract puts 30 in the X register doesn't it (not 20). My how the years fly by!
Hal :)

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Totally OT: (Pana)phone problem

*Message #1 Posted by **Marcus von Cube, Germany** on 4 Jan 2006, 12:04 p.m.*

I apologize! This totally off topic but maybe someone here can help.

A friend of mine has a telephone branded "Panaphone KX-T2838LM". It is working principally but he cannot dial out because the dialling hangs after the first "0", as if the phone waits for a carrier signal. Does any of you have such a beast and can check for me, which of the phone settings can be tweaked? I simply don´t have a manual and cannot find one on the net.

Marcus

Re: Totally OT: (Pana)phone problem

*Message #2 Posted by **inaki** on 4 Jan 2006, 1:47 p.m.,*
in response to message #1 by Marcus von Cube, Germany

I have the model KX-A144EXS. Do you want me to check any thing in particular ?

Re: Totally OT: (Pana)phone problem

*Message #3 Posted by **Marcus von Cube, Germany** on 5 Jan 2006, 2:36 a.m.,*
in response to message #2 by inaki

Thanks for the reply.

I don't have any documentation about the possible settings of the phone which are accessible through the key sequence "set"+digit "1" through "6" (IIRC). The phone has a display which shows cryptic abbreviations for them. I only understand one setting about the length of the hook flash signal. All others are what we call "Böhmische Dörfer" (Villages in Böhmen), so to say, I've no idea what they mean.

Is there a setting which controls "wait for dial tone" or something like "direct connection" versus "connect trough PBX"?

Marcus

Re: Totally OT: (Pana)phone problem

*Message #4 Posted by **Frank Boehm (Germany)** on 5 Jan 2006, 3:53 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Versuche es einmal hier, evtl. koennen sie eine Anleitung als PDF schicken:

http://www.meiyi-hk.com

Wie immer kann man sich nie sicher sein, ob die das Telefon wirklich herstellen (eigentlich wuerde der Name auf einen anderen Hersteller schliessen lassen; die Firmen-Initialen stehen meist am Anfang des

Produktnamens) - ein Versuch ist es aber wert.

Zum Problem: es kann a) durchaus sein, dass das Telefon nicht in D betrieben werden kann oder b) das Telefon war vorher an einer Anlage angeschlossen, die ein dial-prefix "0" benoetigte - das funktioniert natuerlich nicht an einem direkten Anschluss. Vielleicht gibt es die Moeglichkeit, den Puffer-Kondensator / die Pufferbatterie kurzzuschliessen, um die Grundeinstellung zu bekommen...

[this post is *really* off topic, so I didn't bother translating it for your 8)]

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HP33 programs?

*Message #1 Posted by **paul c** on 4 Jan 2006, 8:09 a.m.*

I saw an earlier post where someone was going to try to convert their existing programs for use on HP33 if they could find a simulator. Did this ever happen?

I'm in need of EE programs to help me save time on my PE exam this coming April. If anyone has HP33 programs for circuits/electrical engineering, I'd appreciate a link or post of them. The 3x3 solver listed in the HP33 manual--does anyone know if this routine handles complex coefficients?

As a postscript--the original poster seemed to hate the HP33 but was being very generous and kind and had concerns that good programs would lengthen the life of the HP33. I think I fall into the same boat as many--ie. being forced by NCEES to buy this model for use on PE exams because NO other programmable calculators are allowed...otherwise I'd be using my HP48G. So I don't think the HP33 will ever be as popular as HP41 or HP48 models--but until NCEES changes the approved calculator list, we're at their mercy.

If you have progs for HP33 or know where any can be found, I'd greatly appreciate a link or post. I've had very little luck in my searches.

Best regards,

Paul

Re: HP33 programs?

*Message #2 Posted by **Ron Ross** on 4 Jan 2006, 9:04 a.m.,*
in response to message #1 by paul c

Any programs you find for the Hp32s are also good for the Hp33s. This site has quite a few Hp32s programs. Look on the sidebar for programs.

I took the exam just last spring and was limited to the Hp33s also. No, it isn't in the same league as an Hp48g, but the test won't make extensive use of overly complex math. (Yeah, there were a couple of problems that would have been easy with a 48g as compared to difficult with the Hp33s). But everyone was hamstringed by this requirement. After you accept the fact that you won't get every problem right, just get as many right as you possibly can (and hope thats enough).

As far as loading up the caluclator with lots of programs, why bother? The HP33s has a solver (again, not nearly as nice as the 48g's), plug in a couple of known go to programs, punch the rest in as you need.

YOU WILL NOT NEED to solve any 3x3's with complex elements (or at least I didn't). My own advice would be to get the NCEES practice exam for the discipline you plan to take (electrical, isn't it?). Also buy the EIT/FE for the afternoon electrical exam. Many of the problems are quite similar.

And start using your books and resorces (I suggest going in with books you use). One problem, if you have a text book that you wrote in extensively in pencil, either erase or highlight those notes as the NCEES is even more ANAL about pencil marks in books than they are about Calculators (to put it in perspective). I left my

original EE text at home rather than erase or highlight every pencil mark. I bought a similar book used and in much better shape (and never used it either).

I suggest 2-3 handbooks, a couple of Schaums outlines (and you can write all you want in these books, but you must use an INK PEN. I suggest an erasable and write down any extra notes you wish. If you have pencil marks, they are okay, AS LONG as you HIGHLIGHT them with a marker (but again, I suggest INK so as to avoid ANY PROBLEMS).

Hope this information helps.

Re: HP33 programs?

*Message #3 Posted by **paul c** on 4 Jan 2006, 9:29 a.m.,*
in response to message #2 by Ron Ross

Ron,

Thanks for the info.

I didn't realize the issue with pencil marks. I'm glad you told me!

I have bought the NCEES sample exam, as well as one from Camara and the EERM. I've worked through the Camara and am shocked at how much 'theoretical' college type problems are in it as opposed to practical/everyday engineering ones. Is the real exam highly theoretical too? (for example, curls and divergence of E fields)

I'll be taking the EE exam. Which exam depth module did you take? Which Schaum's do you recommend? and which 'known go to programs' for the equation solver would you program?

I take it that you passed the exam first try?

Thanks again for your comments!

Paul

Re: HP33 programs?

*Message #4 Posted by **Ron Ross** on 4 Jan 2006, 10:38 a.m.,*
in response to message #3 by paul c

I took the Power portion as that is what I now practice. I debated long and hard on which I should take. I have a much longer history with controls (but no formal eductation), and a wife who is a Comp Sci weiny and had a fair grasp of the Computer section. I settled on Power because that would lend me the most status in my present position.

You don't have to decide until the exam is passed out and you choose at that time. They give you ALL three exams in the same booklet in the afternoon, you choose the one you like best. Ideally, you have studied for one and just go after that. As for myself, I had decided to concentrate on the Power portion, but I still looked at the other two exams and contemplated a last minute switch (and probably for the best that I did not).

You are NOT going to be presented with any HIGHLY theoretical problems. If you are spending more than 5 minutes getting set up for a problem, you are doing it Wrong! (there may well be a 10 minute problem or two on the exam, but skip them, most are 5 minute problems and no ONE problem counts more than the next). There were 2 or maybe 3 FFT problems (of which I probably missed all three,

though they were concept problems, not hard if you were sharp and know your FFT's) and maybe 2 or 3 EM problems (these were fairly easy).

I found a Schaum's on Power and another on EE, both of which were helpful for study. I also referenced them on a few problems.

Ideally (which isn't likely) you would buzz through the exam, only referencing the NEC code book on the few (3-5) questions on the NEC. However, the exam is so broad (the mornig exam is supposed to be broad, but even the afternoon exam has quite a bit of lateral material covered as well), that you should take an assortment of books. I took about 10. 3 handbooks, 2 or 3 texts, 2 or 3 Schaum's, 1 FE/EIT afternoon Electrical Exam practice book (found at Barnes & Noble), and the NCEES practice exam book (amazingly, it is very similar as they say, and it shows a sample exam of each electrical discipline as well).

As far as programming that miserable Hp33s, I did not bother. I did learn how to use its solver and its numerical integration features, both of which I did use on the exam. But I could have made use of the cheaper Casio Fx-115 just as easily.

While you could stuff a bunch of programs into the Hp33s, its retrieval system is awkward for any large amount of programs and you would best be sereved by learning a few extra new things and reviewing old rusty concepts you may have forgotten. And since you might damage or break the calculator and there being no way to archive or back up short of keying in one key at a time a program into a new calculator should the worst happen, I say forget about it!

Since the book shows how to program a 3x3 (which I feel is also worthless), I didn't bother to put anything in. (I probably had 3-4 equations for the solver).

Good luck! I am sure there are other's on this site who can also give you advice on this exam (there certainly are others far more knowledgable on this site).

Re: HP33 programs?

*Message #5 Posted by **paul c** on 4 Jan 2006, 12:04 p.m.,*
in response to message #4 by Ron Ross

Thanks again Ross for the additional insight.

In working the sample exams, I am working all three depth modules--because I figure regardless of which I take, some of the material is likely to be on the breadth portion anyway.

I will most definitely choose between the computer and electronics modules-- power is out of the question for me. Curious about what the FFT problems were like--if you recall. I've written a few of those so I may be OK on that part at least :).

I've been able to identify a couple of rough areas that I will be trying to bone-up on--transistors and motors/generators. Other than these two areas, most of what I learned 20+ yrs ago is coming back to me ok.

I'll quit worrying about programming the HP33 for now and look forward to getting back to the Hp48 after all is over with the PE exam.

Best regards,

Paul

Re: HP33 programs?

*Message #6 Posted by **brian healy** on 4 Jan 2006, 12:18 p.m.,*
in response to message #2 by Ron Ross

Ron,

What is the deal with pencil marks? I took the structures PE test back in 1997, and don't remember an issue with pencil marks. Just curious.

Way back then, the NCEES didn't have their wonderful calculator policy, so bringing my 32sII was ok, and so was my 11c as a backup. It's interesting that the 33s is ok, but the 32sII is not.

Re: HP33 programs?

*Message #7 Posted by **Ron Ross** on 4 Jan 2006, 12:42 p.m.,*
in response to message #6 by brian healy

The calculator policy and the pencil marks go hand in hand.

The NCEES has become so paranoid about cheating and removing exam questions from the site that they now restrict calculators to single letter variables (AT MOST, hench the upper limit is the Hp33s) and to simplify the adherance to this policy, only six calculator models are allowed. The proctors are given a sheet with pictures of the six calculators allowed, if yours doesn't look like one of the pictured calculators, you are not allowed to continue with the exam.

The pencil policy is such that you are not allowed to bring in a pencil (or any writing instrument). They furnish that. You are only allowed to write on the exam and scratch paper (I'm not sure about the scratch paper, you may be restricted to your test booklet). Either way, they then casually watch for anyone writing anywhere else. If you are found with pencil notes anywhere but in your work book, it is then assumed you wrote a note to take out of the exam ie the pencil marks in an old text. You will be kicked out unless it is obvious that the marks where there before the exam (hench the highlighter option).

Is it fair? Probably not. But the NCEES makes the rules and if you want to play the game, you don't have much choice. Gripe and Bi@%# all you want, but it will not affect their policies as far as I can see. The one concilation is that everyone has the same rules and playing field on today's exam. That earlier engineers had the use of fancier calculators may not be fair to you today, well, life aint always fair, is it?

I admit, I griped and whined too. But I managed to pass, so I suspect anyone with adequit preparation should be able to also.

Re: HP33 programs?

*Message #8 Posted by **Norris** on 4 Jan 2006, 1:14 p.m.,*
in response to message #7 by Ron Ross

There were only six NCEES-approved calculator models in 2005, but there are now nine NCEES-approved models for 2006. The HP-9S, -30S, and 33S are among them. Many other calcs, like the 11C or 32SII, would be acceptable from a security standpoint, but NCEES wants to keep the list of approved models short, to keep it simple for the exam proctors. They don't want to bother with calculator models that were discontinued years ago.

As indicated in another post, the "pencil mark" rule does not come from NCEES, and is not enforced nationally. Some state boards do have this policy, but others do not.

The idea is apparently to prevent examinees from copying down exam questions in reference books. Since you are not allowed to have pens or highlighters in the exam room, any notes in ink were presumably written before the exam, which is OK. But notes in pencil could have been copied during the exam, and are suspect.

Edited: 4 Jan 2006, 1:16 p.m.

Re: HP33 programs?

*Message #9 Posted by **GE** on 5 Jan 2006, 3:59 a.m.,*
in response to message #8 by Norris

This is amazing. Let's try to see if this works :
METHOD 1
step 1 : use your highlighter on blank spaces in your book - OK since nothing is written there
step 2 : use the NCEES-approved pencil to write down exam questions in the aforementioned areas
The result ? You abide by the rules, your writings are supposed to have been there in the first place, and you walk away with exam questions neatly written in your book (better use some form of code anyway).

METHOD 2 :
step 1 : find a dozen friends and assign different numbers to each
step 2 : each member remembers the question by her numbers
step 3 : walk away, and write down questions outside
Does this work ? I would expect NCEES people to brainwash everybody after the exam to fight this. Would be bad if they also erase the knowledge they expect you have of the subject.
While I HATE cheating (any flavor), all this seems to be such a waste of time.

Re: HP33 programs?

*Message #10 Posted by **Ron Ross** on 5 Jan 2006, 9:28 a.m.,*
in response to message #9 by GE

Great minds think alike.

Some Jack ASS in California is responsible for all this paranoia. That is why graphics calculators with I/O are no longer allowed.

The tests are to be taken by Engineers of good character. Cheating of any form is an immediate reason for dismissal. The PE exam is not supposed to be taken until at least four years of experience (both technical and ethical) are gained.

This test is to confirm a minimum competency. And if someone cheats on this exam or helps others to cheat on this exam could lead to drastic consequences in this area of engineering (for the public). The license is granted to the engineer to entrust him/her with public safety. Many engineers work fine without the license, you don’t need this license to be an engineer, unless you practice engineering on your own and for the public.

Therefore a cheat is potentially exposing the public (should he/she ever be in charge of a project that needs a PE seal) to undue hazard (there is always some risk, the PE is deemed competent by the State of licensure to be qualified to assess and minimize design risk and eliminate hazards).

I admit the fine line between competent and incompetent is hard to measure. In 1992 I took an NEC exam and only received a 69 (one point below passing). I hadn't taken the exam as seriously as I should have and immediately changed my methods and re-took the exam as soon as I was able. Was I extremely more competent 6 months later? No, not extremely more competent, but I was more competent and passed with a much higher score. I didn't need a lucky break to pass vs if I had received a 70, I wouldn't have invested that extra effort and corrected some of my own flaws.

My point is, that although the NCEES may be highly overeactive, and so many engineers of good character take this exam, it is a shame that some of lesser character ruin or make reason for these rules.

Re: HP33 programs?

*Message #11 Posted by **Wayne Brown** on 5 Jan 2006, 11:32 a.m.,*
in response to message #9 by GE

Here's what I wish I could do: Get people with photographic memories to take the various exams, have them write down exact copies of all the exams afterward, and post them anonymously on the Internet. That would force the NCEES (at great expense and inconvenience) to throw out all the old test questions and come up with completely new exams. Perhaps that would be a little payback for all the expense and inconvenience of people who've had to replace perfectly good HP calculators with inferior models for these tests.

Re: HP33 programs?

*Message #12 Posted by **Ron Ross** on 5 Jan 2006, 12:04 p.m.,*
in response to message #11 by Wayne Brown

And that great group would go the effort to make a completely new, but equal exam?

Tests (good tests) tend to evolve. That is why these testing agencies try to re-use older exams (although they should damn well change the values, etc). A completely new question may be such that 99% of all applicants either answer it correctly or miss it entirely. Is that a fair question on such a test (if the test group is normal, that is). That is the main reason the NCEES doesn't want to introduce new questions for every exam. Making up a new test is costly, but it may also be statistacly irrevelent if the intended audience cannot achieve the same passing rates as prior testees (or everyone passes, including many who shouldn't).

That is the big gamble you would then introduce into the system should you succeed with your plan.

Re: HP33 programs?

*Message #13 Posted by **brian healy** on 5 Jan 2006, 9:17 a.m.,*
in response to message #7 by Ron Ross

After reading all of the posts in this thread, all I can say is that I'm glad that I took the test (and passed) back in the old days of 1997. Maybe NCEES should ban all calculators and only allow slide rules or an abacus.

Re: HP33 programs?

*Message #14 Posted by **Norris** on 4 Jan 2006, 12:52 p.m.,*
in response to message #1 by paul c

A few comments on the 33S and the PE exam:

(1) You can buy commercial 33S software for the Electrical PE exam at newcalc.com. Cost is $79 for software alone (you provide the 33S and enter everything manually), or $195 for a pre-programmed 33S.

(2) The value of such software on the PE exam may be questioned. In my experience (with the Civil exam), most PE exam problems are not difficult to solve mathematically; the challenge is simply to recognize and apply the appropriate equations. I have put a few programs in my 33S, but they are primarily simple, commonly-used functions for convenience (e.g. area of a circle, coefficient of lateral earth pressure).

(3) The "no pencil mark" rule does exist, but only in certain states; it is not an NCEES rule, and is not required nationally. Some state boards currently have this rule (e.g. Texas), while others do not (e.g. California).

But even if your state allows pencil marks, it's probably best to use ink, because your state board or NCEES could change their policies in the future. I use only ink, even though I am in California, where pencil marks are currently allowed.

OT: but "HP33 programs?" related

*Message #15 Posted by **Ed Look** on 6 Jan 2006, 10:40 a.m.,*
in response to message #14 by Norris

I really have no business in this thread and others like it and I normally just read them as there are intelligent ideas of all kinds.

But I noticed at the newcalc.com site that in their photo of their 33S, an alpha(betic)numeric name/label/message is displayed.

I wasn't aware that can be done with the 33S (a la 48 or 49 series calcs)!

How DOES one enter an alphanumeric string? I'd really appreciate knowing how to do that.

Edited: 6 Jan 2006, 10:41 a.m.

Re: OT: but "HP33 programs?" related

*Message #16 Posted by **bill platt** on 6 Jan 2006, 11:03 a.m.,*
in response to message #15 by Ed Look

Hi Ed,

It is easy to put alphanumerics into not only the 33s, but the 32sii as well. If you are in a program, you set the appropriate flag (10) to treat the equation as a message. You use STO {A...Z} or RCL {A...Z} to put the alpha characters into the equation--the same way that you use when you write an equation for evaluation.

You can also put dummy equations into the equation list--to act as title headings. In this case, there is no flag required. (The example at newcalc appears to be this latter case).

The 32sii had a lot of interesting ideas--this one included--that could never really be taken advantage of because of the pitifully small memory.

The 33s is much better than the 32sii in this respect. Really worth it--if you want to have a machine

that you can program without erasing everything first.

Edited: 6 Jan 2006, 11:06 a.m.

Re: OT: but "HP33 programs?" related

*Message #17 Posted by **Ed Look** on 6 Jan 2006, 2:34 p.m.,*
in response to message #16 by bill platt

Hey Bill!

Thanks!

Is this in the 33S manual? I didn't see it, but I'll have to also admit that I did not comb it deeply like I used to when I used the 34C in college.

If this is in the 32SII manual, then I figure I should have seen it there, too, for as it turns out, they are really the same manual, just about. But I did look there when I couldn't find it in the 33S manual.

Maybe I just missed it; I'm definitely going to check it tonight or this weekend!

Re: HP33 programs -- alphanumeric strings in EQNs

*Message #18 Posted by **Paul Brogger** on 6 Jan 2006, 2:32 p.m.,*
in response to message #15 by Ed Look

While programming, enter EQN mode.

To enter a letter, while in EQN mode, type (for example) RCL A (that is, **RCL** key, then **e^x** key).

The equation editor is pretty primitive, but you can get some usable text in this way.

To keep the equations from being evaluated in normal execution, I test Flag 10.

I comment the beginning of all my programs this way. So, for example, my vector cross-product routine starts with:

```
X0001  LBL X
X0002  FS? 10
X0003  VECT X PROD          (eqn)
X0004  ...
```

If Flag 10 is set, the equation is displayed. If clear, the equation is bypassed.

Enjoy.

Re: HP33 programs?

*Message #19 Posted by **Jeff O.** on 4 Jan 2006, 1:02 p.m.,*
in response to message #1 by paul c

Paul,
Regarding the thread about converting programs for use on the 33S, the original poster was our friend Valentin Albillo. Sadly, the conclusion seems to have been that the emulator could not be provided to Mr. Albillo, so no programs were converted for use on the 33S.

Regarding the exam itself, I see that Ron and Norris have provided a lot of good advice. The format and process has changed a bit since I went through it *a few* years ago. I had the luxury of taking a 15C, 29C and 45 into the test with me. One thing I'll point out regarding seeking and giving advice, the NCEES (of course) has rules regarding what information a veteran of the test can give to a potential test-taker. For example in this document available at the NCEES web site under the heading **Examination Irregularities**, the following statement is made:

> Quote:
>
> Irregular behavior includes....possessing, reproducing, or **disclosing** exam questions, answers, or **other information** regarding the content of the examination without authorization before, during, or after the exam administration.

Not sure where the line is regarding how much a veteran can say, but based on their calculator policy, my guess would be it might seem pretty restrictive to most people. I don't see how Ron or Norris could have crossed that line with their responses, but it is something to consider.
Best regards and good luck on your exam!
Jeff

Re: HP33 programs?

*Message #20 Posted by **Norris** on 4 Jan 2006, 3:33 p.m.,*
in response to message #19 by Jeff O.

I am a veteran of the NCEES FE exam, two California-specific Civil PE supplemental exams, and three California PG (geologist) exams. However, I have not yet taken the NCEES Civil PE exam; I plan to do so in April 2006.

Since I have never taken an NCEES PE exam, I am not in a position to disclose any inappropriate information. My comments are based on my experiences with the publicly-available NCEES Civil PE sample exam and PPI review materials.

Re: HP33 programs?

*Message #21 Posted by **paul c** on 4 Jan 2006, 4:02 p.m.,*
in response to message #19 by Jeff O.

Indeed, lots of good advice and responses here. Thanks to all who took the time.

I didn't see anything about pencil markings on the document you linked to, nor have I seen anything on my state's (AL) website that would suggest it is not allowed. However, better safe than sorry.

Reading their rules--THIS should be the definition of ANAL in the dictionary. I can't see what the big deal is about bringing an eraser or your own pencil--or even a chair! Why on earth they have these crazy restrictions is beyond logic--but like was said above-- gotta play by their rules so b#tching about it is a waste of time.

I'm going to do my darnedest to pass the first time! Any advice that ll help me to that end I APPRECIATE.

Thanks again everyone!

Paul

Re: HP33 programs?

*Message #22 Posted by **Norris** on 4 Jan 2006, 6:17 p.m.,*
in response to message #21 by paul c

My favorite rule is the California Board's ban on digital watches. You can bring a watch -- and it's a very good idea to do so, because the exam rooms may or may not have visible clocks -- but it absolutely *has* to be analog.

Yet strangely, the California Board is much more relaxed than NCEES about calculators. California still allows any non-QWERTY calculator (HP41C, HP42S, HP48, TI89, etc.) on state-specific (non-NCEES) PE and PLS exams. They only enforce the NCEES calculator rules on NCEES exams. So it is still possible to become a PE in California in certain disciplines (e.g. traffic or geotechnical) with an HP48.

California's casual attitude toward calculators is even more remarkable when you consider that the California Board actually caught an examinee with a graphing calculator that was modified to contain a built-in scanner.

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97 key lettering wearing off?

*Message #1 Posted by **Hal** on 3 Jan 2006, 11:57 p.m.*

Hi Folks,
The seller of this 97 says the lettering is starting to wear off of the enter key. I thought these keys were injection moulded, meaning the lettering went all the way through the key.
Comments anyone?
http://cgi.ebay.com/HP-97-Programmable-Calculator-Adapter-Charger-Battery_W0QQitemZ5848417344QQcategoryZ58039QQssPageNameZWDVWQQrdZ1QQcmdZViewItem
Thanks, Hal

Re: 97 key lettering wearing off?

*Message #2 Posted by **David Ramsey** on 4 Jan 2006, 12:10 a.m.,*
in response to message #1 by Hal

You're correct; the key lettering can't wear off. I've seen 97s where the "Enter" key was noticeably worn down in the center from being used so much, and the lettering was clear. I imagine the key is simply dirty.

Re: 97 key lettering wearing off?

*Message #3 Posted by **David Smith** on 4 Jan 2006, 12:56 a.m.,*
in response to message #2 by David Ramsey

Actually, it can wear down... or at least appear to do so. I have had to fix several HP97 keyboards where the white part of the keys (mainly the right hand keys) has deteriorated. I flood the key with a white paint and remove the excess with a cloth and some white gas.

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Help with non-functioning HP-9825

*Message #1 Posted by **Bill (Smithville, NJ)** on 3 Jan 2006, 6:06 p.m.*

I just picked up a clean HP-9825 - but of course it doesn't work. The fan runs, the keyboard shift key lights, there are lights in the tape drive slot, but the display remains blank.

I'd appreciate any direction on where I should start. I have the Museum DVD and it has the 9825B service manual - I'll be printing it out later this weekend. But just wondering if there were obvious places I should start with first.

The unit says 9825B on the outside cover and 9825B inside the flip up cover over the printer, but also says it has 61670 bytes of memory. Does that make it a 9825T or just a B with more memory.

It also came with several tapes, but I'm assuming that I would probally need to rebuild the tape drive before attempting to use them (of course only after I get the basic opertion working first before playing around with the tape mechanism.

Thanks for your help. It should make for a fun winter project.

Bill

Re: Help with non-functioning HP-9825

*Message #2 Posted by **Tony Duell** on 4 Jan 2006, 6:18 a.m.,*
in response to message #1 by Bill (Smithville, NJ)

IIRC the HP9825 service manual is a boardswapper guide with no real troubleshooting info. You can get 'my' schematics either on the HPCC CD-ROM or from the Australian Site. I can't remeber exactly which version I covered, but I think all the boards will be included.

I would start by checking the PSU voltages, then check the processor clock (be warned, this circuit is somewhat unconventional, there is 'jitter' on the processor clock to reduce RFI emissions), then look for activity on the processor bus.

Re: Help with non-functioning HP-9825

*Message #3 Posted by **Bill (Smithville, NJ)** on 5 Jan 2006, 7:12 a.m.,*
in response to message #2 by Tony Duell

Hi Tony,

Thanks for the info. I think I do have the HPCC CDROM's somewhere, so I'll look up your schematics.

I'll have to get a friend to help me out with checking the clock. I don't have the test equipment, but he does.

Thanks,

Bill

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HP34C Fault

*Message #1 Posted by **Mike T.** on 3 Jan 2006, 4:52 p.m.*

At the start of the Christmas break I took the opportunity to swap cases/boards in my HP33C and HP34C. Fortified with the knowledge I'd gathered from this forum and heedful of the warnings I'd seen I approached this task very carefully and with some trepidation.

In the case of the HP33C I only had the case from my original unit which had died about 20 years ago, it had been of sandwich construction and had become so umrelaiable as to be totally unusable. I did try to solder the chips to the circuit board to rectify things but with no knowledge on how vunerable NMOS was to anti static damage it was almost enevitable that it never worked again. This time I made sure I used an anti-static mat, wrist strap etc!

I'd kept the case in the hope that one day I would be able to obtain another well worn HP33C second hand to be able to use to 'repair' mine. Thanks to the assistance of others on this forum I was able to do so and having swapped the cases I now have a very nice clean unit, which is back where it belongs - in my breifcase.

My HP34C was however rather well worn and had started to look a little sad, and though it still functioned perfectly well I obtained another better looking unit as a spare, just in case. I found that this unit though in very good cosmetic condition was also showing signs of its age and in particular the keyboard action was not quite as crisp or positive as my older unit.

So having successfully swapped the cases of the HP33C I decided to do the same with the HP34C. On opening up the units I discovered that someone had lovingly and very carefully carried out some quite extensive repair and restoration work on the spare unit I had aquired to restore it to working order. I expect this machine though well looked after had been quite heavily used which explains why the key action on some keys didn't feel as positive or as crisp as my other machine - though they are both of the sandwich type construction.

Again I successfully swapped over the cases and how have a very nice HP34C on my desk at home (it is just too complicated, and heavy to carry round with me!).

No problems thus far, however, in the last couple of days the donor machine seems to have developed a faulty contact somewhere that prevents the B, GTO, ENTER, -, +, X and / keys from working.

The affected keys are all obviously all in the the same collumn so I'm proabably looking for just one bad contact somewhere. I know it works as it still passes it's self test - but only if I push the processor chip against the circuit board quite hard.

One thing I did notice was that the donor machine had thin rubber(?) membrane over the key contacts while my original did not. I kept the membrane with that front panel when reassembling the machines and as as a result the donor system is now in my old case without a membrane covering the keyboard contacts. I suspect that this _might_ be the reason why it has stopped working properly.

I have two questions -

Does anyone know what the membrane is made of and how thick it is..?

Where should I look for the faulty contact?

Thank you

Mike T.

Re: HP34C Fault

*Message #2 Posted by **Tony Duell** on 4 Jan 2006, 6:24 a.m.,*
in response to message #1 by Mike T.

As you correctly guessed, those keys are all one column. The keyboard rows and columns go to pins on the 40 pin processor chip, so I would suspect a bad contact there first. If you're _very_ unlucky, it'll be a problem in the keyboard flexible PCB where it's wrapped round the metal plate, but I've never had this.

You might want to get the HPCC schematics CD-ROM (or ask Dave Colver nicely for the appropriate diagrams). This disk contains a reverse-engineered schematic for the 33C. All -C spices have essentially the same schematic (different chips, and different keyboard buttons...), so this will be useful to you in finding just which pin of the processor corresponds to that column.

Re: HP34C Fault

*Message #3 Posted by **Mike T.** on 5 Jan 2006, 8:19 a.m.,*
in response to message #2 by Tony Duell

The processor chip has been soldered on to the circuit board (obviously to overcome the intermittent contact problems that my original HP33C suffered from). Before I risk making things worse by prodding about to see if any if I can find any dry or cracked joints I'd like to know if the problem could be a connection lose between the two layers on the keyboard side...?

Does anyone know how to I get hold of HPCC schematics CD-ROM?

Thanks.

Mike T.

HPCC Schematics CD-ROM

*Message #4 Posted by **Tony Duell** on 6 Jan 2006, 6:21 a.m.,*
in response to message #3 by Mike T.

To get the above, send e-mail to secretary@hpcc.org, and he will tell you how much (and how) to pay, etc. I think it's mentioned somewhere on the HPCC web site too.

Re: HPCC Schematics CD-ROM

*Message #5 Posted by **Mike T.** on 6 Jan 2006, 12:53 p.m.,*
in response to message #4 by Tony Duell

Thank you..

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TI-89/Voyage 200: worthy successors to the HP-71B ?

*Message #1 Posted by **Vincent Weber** on 3 Jan 2006, 4:36 a.m.*

Hi all,

I recently got the opportunity to play with a TI-89 and a TI Voyage 200, and especially to have a closer look at TI-basic.

I was pleasantly surprised to see how powerful and simple to use this basic is, and then I had another look at Valentin Albillo's interesting pages on the HP-71B basic/math rom.

Well, the two systems seem to have a lot in commun! And I thought that, for those who legitimately regret the death of the fabulous Titan, buying a TI-89 titanium or a Voyage 200 may be an option worth considering.

TI-basic, just like the basic of the HP-71B, allows user-defined functions which can operate on several data types, seemless integration of matrixes/complex numbers, full recursion, and local variables. I have to admit that it is much simpler to use than UserRPL, and, unlike UserRPL, you do have simple ways to break a loop (Cycle/Return).

Looking at Valentin's pages, it seemed to me that programs could be ported from the HP-71B to the TI-89/Voyage 200 with some adpatation, but not a complete re-writing, like it would be to port them to the 48/49 RPL family.

Compared to the HP-71B:

- You don't have a qwerty keyboard (well, you have in the Voyage 200, even if it is somewhat bulky) with BASIC keywords shortcuts, but you have an efficient menu system to key in BASIC statement fast,

- You don't have module expandability, but plenty of flash memory to download third-party applications,

- You don't have an HP-IL to control a plotter, but you have a graphic screen, which allows easy matrix edition, spreadsheet computation (Cellsheet), and also allows several BASIC lines to be seen at once. One of the major acknwoledged drawback of the HP-71B was the single-line display.

- You don't really have the equivalent of Lex files, but you have access to 68K assembly development, which can expand the calculator functionality greatly.

All in all, I apologize for praising TI on a HP forum, but I found TI-89/Voyage 200 a pleasure to use, with comparable power to the HP-49, but easier to use, especially to those who prefer BASIC to RPL. And they are sold today... The Voyage 200 is bulkier than the HP-71B, but the TI-89 (Titanium) fits in a much smaller package !

My 2 cents,

Vincent

Re: TI-89/Voyage 200: worthy successors to the HP-71B ?

*Message #2 Posted by **Garth Wilson** on 3 Jan 2006, 5:22 a.m.,*
in response to message #1 by Vincent Weber

I see the TI more as a supercalculator (all one word), whereas the HP-71 is more of a hand-held computer. The 71 is not that practical as a calculator. For a calculator, I usually use my 41. I have used both the 41 and 71 however to control a lot of professional laboratory equipment. Without that capability, the TI and most other HPs are just calculators. That's all.

I have never had much use for a graphic LCD, but I do have the 80-column video adapter, and have used the Thinkjet printer with the 71 to print graphs I needed to keep on file.

Re: TI-89/Voyage 200: worthy successors to the HP-71B ?

*Message #3 Posted by **hugh steers** on 3 Jan 2006, 12:01 p.m.,*
in response to message #2 by Garth Wilson

hi guys,

did hp ever consider re-making the 71b into a handheld a bit like they (sort of) remade the 41c into the 42s? 71b basic is indeed very nice, and it makes a good alternative for those not wanting to battle with rpl.

call this the 72s. it would be pioneer form factor but with a 2 line display, 16k ram plus some 71b roms preloaded (eg math rom) and maybe a tad faster. it would have a re-implemented "calc" mode that makes it functional as a regular calculator. the rest would be the same.

this would have been easy and could have been on sale a decade before ti. its almost still worth doing.

any comments?

Edited: 3 Jan 2006, 12:01 p.m.

Re: TI-89/Voyage 200: worthy successors to the HP-71B ?

*Message #4 Posted by **Howard Owen** on 3 Jan 2006, 12:37 p.m.,*
in response to message #3 by hugh steers

I doubt that 71B BASIC, as nice as it was for the time, would be competitive in a modern calculating device. But an updated BASIC upwardly compatible with the 71B would be cool. It's not like there's a huge library of stuff for the 71B, but there are one or two nice things. And some of the ROMs are very nice indeed.

I think it's amusing that everyone has such divergent ideas on what would constitute the "ideal" calculator. It's the strength, as well as the curse of software that it is not fixed in place like physical things. It occupies a partly platonic realm between idea and matter. So people can let their imaginations roam. That's wonderful for coming up with new ideas for this or that, and we've all seen the benefits and drawbacks of that facility. But another downside is that it can be very tough to provide certain products when the users can imagine so many different "ideal" machines.

I somehow can't create an account over at OpenRPN so I can join their discussions, but I'm hoping that the "Open" means you can implement a variety of operating systems on their hardware. I know they are looking at LUA as a systems language. That's very extensible and flexible. It would be nice to have the software platform wide open so others could implement their dream machines on the hardware.

Regards,
Howard

Re: TI-89/Voyage 200: worthy successors to the HP-71B ?

*Message #5 Posted by **Ron Ross** on 3 Jan 2006, 12:47 p.m.,*
in response to message #3 by hugh steers

Hp95lx, Hp100Lx, Hp200Lx and then spiraling downward from there.

These machines lack an Hp-IB interface, but had an RS-232 port and lots of other enhancements that made them an equal (or better) in many ways over the older Hp71B. Especially the step from the Hp95Lx to the Hp100Lx. The Hp100Lx was truly a portable PC with the customability of a small PC. It was DOS based and also had a built in spreadsheet and a built in Hp19B calculator with the spreadsheet tie in.

I feel the quality wasn't quite as good as an Hp71B, but these palmtops were quite capable and still well made.

From a controls aspect I suspect there is a wealth of interface capabilities for the Hp71B, but DOS based controls are also plentiful and RS-232 based hardware is going to be a lot cheaper and easier to acquire.

Re: TI-89/Voyage 200: worthy successors to the HP-71B ?

*Message #6 Posted by **Garth Wilson** on 3 Jan 2006, 4:52 p.m.,*
in response to message #5 by Ron Ross

> Quote:
>
> did hp ever consider re-making the 71b into a handheld a bit like they (sort of) remade the 41c into the 42s?

Although the form factor of my 41 is nice, I was glad for the 2/3 size QUERTY keyboard of the 71. I did an awful lot of typing on it at 30wpm in the 1980's and decided I better take it easy when they discontinued the 71 and wearing out the keyboard would have presented a bad situation. Using a lot of LEX files I was able to write a really nice text editor that was optimized for the small display. An important ingredient was to make it so this tiny window could be moved nimbly around your work.

A keyboard I have no experience with but looks like an ideal, fast, small, one-hand alternative to the QWERTY keyboard is the FrogPad, which you can see at www.frogpad.com . I'd like to see that become somewhat of a standard (although not at FrogPad's high prices). They say that with practice, you can get to 40+ wpm on it.

> Quote:
>
> 16k ram plus some

The 71 came with 17K of RAM, but many owners added many times that much. I have an additional 160KB in mine, and would have gone for more if it fit within my budget at the time.

> Quote:
>
> it would have a re-implemented "calc" mode that makes it functional as a regular calculator.

The 71 did have a calc mode, but I didn't like the way it worked. So the few times I have used the

71 as a calculator, I just left it in BASIC command-line mode.

> Quote:
>
> But an updated BASIC upwardly compatible with the 71B would be cool

That was one of the great things about the 71-- the BASIC could be expanded by the user. I have a load of LEX files adding somewhere near 200 new keywords and features or extending the ones in the "mainframe", but I never did get the module (or LEX file) that gave things like the multi-line CASE statement.

> Quote:
>
> I think it's amusing that everyone has such divergent ideas on what would constitute the "ideal" calculator. It's the strength, as well as the curse of software that it is not fixed in place like physical things.

The 71 did basically allow for this on the software side, although there wasn't much you could do with the display unless you connected an external monitor (which I have but seldom use). I did write routines in Forth to display two lines in the LCD using only four dots' height per line and no space between, but did not do much to integrate it into other parts of the software to make it more practical. I had 2x33 and 2x44, vertically scrolling.

I have HP's Forth/Assembler module and used the Forth quite a bit. The ironic thing is that although the 71's BASIC is the best I've ever seen (IMO much better in some ways than their Rocky Mount BASIC which I also used on bigger HP computers), their Forth is the worst I've ever seen. Fortunately, since it's Forth, I was able to speed up a lot of things and extend it.

> Quote:
>
> From a controls aspect I suspect there is a wealth of interface capabilities for the Hp71B, but DOS based controls are also plentiful and RS-232 based hardware is going to be a lot cheaper and easier to acquire.

The RS-232 lab equipment is a bit cheaper than HPIB, but there's not much available in RS-232. I do use RS-232 on the workbench (and have the FSI dual RS232/HPIL interface), but the major disadvantage with RS-232 is that you need a separate interface for each piece of equipment you want to connect to because there's no loop like HPIL or star connection system like HPIB has. Most HP hand-held users apparently don't realize that with the 82169A HPIL/HPIB interface converter, there are hundreds, if not thousands, of models of professional laboratory equipment that can be connected to an HP-41 or HP-71.

I expect that the ability to display more at once is on everyone's wishlist. With the tape drive, the disc drive, and large 3rd-party memory modules, I'm sure very few people used the 71's card reader. That space would have been better spent on a longer LCD. And speaking of LCDs, virtually all the off-the-shelf intelligent character modules start at 5mm character height. Why so big? Did you ever see a newspaper or magazine use such big characters for their normal text? No. Going to something even slightly smaller would have easily given two lines (and longer ones to boot) in the same amount of space.

Another thing I would have liked in the 71 would be a more mainstream processor. Of course at the time the way HP did it made sense. They wanted to minimize power use while maximizing the floating-point math performance using existing technology.

Although few people filled their 71's memory map, current low memory prices would warrant a much bigger memory-- not for bloated programs, but for data.

I think openRPN mostly has the right idea.

Re: TI-89/Voyage 200: worthy successors to the HP-71B ?

*Message #7 Posted by **Howard Owen** on 3 Jan 2006, 5:49 p.m.,*
in response to message #6 by Garth Wilson

> Quote:
>
> Quote:But an updated BASIC upwardly compatible with the 71B would be cool
>
> That was one of the great things about the 71-- the BASIC could be expanded by the user. I have a load of LEX files adding somewhere near 200 new keywords and features or extending the ones in the "mainframe", but I never did get the module (or LEX file) that gave things like the multi-line CASE statement.

The JPC ROM adds a multiline SELECT/CASE statement, plus lots of other good stuff. I've only used it in JF Garnier's and HrastProgrammer's emulators, though. It ought to be possible to extract the code from the ROM image into a free-standing LEX file. But the RAM requirements would be steep.

Anyhow, with that ROM, the 71B's BASIC really does start to rival RMB, in my estimation. Otherwise, the lack of long variable names and real control structures takes it a couple of notches below that, again in my opinion. Still, I do have fun coding on the little guy.

> Quote:
>
> I expect that the ability to display more at once is on everyone's wishlist. With the tape drive, the disc drive, and large 3rd-party memory modules, I'm sure very few people used the 71's card reader. That space would have been better spent on a longer LCD.

I have some developer docs for the 71B that carry a cover letter from HP stating that the code documented is now available on cassette tape, since you told us you don't want cards. I think very few of the card readers were sold. They are relatively rare on the market now, and I suspect that's why.

A modern BASIC handheld calculator could choose from a variety of display sizes. The TI92+ (and the Voyager, which I do not own) has a whopping big one, as do the high end graphing from the other manufacturers. Something smaller might be nice for a calculator form factor, though.

But I use my HP-IL ISA card and HP's HPILLINK software when I want to do real work on the 71B. It has its drawbacks, but "LIST" isn't a cruel joke at 80x40. 8) And as nice as the 71's keyboard is, my workstation keyboard is way better.

> Quote:
>
> I think openRPN mostly has the right idea.

I think so too. I wish them all the best.

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paper clips & broken Spice battery terminals ....

*Message #1 Posted by **erik** on 2 Jan 2006, 5:02 p.m.*

Hi, all ... once again into the breach, this time regarding the Spice series. I've got nine of them that either have one or both of the battery terminals broken off. I myself am not interested in repairing them, I just want to see if the wee things still work. I'm thinking of getting a two-AA battery holder from Radio Shack, attaching some alligator clips to the leads, poking a paper clip into the rivet hole of the broken terminal, attaching the clips to the paper clip and seeing what happens. Does that sound like a promising idea?

I'm also curious as to what it was with the Spice series that caused these battery terminal problems. Seems to have been a not uncommon occurance with the series.

In other news, I fired up my HP-19C and it came to life brilliantly, with even the printer working and printing with no muss no fuss. OTOH, I have an absolutely pristine HP-10 (sans battery cover, drat) that I can't get an ounce of life out of; I find this very distressing, because something as graceful-looking as the HP-10 should never ever die. Bummer.

Anyway, thanks for any further help anyone might care to offer.

erik

Re: paper clips & broken Spice battery terminals ....

*Message #2 Posted by **db (martinez, ca.)** on 2 Jan 2006, 6:38 p.m.,*
in response to message #1 by erik

Use aluminum foil and regular batteries. Don't reverse the polarity. It was another example of bad design; a springy but corrodable metal that was badly plated with chrome or something. The batteries leak, get into cracks in the plating, and there goes the spring. A stainless clip would have worked better. They needed a real door too.

Folks left the batteries in for 3 reasons:
1) So the battery door wouldn't fall off.
2)So they wouldn't loose the special hp battery pack that they were meaning to rebuild someday.
3)Lazyness.

The "budget" RPN manufactures like Corvus and Privileg had positive doors and used off-the-shelf AA cells so one did not have to leave bad batteries in the unit.

Re: paper clips & broken Spice battery terminals ....

*Message #3 Posted by **Jan** on 3 Jan 2006, 6:55 a.m.,*
in response to message #1 by erik

Hi Erik,

You can also try to weld some new metal springs made of parts of a paperclip to the connection points. I did

that years ago on my HP-34C and it has been working ever since until the present day. The 34C was my first HP calculator (bought in 1983) and I have used it quite intensively during my highschool years and later on at university. One original spring came off after 5 years of rough treatment by a youngster, but this was easily fixed in the way mentioned above here.

regards Jan

Re: paper clips & broken Spice battery terminals ....

*Message #4 Posted by **Doug T.** on 3 Jan 2006, 8:52 p.m.,*
in response to message #1 by erik

Hi Erik,

Although it sounds like you're not up for repairing them yourself, some folks may not be aware of Katie's great fix for busted Spice battery terminals:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv007.cgi?read=14438#14438

I've revived a BUNCH of Spice units this way, and it works great. Which reminds me, I need to order some more of those teeny-weeny screws & nuts from Small Parts.

Regarding your proposed testing procedure, it should work fine - just watch the polarity, naturally. Hopefully the problems with your calcs are limited to broken terminals, and not caused by corroded flex connectors or other nasty, difficult-to-repair internal damage.

Good luck,

Doug

Re: paper clips & broken Spice battery terminals ....

*Message #5 Posted by **erik** on 4 Jan 2006, 1:20 p.m.,*
in response to message #4 by Doug T.

thanks all once again for the help. and now i've got to get down to work ...

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HP-41CX - Clock does not appear!

*Message #1 Posted by **Tom Summer** on 2 Jan 2006, 3:18 p.m.*

I have a problem with my hp-41cx: the clock will not appear after I clicked 'Shift' and 'On'. the hp-41 however obviously is on, because after the next click 'On', I can turn it on again and/or it would accept the 'DELETE' function per '<-'. the clock itself works, which means the command 'TIME' gives the current time into the x-register and all other functions of the Time-module work properly, too. What to do to display the clock permanently? Probably one component on the platinum is defective - only which one? Can anyone help?

Re: HP-41CX - Clock does not appear!

*Message #2 Posted by **Gileno** on 2 Jan 2006, 3:23 p.m.,*
in response to message #1 by Tom Summer

new batteries! ! ! ! :-)

Re: HP-41CX - Clock does not appear!

*Message #3 Posted by **Tom Summer** on 2 Jan 2006, 3:26 p.m.,*
in response to message #2 by Gileno

Just kidding, ehh?? Of course the batteries are new, all functions of the calculator work properly - even the card reader, which has the highest power consumption.

Edited: 2 Jan 2006, 3:26 p.m.

Re: HP-41CX - Clock does not appear!

*Message #4 Posted by **Randy** on 2 Jan 2006, 4:05 p.m.,*
in response to message #3 by Tom Summer

Try reseting it. Warning: This will clear memory.

1. Turn the unit off
2. Press and hold the backspace key
3. Press and release the ON button
4. Release the backspace key

The unit should now be on and display MEMORY LOST

Re: HP-41CX - Clock does not appear!

*Message #5 Posted by **tom summer** on 3 Jan 2006, 6:19 a.m.,*
in response to message #4 by Randy

Hi Randy,

Thank you. I did this already before I posted the problem. MEMORY LOST appears. Unfortunately without further success.

Best wishes, Tom

Allow me a silly question? (was: HP-41CX - Clock does not appear!)

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 2 Jan 2006, 9:45 p.m.,*
in response to message #1 by Tom Summer

Hi, Tom;

if your answer is "No, I do not allow you a silly question!", please, do not read... It may be considered a silly question, anyway! <8^(

although it seems silly, I cannot help asking it: are you sure it is an HP41CX?

Please, prior to blame me for that question, just let me ask a few others: Is it a newly bought unit, that you have never used before? Did [SHIFT][ON] work properly before? Have you tried [CAT] 2 and checked for the headers-only, CX-style catalog output?

I'm asking these all because it is not hard to hardwire the Time and the X-Functions modules inside a regular HP41CV and 'transplant' its guts to a CX case.

Again, please, if this is not the case, forgive me. I have seen some weird 'hacked' models that called my attention to what can and cannot be done...

Will you forgive me?

Cheers.

Luiz (Brazil)

Re: Allow me a silly question? (was: HP-41CX - Clock does not appear!)

*Message #7 Posted by **tom summer** on 3 Jan 2006, 4:34 a.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

Hi Luiz,

Thank you for your posting. I never would quote it as a silly question, because I did a transplantation from CV to CX and viceversa with other hp-41's, too. But this one is a genuine HP-41CX. [CAT2] shows the CX-ROM Version and the extended CX funktions.

In another post I learned that disconnecting the cardreader without shut off the HP-41 could cause this problem. I bought this one used, so I did not know anything about its 'history'.

Best Regards, Tom

Re: Allow me a silly question? (was: HP-41CX - Clock does not appear!)

*Message #8 Posted by **Francois** on 3 Jan 2006, 3:23 p.m.,*
in response to message #7 by tom summer

Hi Tom,

Try the CLOCK function. I think it works like the SHIFT ON.

Best regards

François

Re: Allow me a silly question? (was: HP-41CX - Clock does not appear!)

*Message #9 Posted by **tom summer** on 4 Jan 2006, 3:59 a.m.,*
in response to message #8 by Francois

Bonjour François,

I tried this, too. But the command [CLOCK] shows the same effect - same problem.

Thanks, Tom

Re: Allow me a silly question? (was: HP-41CX - Clock does not appear!)

*Message #10 Posted by **Chan Tran (USA)** on 4 Jan 2006, 9:29 a.m.,*
in response to message #9 by tom summer

When you xeq the clock function what happened? Just nothing happened or the calculator display "nonexistent"?

Re: Allow me a silly question? (was: HP-41CX - Clock does not appear!)

*Message #11 Posted by **tom summer** on 4 Jan 2006, 9:38 a.m.,*
in response to message #10 by Chan Tran (USA)

Hi Chan,

the function [XEQ][CLOCK] causes the same effect as [SHIFT][On]. The display becomes empty: no signs, no characters. Pressing [<-] the display shows the content of the X-Register again.

Thanks, Tom

Re: Allow me a silly question? (was: HP-41CX - Clock does not appear!)

*Message #12 Posted by **Michel Beaulieu** on 4 Jan 2006, 8:48 p.m.,*
in response to message #11 by tom summer

I think you will have to open the calculator in order to "celan" the contact between PCB's. In fact, just opening it and moving the two halves of the calculator can fit it! PAY ATTENTION to plastic posts; the yare very fragile so don't screw them in to much...

Re: Allow me a silly question? (was: HP-41CX - Clock does not appear!)

*Message #13 Posted by **Tom Summer** on 9 Jan 2006, 3:48 p.m.,*
in response to message #12 by Michel Beaulieu

Hello Michel,

last weekend I opened the calculator again and cleaned the contacts. No success. But another phenomenon became obvious: Once pressed [Shift][On] or [XEQ][CLOCK] the calculator cannot be shut off totally anymore?!? After [Off] any key turns the HP-41CX on and further to that: [<-]+[On] does not lead to 'MEMORY LOST'. To make the calculator working normally, batteries have to be removed for a few seconds. But the above mentioned problems (no clock ...) remain.

Best regards, Tom

Re: Allow me a silly question? (was: HP-41CX - Clock does not appear!)

*Message #14 Posted by **Hans-Joerg Gessler** on 11 Jan 2006, 1:21 p.m.,*
in response to message #13 by Tom Summer

My question: Did the "BAT" indicator appear in the display? - With my 41cx it's exactly then that the clock won't be displayed (for avoiding too much power consumption)! In my opinion you possibly & simply should recharge the batteries or replace them by new ones.

Good luck, Hans-Joerg

Re: Allow me a silly question? (was: HP-41CX - Clock does not appear!)

*Message #15 Posted by **Tom Summer** on 14 Jan 2006, 5:58 a.m.,*
in response to message #14 by Hans-Joerg Gessler

Hi Hans-Jörg,

the BAT-Indicator is off. I used new batteries (let's say, they were sold to me as new ones ...). Does it also occur when the BAT-Ind. is off? If so, I'm going to buy new batteries.

Best regards, Tom

Re: HP-41CX - Clock does not appear!

*Message #16 Posted by **David Smith** on 13 Jan 2006, 12:15 p.m.,*
in response to message #1 by Tom Summer

I have seen this when either the clock crystal or the 22 megohm resistors in the clock circuit are bad.

Re: HP-41CX - Clock does not appear!

*Message #17 Posted by **Tom Summer** on 14 Jan 2006, 6:02 a.m.,*
in response to message #16 by David Smith

Hello David,

Thanks for this important information. Due to the fact that the clock itself seems to be ok ([TIME], [SW] e.g. work properly) this could be the reason of the problem. I am going to open the HP-41CX again...

Tom

Re: HP-41CX - Clock does not appear!

*Message #18 Posted by **Tom Summer** on 15 Jan 2006, 11:20 a.m.,*
in response to message #16 by David Smith

Hi David,

Two more attempts to make the HP 100% working:

1. fresh batteries --> no success 2. I replaced the resistor (the old one did have about 26 MegaOhm), the new one has exactly 22.0 MOhm --> no success.

Very frustrating. Do you really think the clock cristal could be bad however [TIME] and [SW] work properly?

Tom

Edited: 15 Jan 2006, 11:21 a.m.

Re: HP-41CX - Clock does not appear!

*Message #19 Posted by **David Smith** on 15 Jan 2006, 11:32 a.m.,*
in response to message #18 by Tom Summer

If TIME and SW are actually working properly, then your problem most likely is the firmware ROM. I know that if the clock crystal has problems, you don't get the clock display.

I had one machine where the clock was very flakey and would not come on from the power switch. It would come on from the keyboard. Apperently it was a bad CPU contact. Pressing the keyboard keys pressed down on the CPU card enough to get contact for a short time, but the clock stopped if you touched the machine.

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Homepage Update

*Message #1 Posted by **HP-Collection** on 2 Jan 2006, 1:45 p.m.*

I just updated my website with many accessories: HP-41 Accessories, HP-71 Accessories, IL-Devices & Interfaces, Memory Cards, Power Supplies, ...

www.hp-collection.org

Yours, Matthias

Re: Homepage Update, OFF TOPIC

*Message #2 Posted by **hugh steers** on 2 Jan 2006, 2:23 p.m.,*
in response to message #1 by HP-Collection

hi matthias, i'm also a toxophilite. i prefer traditional and shoot mongolian. there's no sight or rest. it looks a bit like this,

http://www.arco-iris.com/George/images/mongol_fulldraw.jpg

although that isn't me and i don't wear a silly outfit. although people keep wanting me to wear green which is a terrible colour.

you can see from the guy's hand in the picture, he is using a thumb ring. you hold the string on the ring rather than on the fingers and this gives a more repeatable loose. you can also overdraw the bows which makes them good for clout and also they're a bit smaller and thus easier to carry about than a longbow.

best wishes.

Re: Homepage Update

*Message #3 Posted by **Doug Wilder** on 3 Jan 2006, 11:50 p.m.,*
in response to message #1 by HP-Collection

Hi Matthias,

Very nice!

My "ERAMCO ESMLDL 1" (type: ES83120A) has 8K ram besides the 24K eprom. Has switches (on/off) and bank select rotators (0-F) on top.

Best

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HP 82161A - mini cassette

*Message #1 Posted by **Artur - Brasil** on 2 Jan 2006, 7:34 a.m.*

Hi and happy new year to everybody!

As promised, I return with the results of trying to fix my digital cassetes. I'll use the Diego's message to compare to my experiments:

" (...) Regarding the length of the tape, I used my audio tape recorder timer to count the 8min 44sec. needed for the task. This is the result of calculating how much time a standar tape recorder needs to run 24'384m (80feet) between the holes, plus 2 x 25cm extra tape to reach the leaders at both ends."

Well, I've tryed this and I believe my cassette recorder isn't so accurate. So, I wasted my time and precious tape, because the length wasn't enough to the task.

After many tryings, I decided to measure by hand the HP actual tapes length = 25.08m . So, by hand, I measured the CrO2 tape and cut it. This time it worked well.

"I've also wound the old defective HP tape into a standard audio tape shell... and of course played it!! The saturation is farily high >+8dB!! (I'm sure that my neibourghs' son is still wondering where the hell have I got this amazing new beat!!!! ;-)"

I've done this with another tape I've already replaced with chrome new midia and hadn't worked. I took it from the HP case and filled into a standard cassette. Again, using my cassette recorder, the signal was not so strong. May be incorrect tape type?

"Then conected an oscilloscope to the phones output and took a look... It's a 1'85Khz. (approx.) carrier with phase/amplitude modulation, as stated in the 82161 manual, separated in brusts and silences of 1'16s/0'6s ratio (approx.). "

"Translating this into 82161's read/write speed of 9inches (22'86cm) it results in a 8'9KHz (approx.) carrier. Those are "approx." due to the 82161's constant ANGULAR speed while standard audio tapes runs at 4'75cm. constant LINEAR speed."

"I decided to made my first attempt with a CrO2 TDK tape as I assumed a standard FeOxide tape would have some difficulties in handling the required saturation level and Metal tapes trend to be highly abbrassive."

Using normal tape - FeO2 - the digital cassette even couldn't rewind it. Using 60min chrome tape demonstrated again it is thicker than the HP one. I could find a source for a 60min Metal Tape. It seens to be even thicker than normal tape. Resuming, only the 90min tape could be filled in the HP's case.

"Cutted the tape, made the holes in their corresponding places with a 0'8mm drill bit, taped the leaders, wound it back into the HP Mini Cassette shell and insert it into the drive."

"NEWM 256.... and... IT WORKS!!!!!!!!!! ;-) (...)"

I could restore 5 tapes up to now. One is intermittent. other didn't work any way ... my basis material it's all over

and 90min Crhome tapes are becoming hard to find (at least in my city if someone in Brazil find one, send it to me!). Also, if you don't pay atenction and let the end go into the case, it's very hard to open it without breaking, as the parts are glued togheter. It is not an easy task and the results may not be the expected! (Just forgive my English mistakes!)

Thanks Tony, Diego, Garth, David, Etienne and Dave for precious support!

01/01/2006 - Artur

Re: HP 82161A - mini cassette

*Message #2 Posted by **Diego Diaz** on 3 Jan 2006, 10:07 a.m.,*
in response to message #1 by Artur - Brasil

Hi Artur,

Seems that you've gone thru several troubles while following my experiments.

However, it's not clear for me if you finally succeeded in recovering some of the tapes you've tried... (hope you did :-)

Certainly I didn't mention I used C90 TDK CrO2 tape. Yes, C60 are not suitable as they're much thicker. I haven't tried with Metal tapes (I simply *guess* they are too abrasive for the 82161A head... they should work anyhow)

The tape length didn't was a trouble at all... I measured it with a Technics RS-275M tape deck (a very accurate device, I must say)... The reported saturation level (>8dB) was *measured* using the tape deck Vu-meters (not so accurate indeed) and EQ set to Normal Bias (Type I) FeO2 tape. Values will vary depending on different EQ settings.

Thanks a lot for the feedback and report whichever other info you may get from futher experiments (if any...)

All the best for the new year.

Diego.

Re: HP 82161A - mini cassette

*Message #3 Posted by **Artur - Brasil** on 3 Jan 2006, 2:45 p.m.,*
in response to message #2 by Diego Diaz

Yes, Diego.

Five tapes worked fine and one intermittent. Unfortunatelly, my old Chrome cassettes have gone and 4 HP tapes will have to wait new replacements!

Thanks a lot the help! Artur

Re: HP 82161A - mini cassette

*Message #4 Posted by **Diego Diaz** on 4 Jan 2006, 5:02 a.m.,*
in response to message #3 by Artur - Brasil

Hi all,

Five tapes recovered!! These are great news indeed!! For the remaining "intermitent" one, I suppose

you've followed Tony's advice regarding pressure pad rebuild, double check it otherwise, see "Tony's document" down in this same trhead (Thanks Etienne and credits to Tony for the unvaluable knowledge "database" he shares with us)

It may also be caused by tape wear. Was/is the CrO2 tape used or new??

Can you get more CrO2 tapes to recover the remaining 4 mini-cassettes?

Are you going to give a go to the Metal tape approach?

Congrats on your success and best wishes for your future jobs!!

Diego.

Edited: 4 Jan 2006, 5:14 a.m.

Re: HP 82161A - mini cassette

*Message #5 Posted by **Etienne Victoria** on 3 Jan 2006, 10:36 a.m.,*
in response to message #1 by Artur - Brasil

Hello Artur, Diego, Tony et al,

To complement Diego's useful information, I have Pdf-ed Tony's Tex document on the tape restoration: 49 Kb pdf. You'll need Acrobat Reader 5.0 or later.

I've put it online on the support section of my site: Tony's document

Thank you Tony and best wishes for 2006 to all!

Etienne

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49g+ - 48gx infrared transfers

*Message #1 Posted by **Ron Allen** on 1 Jan 2006, 4:57 p.m.*

Am I missing something about exchanging files between the 49g+ and the 48gx? My 49g+ is a year old and I could have sworn that I transferred and modified a couple of old 48gx programs as soon as I received the new unit. Now, I am thinking I must not have because I can't seem to get any kind of transfer in either direction.

I am using the infrared method which works for both if I print.

on the 49: APPS I/O... SELECT VARIABLES (if send)GET OR SEND

on the 48: I/O SELECT VARIABLES (if send) GET OR SEND

Both attempts result in timeouts as if the command has no purpose.

I'm beginning to question my memory. Am I overlooking a flag?

I recognize that without modification some 49 programs will not run on the 48, but the 49 should be mostly backward compatible, right?

Thanks -- Ron

Re: 49g+ - 48gx infrared transfers

*Message #2 Posted by **James M. Prange (Michigan)** on 1 Jan 2006, 7:33 p.m.,*
in response to message #1 by Ron Allen

As far as I've been able to determine, infrared transfers directly between the 49 and 48 series aren't possible. The 48 series infrared transfers use SIR (Serial IR) and the 49g+ and 48gII infrared transfers use IrDA.

"Printing" from the 49g+ and using INPRT (or a variation of it) on the 48 series doesn't work either; I expect that the signal from the 49g+ is just too weak.

To transfer the variables, use your PC as a "go-between", using "ASCII" (or "Text") transfers so that the decompiled code is transferred. "Binary" (compiled object) transfers won't work.

In general, programs written for 48 series should work on the 49 series, exceptions being such things as global names being built-in commands on the 49 series. The 49 series should be in "approximate" mode when receiving programs written for the 48 series if you don't want "real" numbers (type 0) that happen to be integers to be compiled as exact integers (type 28).

For programs written for the 49 series to work on the 48 series, the commands have to be built-in on both models, and in most cases, the object types have to be valid on both models. For example, a "symbolic matrix" (type 29) will result in a syntax error when the 48 series tries to compile it. 49 series "exact integers" (type 28) will be compiled as "real" numbers (type 0) on a 48 series, rounding them if needed.

Regards,

James

Re: 49g+ - 48gx infrared transfers

*Message #3 Posted by **Ron Allen** on 2 Jan 2006, 6:25 p.m.,*
in response to message #2 by James M. Prange (Michigan)

James, you are full of good information and in such detail. Know that I appreciate it very much.

From your response, I would say that my memory of a year ago is wrong. I had programmed a set of multiple equations for calculating photo lens solutions for depth of field, etc. Was attempting to save myself some keystrokes, but it looks like I should just key them into the 49. I do recall now that there was no trouble transferring them from an earlier model 48SX, but then there shouldn't have been.

Thanks again,

Ron

Re: 49g+ - 48gx infrared transfers

*Message #4 Posted by **James M. Prange (Michigan)** on 3 Jan 2006, 4:08 a.m.,*
in response to message #3 by Ron Allen

No need to key it in manually; just transfer (in "ASCII" or Text" mode) everything for your application from the 48GX to your PC, and then from your PC to the 49g+.

Regards,
James

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HP 12 C blinking star.

*Message #1 Posted by **Jorge** on 1 Jan 2006, 11:30 a.m.*

Hi there,I have an HP 12C with a blinking asterisc on the display,is that a low battery warning? Thanks for your help and Happy New Year

Re: HP 12 C blinking star.

*Message #2 Posted by **Joao** on 1 Jan 2006, 12:02 p.m.,*
in response to message #1 by Jorge

Yes, Jorge, she is asking you to be fed... Happy New Year and Happy New Batteries!

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Happy new year everyone!

*Message #1 Posted by **Gene Wright** on 31 Dec 2005, 4:35 p.m.*

Here's hoping 2006 brings:

1) Peace and understanding. May we all become more tolerant of our differences and recognize our similarities.

and, less seriously,

2) More HP calculators (no inside information there...just hopes)

Gene

P.S. If anyone will be at Macworld the second week of January, let me know. I'll be at our company's booth on the floor.

Re: Happy new year everyone!

*Message #2 Posted by **Howard Owen** on 31 Dec 2005, 5:25 p.m.,*
in response to message #1 by Gene Wright

Ditto on the good wishes, Gene!

To which I would add, "may the visibly condensing vapor around OpenRPN solidify into a breathtaking fusion of simplicity and power!"

Regards,
Howard

Re: Happy new year everyone!

*Message #3 Posted by **Namir** on 31 Dec 2005, 6:10 p.m.,*
in response to message #1 by Gene Wright

Happy New year everyone! I hope 2006 will bring some new goodes from HP and .. uhmm ... *other* calculaor manufacturers. Hope next year will also bless us with some new algorithms.

And may the HP calculator division expand and bring back the HP10, 11, 15, 41, and 42 ... with cool modifications like SD card compatibility.

Namir

Edited: 31 Dec 2005, 6:12 p.m.

Re: Happy new year everyone!

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 31 Dec 2005, 9:01 p.m.,*
in response to message #1 by Gene Wright

Just to add my name to the list...

Best of all to all of you.

Cheers.

Luiz (Brazil)

Re: Happy new year everyone!

*Message #5 Posted by **Eddie** on 1 Jan 2006, 3:34 p.m.,*
in response to message #1 by Gene Wright

Cheers to you all! Ditto on the wishes, 2006 is the Year of the Hewlett Packard Calculator. :)

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A ? about a few flakey Woodstocks ...

*Message #1 Posted by **erik** on 31 Dec 2005, 6:29 a.m.*

i've got a couple of Woodstocks -- an hp-22, an hp-25 and one other -- that all have the same problem. When hooked up properly -- ie with a battery pack installed and a charger plugged in -- all I get on the screen is an 8 all the way on the right of the screen. The keys have no effect; the 8 remains. Any idea what's going on here? Anything I can do about it? Thanks!

Re: A ? about a few flakey Woodstocks ...

*Message #2 Posted by **Walter B** on 31 Dec 2005, 7:54 a.m.,*
in response to message #1 by erik

Erik, this seems to be a problem covered here earlier several times. Be VERY sure you have good accumulators in the battery pack and they make good contact with the calculator PCB, before you connect the calculator with the mains. Else you may damage (even destroy) your calcs easily. You mentioned in another thread you have suboptimal battery packs, so TAKE CARE !!

Re: A ? about a few flakey Woodstocks ...

*Message #3 Posted by **J.Brabers** on 31 Dec 2005, 8:55 a.m.,*
in response to message #1 by erik

Good battery packs are indeed essential to many elder HP's. I would indeed be very careful with connecting them to the ac-line without inspection of the pack and the contacts related to it. I have no experience with the typical woodstok models but the 67 is based on the same technology and its manual says explicitely that a battery-pack must be installed when running the calculator on the ac adapter. The spice series (30's with LED) require even a battery pack in good condition to run on the ac line. If a spice's pack is not OK the display blimps constantly without any response to the keys.

Re: A ?88 about a few flakey Woodstocks ... uh oh!

*Message #4 Posted by **erik** on 31 Dec 2005, 10:32 a.m.,*
in response to message #3 by J.Brabers

uh oh!

but riddle me this. i'm using the same battery pack and charger to test all my woodstocks. so far about five of them have tested just fine, though of those one or two need some time to warm up, as it were; iow, the charger has to be connected to the calc for a while before it works the way it should. and then there are those three that only respond with an 8. given that some calcs are working fine with the battery, does it still suggest to you that it could be a flakey battery pack problem and not a flakey woodstock problem? is there a way for me to test my battery pack to see if it's okay to use? if not, i suppose i could tear one apart. if you know it off the top of your head, what radio shack battery replacement would do? if you don't, i'll try to find it online.

Re: A ?88 about a few flakey Woodstocks ... uh oh!

*Message #5 Posted by **erik** on 31 Dec 2005, 10:45 a.m.,*
in response to message #4 by erik

from my interpretation of the MoHPC battery page, it would seem that a couple of radio shack 23-191 batteriess might work; they are 1.25V/600mAH Ni-Cd Batteries with Tabs, though i'd need em without tabs. what do you think?

update: well, er, uh -- i did a search and saw an earlier thread where the consensus was that a couple of regular AAs would also work, as long as you got the polarity right and didn't use the charger. So, I opened a battery pack, put a couple of AAs in, put em in one of my flakey HP-25s, turned it on, and up came everything right as rain. for a split second. then the LEDs starting acting all screwy. so i turned the calculator off. took out the battery pack, looked at it dumbly, reinsterted it, turned the poor 25 back on and ... nada, nothing, black screen. maybe i should have gone with the 1.25 nicads instead of the relatively overpowered regular AAs. shewt.

Edited: 31 Dec 2005, 11:53 a.m.

Re: A ?88 about a few flakey Woodstocks ... uh oh!

*Message #6 Posted by **db (martinez, ca.)** on 31 Dec 2005, 1:48 p.m.,*
in response to message #5 by erik

Using the charger and having no connection at or between the batteries due to dirt or invisible gunk is the same as no batteries to a woodstock or spice model. You don't get points for meaning well either. It is playing Russian roulette with your calc; you will kill it sooner or later. Due to what people here have posted and one sad personal experience; I have stopped using chargers on those models. I charge NIMH cells outside the calculator or use disposables. I have never heard of a fully charged alkaline damaging the ACT chip but i burn slightly used ones anyway.

It's nice to have the AC adapter as part of the full set, it's just a dangerous practice to use it.

Re: A ?88 about a few flakey Woodstocks okay!

*Message #7 Posted by **erik** on 31 Dec 2005, 5:58 p.m.,*
in response to message #6 by db (martinez, ca.)

thanks all for the sage advice. it was the battery pack after all. i went to radio shack, got some nicad AAs and a charger, charged the batteries up -- bingo bango, woodstocks that were once dead or near so sprung miraculously back to life, no harm done that i can see. bueno. again thanks ...

and i'm sure i'll have more questions like these as i make my way through my collection. please, if you would, bear with me ...

Re: A ?88 about a few flakey Woodstocks ... uh oh!

*Message #8 Posted by **Hal** on 1 Jan 2006, 4:02 a.m.,*
in response to message #5 by erik

Hi Eric,

> Quote:
>
> then the LEDs starting acting all screwy. so i turned the calculator off. took out the

battery pack, looked at it dumbly, reinsterted it, turned the poor 25 back on and ... nada, nothing, black screen.

I get this from time to time with my 29c, which has a rebuilt battery pack. If I slide the battery pack as if to take it out, but stop short, it restores normal operation. It seems to be a battery contact issue. I have not welded a strap across the end of the batteries in my rebuilt battery pack, relying instead on the spring to maitain the contact between the two cells. I'm sure this has a direct bearing on my occasional lack of continuity problem.
I'm in complete agreement with the other posters when they advise not to hook the charger to the calc, but rather charge the batteries externally. That very nifty external battery pack charger that HP made for the woodstocks would be the perfect thing to use (I have one but haven't seen seen it since my last move.)
Best regards, Hal

Re: A ?88 about a few flakey Woodstocks ... uh oh!

*Message #9 Posted by **erik** on 1 Jan 2006, 5:41 p.m.,*
in response to message #8 by Hal

i went out and bought a radio shack charger yesterday but today, while pawing through my woodstocks, i came upon one of those HP chargers. Very nifty. Only wish I'd known about it yesterday. ah well!

Re: A ? about a few flakey Woodstocks ...

*Message #10 Posted by **David Smith** on 31 Dec 2005, 11:34 a.m.,*
in response to message #1 by erik

The problem is most likely a bad ACT chip. This usually shows up as all 00000000 display, but sometimes you get the (very bright) 8.

It may also be a problem with residual corrosion on the circuit board. I would try standing the board up to the top of the battery contacts in an ultrasonic cleaner with vinegar in it. Run it for a couple of cycles, then repeat with three cycles of fresh clean water. Shake off the excess water and let them dry overnight.

Re: A ? about a few flakey Woodstocks ...

*Message #11 Posted by **jbssm** on 31 Dec 2005, 2:41 p.m.,*
in response to message #10 by David Smith

Is it possible to easily replace this ACT chip? Can we find it in a radio shack shop ?

Re: A ? about a few flakey Woodstocks ...

*Message #12 Posted by **David Smith** on 31 Dec 2005, 11:25 p.m.,*
in response to message #11 by jbssm

The only source is another HP calculator. All the Woodstock series ACT chips are compatible except the HP27 chip is unique.

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A ? about a few flakey Woodstocks ...

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Card reader clutch repair

*Message #1 Posted by **David Ramsey** on 30 Dec 2005, 8:25 p.m.*

I've got a flakey HP-67 card reader that I think has a clutch problem. I repaired the gummy wheel on this reader a few years back using "O" rings. They look fine, but the reader has real problems pulling a card through-- terrible squeaking noises and jerky card movement. I have tried adjusting the drive wheel offset but it seems to make little difference.

The pitch of the motor jumps higher when the card slows or stops, which I attribute to clutch slippage.

The worm gear slides easily off the motor shaft. Apparently the "clutch" is a rubber or plastic material inside the worm gear shaft that provides a friction fit to the motor shaft.

The obvious solution is a drop of adhesive, but that would eliminate the "clutch" action. On the other hand, unless the reader mechanism jammed solid, would this hurt anything?

Suggestions on a reasonable repair appreciated...

Re: Card reader clutch repair

*Message #2 Posted by **Jon** on 31 Dec 2005, 5:20 a.m.,*
in response to message #1 by David Ramsey

I have got excellent results with small pieces of plastic tube (it´s brand name here in Spain is "Ibersil"). But I think that you can do it also with the plastic isolation of electrical wire.

some words about the so-called clutches...

*Message #3 Posted by **Hans Brueggemann [GER]** on 31 Dec 2005, 8:05 a.m.,*
in response to message #1 by David Ramsey

...of the card readers. following the many posts here in the forum that deal with card readers of 67 and 41 machines, you can find two major opinions about how the worm gear is attached to the drive motor. fact is, that the worm gear is simply pressed onto the motor shaft. the two opinions either state, that the attachment tube of the worm gear serves the extra function of protecting the card drive against too much torque, in case the card movement is blocked somehow. the other opinion is, that there simply isn't any purpose of the attachment tube other than attaching the worm gear to the motor in a fashion, that it can be dismantled and reused in case, say, of a motor fault. i'm of the same opinion. there is *no* protective function designed into the whole drive, other than the weak motor itself. you doubt? try the following: connect the motor to a proper power supply, start it up and try to block it with your bare hands. no bloodshed, though you might have expected that. the generated torque is so low, that there is not the slightest chance to damage anything inside the card reader if the card is blocked. furthermore, you simply won't find *any* card reader, that, with a stuck card, keeps the motor running (until shutdown) and, on the other hand, is able to properly drive a card through the reader. that's why i consider the "safety clutch" nothing more than an "urban legend". it is just an inexpensive means to connect a worm gear to a motor. that's it. just my two cents to the everlasting discussion about "loctite or gelee royal?" cheers, hans

Re: Card reader clutch repair

*Message #4 Posted by **David Smith** on 31 Dec 2005, 11:44 a.m.,*
in response to message #1 by David Ramsey

The motor shaft coupling is definitely NOT a clutch meant to slip. The HP97 service manual talks about reading the motor current with the card stalled by holding it.

The best adhesive that I have found is called IC2000 tire cement. It is a rubbery superglue for gluing tires to RC race cars. Get it at Hobbytown, etc.

Spin the motor shaft. Does it scream? Then oil the bearings with Breakfree CLP and a small paint brush. Wait 30 minutes.

Clean the motor shaft with alcohol and let dry. Paint the inside of the worm gear with a light coating of the glue (I use a small piano wire dipped in the stuff). Press on the worm gear all the way. Let dry for several hours. Reassemble the reader. Enjoy.

Note that if you used too much glue, the worm gear may not fully seat on the shaft. You may need to shim the motor with some thin plastic (pieces of an old mag card?) if the motor binds.

Also sometimes the nylon motor coupling breaks in half. If a small nylon piece somes out with the gear, you should also glue it in place to the gear first. If it crumbled up, use a piece of WD40 spray hose.

Re: Card reader clutch repair

*Message #5 Posted by **David Ramsey** on 31 Dec 2005, 6:17 p.m.,*
in response to message #4 by David Smith

Thanks to all who responded. I cleaned the motor shaft and applied a very tiny amount of cyanoacrylate (super glue). I slid the worm gear over the shaft and let it sit an hour. The card reader now works perfectly!

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HP 42s display access

*Message #1 Posted by **Kenn** on 30 Dec 2005, 6:18 p.m.*

I have an HP 42s whose display has a small chunk of what looks like solder sitting on the back of the clear display bezel. Is there an easy way to take the calculator apart and remove it? I've tried the obvious "banging" the calculator in the palm of my hand to see if I can dislodge it, but to no avail. Aside from asthestics, I'm a little concerned that if the thing shakes loose it might short something important out--it's definitely metalic.

If I have to pry the foil off the top of the unit to get it apart, I won't do anything. I certain I'll do more damage trying to pry off that thin foil than is justified by what I'm trying to do.

Re: HP 42s display access

*Message #2 Posted by **Jeff O.** on 31 Dec 2005, 8:22 p.m.,*
in response to message #1 by Kenn

This article may help.

Re: HP 42s display access

*Message #3 Posted by **Kenn** on 1 Jan 2006, 5:03 p.m.,*
in response to message #2 by Jeff O.

Thanks Jeff! Looks like I'll have a go at taking the back off and see where that leads.

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Ease/Dis-ease of Keystroke Programming

*Message #1 Posted by **Howard Owen** on 30 Dec 2005, 2:00 p.m.*

I know some would say our obsessions with calculators is evidence that our minds are a little "diseased".

That has certainly been true of me for the last couple of weeks. I have been caught and held hostage by a little electronic/mechanical device known as an HP-42S. I have been so enchanted with the little beast, that I have cranked over 1000 lines of calculator language in pursuit of the perfect embodiment of "YATZ," the game I use as a vehicle for learning about programming the old machines in my collection. It's certainly arguable whether I need so many lines to play that stupid (but fun) little dice game. But I want to use the features of each platform to the fullest extent possible. On the 42S, that means graphicl representations of the dice and scorecard, and that means lots of binary data. The initialization routine (*not* run every time) therefore takes over five hundred lines all by itself. The core of the game is currently at 530 lines or so, and will go higher before I'm through.

At that level, I've run into some scalability problems that I thought I'd share with this forum. Before getting into these, I have to praise the ergonomics of the 42S again. Program entry is *very* nice on this machine. The keystroke sequences you need in order to access common programming, matrix manipulation and alphanumeric functions is very regular and logical. It usually takes two to three keystrokes at worst to access the function you need.

The pickboard style of alpha entry is an example of this. Press [SHIFT] [ENTER] to get to alpha mode, or enter it via any function that can use or requires alphanumerics, and you see a menu of the uppercase alphabet spread over six keys. To get an upper case letter, press its menu key, then the key for the letter - two keystrokes. To get lowercase, press shift (orange key) before you press the letter key - that's three keystrokes. Since there are 6 menu keys and at most five letters per alphabet range, there is always a blank key in the letter pick menu. Pressing these always gives you a space. Less common letters are accessed from a secondary menu which you get to by pressing an arrow key at the main pick-board. You still only have three keystrokes on average, but it's not as straightforward and takes a little longer.

That lash up is a little awkward to describe but a breeze to use once you learn it. In fact. I find it to be the easiest system for alpha entry I know of, second to the qwerty keyboard that is burned into my synapses by a lifetime's use. The rest of the functions of the 42S are similarly well thought out, and I find I can crank code on the machine at nearly the speed of (careful, deliberate) thought.

But what I can't do is keep more than about five numeric labels and their meanings in my mind while I'm thinking about how to do some tricky piece of coding. Four labels I can manage, but five blows me out of the water. This is partly because numbers are not names, and partly because I can see at most two lines of code at a time in the calclator's display. "But the 42S has six character named labels!" I hear you protest. Yes. but multicharacter labels (and single character ones after "J") are *global* on the 42S. This means that after a certain point, they clutter up the XEQ and GTO menus to the point where the nice, easy structure is overwhelmed. In a program the size of YATZ42, however, numeric labels just don't cut it. So I've replaced many numeric labels with alpha globals. I may switch them back after I have the whole thing debugged.

A related problem has to do with the limited window on the program provided by the two line display. Often one section of code depends on one or more widely seperated other bits of code. You can't see the two sections side by side in that two line window. These all conspire to make that sort of coding difficult. I've adopted two different strategies for dealing with this. When the program was smaller, I would print it out to an HP 82240B printer. That

was slow, but it worked. Since the program has grown larger, I've tended to print to INPRT running on an HP48GX instead. This is *much* slower, and requires extra transfer and conversion steps to get a listing in a form in which it can be viewed in an editor on the PC screen. Then, as I make changes, the version on the calculator and the one on the PC drift slowly apart, until the work of remembering which changes I've made recently exceeds the inconvenience of generating a new listing.

Finally, there's the fact that data - variables, registers, flags and the stack - are all global on the 42S. This makes it harder to have two significant apps loaded at the same time without collisions. I know the registers are accessible in a matrix called "REGS." and that you can rename and replace this matrix, thus giving you a way to implement local registers. But that doesn't work for named variables or the stack, and what if you bomb having made your local copy of REGS? There's no ON ERROR construct.

So there you have three barriers to scalability of keystroke programs on the HP42S. There are workarounds for some of them, but no outright solutions. Clearly, the machine wasn't designed to scale up very far. The programming model was born on smaller machines, and makes more sense when applied to smaller problems. But that raises an interesting question: is there value in extending keystroke programming to larger environments, meaning ones with a *lot* more memory and processor speed? It seems certain to me that just dropping the 42S environment down in the middle of such resources would be a dismal failure. The language and architecture would, at the very least, have to change to account for the deficiencies outlined above.

What sort of changes do you think might be necessary to acheive success in the larger environment? Here's my list:

1. Real local scopes - local names should be possible, for labels variables, stacks and so forth.
2. Two-way I/O - this to facilitate program editing off the calculator. Bonus points: make program editing on the PC transparent through to the target machine.

That's it. The points, few as they are, beg another question: how can you implement them without screwing up what is nice about keystroke programming? This is really the original question restated: whether keystroke programming *can* be scaled up at all, or *should*,

Regards,
Howard

Edited: 30 Dec 2005, 2:26 p.m.

Re: Ease/Dis-ease of Keystroke Programming

*Message #2 Posted by **hugh steers** on 30 Dec 2005, 8:30 p.m.,*
in response to message #1 by Howard Owen

i agree with your sentiments regarding the scaling of keystroke programming. indeed, it’s a fast way to get results for short and easy to hold in one’s head sort of problems. but as the program gets larger, its gets nastier. as the program gets bigger i am forced to factor it into separate programs. even if this means loss of efficiency simply because otherwise it will go out of my control.

whilst writing large or moderate but tortuous keystroke programs, i have often yearned for some kind of higher level abstraction. i like to make an analogy between keystroke operations and assembler level programming; just like they were the machine instructions of a much larger architecture. it would be nice to have a sort of mini compiler that could take chunks of logic and generate keystroke ops.

when i say a compiler, i don’t mean ‘C’ into 42S or visual basic into 41c, this would be completely inappropriate. i think to some extent hp attempted this idea with the concept of RPL, although it didn’t compile into keystroke ops because really there wasn’t much point. but i don’t think the rpl experiment solved the problem, because pretty much the same difficulties arise when dealing with large rpl programs as do with large keystroke ones, albeit not quite so acute.

rather than a true compiler, i am hankering for some kind of macro processor and code block re-arranger. something that looks after the flow and allocation of real memories and lets me program in virtual ones. that also eliminates superfluous usages and overlaps true memories with virtual ones by scope analysis. i just want to think of each logical variable as a new name and have it allocate them to actual registers in an optimal way.

for block arrangement, i'd like to be able to rearrange blocks of code (ie segments of logic with no jumps out or into) so that i can tidy the program out of an increasingly spaghetti bowl of logic – and if that means reallocating the real vs virtual registers then, so be it!

the other idea would be to program in either a pure stack machine or a pure register machine (eg virtual register again) and have it transform into the ideal mixture of both for a given stack depth (eg 4). the hp keystroke programming paradigm is a strange mix of both. you keep stuff on the stack until you can't, at which point you use registers but as few as you can get away with. then, a bit later, you need to change that bit of code, but all of a sudden, the bit of cleverness you did on the stack won't fit on the stack anymore and you have to find a spare register to accommodate it, often knocking your allocation plan out of kilter. no, all of that should be done for me so i can concentrate on the algorithm itself.

that's what i want anyway :-)

Re: Ease/Dis-ease of Keystroke Programming

*Message #3 Posted by **Ed Look** on 30 Dec 2005, 11:14 p.m.,*
in response to message #2 by hugh steers

Gents, I thought that RPN keystroke programming WAS INTENDED for simple quick programs; I haven't mastered RPL, but have gotten somewhat familiar with it and it seems to be better suited for larger, more complicated programs with more diverse routines.

Besides, RPN scientific programmables (most of our beloved HP vintage calcs) don't have the program memory capacity or data storage capacity for any programs requiring a bit complexity.

I wrote a program that would analyze any number of peaks from a x-ray powder pattern for my 48G series and 49G+ machines. For convenience' sake, I tried my hardest to port it to the 33S without loss of functionality, but because the program really taxed the capabilities of the 33S (four level only stack, twenty-six labels and twenty-six [and a half ;)] registers, I limited the 33S version to only THREE data point inputs (as you said, so I didn't go crazy trying to track all the inputs and results as I wrote it)... plus a bit of revision of the program structure to adapt it to a limited stack depth and limited number of data registers. I think this 33S RPN keystroke version might even be a bit longer and slightly more complex than the original RPL version!!

(Off-Topic Department: as it turns out, the revised 33S version is all I need so far, but I can see easily that I might soon need the less limited version.)

Re: Ease/Dis-ease of Keystroke Programming

*Message #4 Posted by **Howard Owen** on 31 Dec 2005, 12:05 a.m.,*
in response to message #3 by Ed Look

Hi, Ed,

I think there's a bit of context missing. I'm thinking of the OpenRPN project, which has produced this PDF file of what they call a "IQ-43S" (IQ being like HAL in 2001, only backwards, er, forwards.) The "43S" part refers to the idea that this machine will be a succesor to the last great RPN keystroke programmable calculator: the HP-42S. The hardware feature set that project is developing include an

ARM processor running at 80 MHz, 16MB of flash ROM, and 1MB of SRAM. This puts it in the ballpark I was describing in my previous post.

So yes, RPN keystroke programming grew up to solve smaller problems with shorter code. When William Wickes got a look at the problem of scaling it up, he chose instead to jettison the old programming model and helped to create RPL, a revolution in calculator design. A lot of folks feel something was lost in that transition. If you ask the average devotee of RPN keystroke programming, I suspect that simplicity would be high on the list of qualities they would list as lost in the transition to RPL. What I'm interested in is the question of whether this simplicity was solely due to the smaller problems tackled with RPN machines as compared with the RPL family, or if there were inherent simplicities in the older model that went out like the proverbial baby in the bathwater. I actually think that some baby did leave the scene, along with the admittedly murky bathwater.

Regards,
Howard

Re: Ease/Dis-ease of Keystroke Programming

*Message #5 Posted by **Walter B** on 2 Jan 2006, 3:37 a.m.,*
in response to message #4 by Howard Owen

Hi Howard,

so far I didn't know this German proverb also exists in English, so thanks for enlightenment!

Back to your topic: I fully agree on "something" being lost in translation, ummh, transition from RPN to RPL. Remembering the old manuals, programming was always explained in the very beginning as a simple way of storing keystrokes and recalling them later for repeated execution. I do not remember such an approach in the documentation of the 48s or 48g.

The point where RPN programming became awkward to me (pretty early) was with the loop control commands like ISG et.al. This was although I did a lot of (pdp) assembler programming at that time. I found the ISG-syntax difficult to remember and read correctly if not used everyday. In fact, I didn't write real programs on my 25c, 11c and 32s, but coded formulae for frequent use (most times).

Since I also own a 42s, I share your views you stated in your initial post. IMHO, RPN is great even/still today for straightforward automation of calculations, but it falls short in structures. Of course this is less important if you have just 100 steps available, but with 7200 it's a challenge. It reminds me of the FORTRAN (sic!) IV spaghetti code my professor used to write, with GOTOs in either direction - almost unreadable and eventually uncontrollable.

So, besides the 2 way I/O inevitably needed to enjoy comfortable editing in a PC, what about adding some (few!) structure commands like IF...THEN...ELSE, BEGIN...END, FOR...DO and the like (a bit like PASCAL)? To me, there is little to be added to create a new baby capable to win a triathlon. And to baptize it, swimming in the bathwater, I propose to call it RPS (RP Structured) d;-)

Re: Ease/Dis-ease of Keystroke Programming

*Message #6 Posted by **Geir Isene** on 2 Jan 2006, 6:22 a.m.,*
in response to message #5 by Walter B

After months of programming RPL, I went back to pure RPN (41CX) because of what I perceive as a better programming environment. More direct access to the programming features

and better debugging facilities was on top of the list. If only the HP-48 had keystroke programming, I would be in heaven.

As for the scalability, I would rather write a 1000 line program in pure RPN than in RPL. Maybe even more (I have an almost complete gladiator game for the 41 with more than 1800 lines).

For the OpenRPN project I would suggest to go with a combination of keystroke RPN and floating point Forth. That would do the trick for me. Rather than reinventing the wheel, Forth would give what RPL has, only better; Better managability of code through Lego-type building blocks, direct feedback on code execution (even the smallest parts, not just the whole program or a less-than-desirable SST), direct access to assembler coding, build-in editor (this should be improved from what most Forths have to offer) and an array of existing commands and building blocks to start off from.

Just my 2 øre (NOK 0.02)

Re: Ease/Dis-ease of Keystroke Programming

*Message #7 Posted by **Les Bell** on 2 Jan 2006, 8:08 p.m.,*
in response to message #5 by Walter B

> Quote:
>
> So, besides the 2 way I/O inevitably needed to enjoy comfortable editing in a PC, what about adding some (few!) structure commands like IF...THEN...ELSE, BEGIN...END, FOR...DO and the like (a bit like PASCAL)?

You know, I thought about this for a while, and my conclusion was: why bother with the calculator? If you've got to use the computer to write and pre-process the program, why not use it to run the program as well?

I think if you're reliant on a computer for writing/editing the program, it rules out use of the calculator for those "exploratory" tasks that are often solved by keystroke programming. It relegates the calculator to programs that are used repetitively, perhaps in the field (not that there's anything wrong with that).

I've been investigating this area for myself, specifically looking at the use of a calculator as an aid to understanding simple physical problems (based on the mass on spring problem [dv/dt = -x] in Chapter 9 of The Feynman Lectures on Physics). Feynman himself takes a numerical approach to the problem, which I had only minimal difficulty in implementing in Perl and on the HP-41, but I haven't yet come up with a numerical solution on the HP-48GX. On the other hand, solving (and graphing) a differential equation is simplicity itself on the 48 - but I think one learns more from the programming exercise.

I'm part-way through writing this up, complete with listings. Just a few more days. . .

Best,

--- Les
[http://www.lesbell.com.au]

Re: Ease/Dis-ease of Keystroke Programming

*Message #8 Posted by **Walter B** on 4 Jan 2006, 12:58 p.m.,*
in response to message #5 by Walter B

Meanwhile, I found there is some structured control flow for RPN available already. MathU has IF-clauses and loops in its command set. Plus some additional stuff like ELSE and CONTINUE IF. Anyone here knows how they work exactly?

(Maybe it is explained in their documentation, but if you know it by heart you will be faster by far - and I do not have to search and read it all ;-))

Edited: 5 Jan 2006, 1:01 p.m.

Re: Ease/Dis-ease of Keystroke Programming

*Message #9 Posted by **Ed Look** on 2 Jan 2006, 6:41 p.m.,*
in response to message #4 by Howard Owen

Hey, Howard, thanks for the clarification. It stinks to be shooting n the dark!

But in response to one of your questions (rhetorical??) I suspect that in those days, the '70s, the engineers who built the HP RPN calcs and the engineers who used them, along with the scientists, surveyors, programmers, accountants, managers, etc., probably DREAMED of having a simple keying interface yet providing powerful programming capabilities, but were limited by the technology available at the time due to the position of the cutting edge then or due to budgetary constraints.

I mean, how were they going to stuff more labels and registers on a breadboard 2.5" x 5"? Thus, I guess, this imposed natural limits as to the scope of problems it can be programmed to solve.

As to the Open RPN project, I hope I can afford whatever they end up with!

Re: Ease/Dis-ease of Keystroke Programming

*Message #10 Posted by **Howard Owen** on 2 Jan 2006, 8:47 p.m.,*
in response to message #9 by Ed Look

Hi, Ed,

I do think the RPN models did an awful lot with very little. Very little memory, very little processor speed, you name it. I also agree that the keystroke calculation programming model was designed to fit into this limited environment. Perhaps it isn't possible to remedy the scalability problems without erasing the nice things about RPN programming.

There have been several good suggestions, but mine included, they all tend to move the computation away from "nose-to-nose" interaction with the problem. That is to say, they all add abstraction to the model, which is the way to get generality. Add real scope to names, and you get better separation between the solution and the machine. But you have to know the scoping rules, and in particular, how they impact the limited resources a calculator provides.(Presumably without virtual memory! 8) Add real looping structures, and you start to want fancy indenting to reflect them. That means more overhead for the program editor. Program editor? Oh, you mean "program mode!" Well, no, I mean a real editor. More abstraction. At a certain point, I join Les in wondering what the calculator is doing in the mix at all.

So what about this: implement a very fancy, sophisticated programming model for those who

want to do real computer science, functional programming, object oriented or what have you, but include as part of that environment a virtual RPN machine model. Define a flexible way to interface with this virtual machine, probably using an unlimited stack, and call the calculator to solve problems in the traditional RPN way.

```
<<
   fancy-calculator-whoop-dee-doo
   -> [[
         \\stack_size=2  \\stack_grow=fixed
         \\regs=-1  \\result=X
         01 X^2
         02 X<>Y
         03 X^2
         04 SQRT
      ]]
   more-fancy-stuff
>>
```

Or something like that. The wrapping around the virtual RPN calculator would be visible or not as the user chose. In other words, the machine could look like a traditional RPN calculator, with lots of memory and nice support for engineering, scientific and business math, large conversion, constant and formula libraries and so forth. Or it could look like a mega-killer-über-calculator With RPFoS (Reverse Polish FORTH on Steroids). with all those features. *Or it could look like both at the same time!*

This solves the problem of complexity in the traditional geek way: by adding more. 8) Actually, the trick would be in engineering the environments so they were logical and self consistent when used seperately, but also when used together. That *ought* to mean that they'd be as intuitive and simple as possible, too.

Regards,
Howard

Re: Ease/Dis-ease of Keystroke Programming

*Message #11 Posted by **Les Bell** on 2 Jan 2006, 11:36 p.m.,*
in response to message #10 by Howard Owen

Howard Owen wrote:

> Quote:
>
> ```
> <<
>    fancy-calculator-whoop-dee-doo
>    -> [[
>          \\stack_size=2  \\stack_grow=fixed
>          \\regs=-1  \\result=X
>          01 X^2
>          02 X<>Y
>          03 X^2
>          04 SQRT
>       ]]
>    more-fancy-stuff
> >>
> ```

I realise that this is a hypothetical example, but if it was intended to be a Pythagorean hypotenutical hypothetical example, shoudn't line 04 be "04 +", then "05 SQRT"? See what happens when all that abstract fancy stuff enters the picture?

;)

Best,

--- Les
[http://www.lesbell.com.au]

Re: Ease/Dis-ease of Keystroke Programming

*Message #12 Posted by **Howard Owen** on 2 Jan 2006, 11:42 p.m.,*
in response to message #11 by Les Bell

Doh! 8)

But finding the error would have been *much* simpler for the dunderhead RPN-prejudiced author. 8)

Re: Ease/Dis-ease of Keystroke Programming

*Message #13 Posted by **Ed Look** on 3 Jan 2006, 12:26 a.m.,*
in response to message #10 by Howard Owen

Nice idea! And, I hope it can get implemented in some new ROM upgrade or compact, downloadable "library" or "aplet" written by one of us fanboys for the 48 and 49 series machines.

But one small aspect of it makes me wince:

it recalls to mind the use of DOSBOX or MO'SLO or some such Rube Goldberg type forced backwards compatibility device to make a Pentium IV or Athlon machine running WinXP able to run some old DOS program (read, most of the the time anyway, game [I do have one old DOS based plotting and fitting program some physicist wrote in-house over a decade ago, which I really liked]<-{--- self exculpation device}).

So, if you guys, or anyone ever does implement this, in itself, rather neat idea, I'd really rather prefer it to be seamless as the default mode, so as not to evoke some inaccurate "legacy" image of RPN keystroke programming, of which obviously I am fond!

Edited: 3 Jan 2006, 12:27 a.m.

Re: Ease/Dis-ease of Keystroke Programming

*Message #14 Posted by **Howard Owen** on 3 Jan 2006, 1:18 a.m.,*
in response to message #13 by Ed Look

Right, that's a bad connotation of "virtual machine." That was probably a bad choice in words not just because of the connection with old, slow legacy environments, but also because you wouldn't need a full-blown VM to do what I have in mind. My idea was to limit the RPN program from seeing more of the calling environment than it was explicitly allowed to. But there are lots of mechanisms for doing that sort of thing that don't involve creating byte code for an idealized processor the way Java does. I'd like the RPN environment to be capable of managing all the calculator's resources, at least to the degree the "whiz-bang" environment was. So one environment could call the other, or relinquish control of the complete machine to the other, with equal ease. There might well be a good reason to stick with one or the other for a particular problem, but it should be at least possible to do anything in either environment. They would have to be compatible, or have compatible glue, at least.

For example, if the "über" environment were RPL, then you would have to deal with the unlimited stack, and with how RPL consumes arguments placed on the stack. My example tried to show how that could work:

```
<< ..
     -> X Y [[ # Two elements from the RPL stack are consumed
                 # and placed on RPN stack levels X and Y
            \\stack_size=2  # "pragma" states only two stack levels
                            #  needed.
            \\stack_grow=fixed # Perhaps this is the default.
            \\result=X         # Single value returned in X. The
                               # glue will put this on the RPL stack
                               # level 1 on exit
            \\regs=-1  # Signifies no registers used. This means no
                       # registers or other memory are visible to this
routine.
            01 .. # Correct Pythagorean thing here .. 8)
```

The \\regs pragma could be a lot more elaborate, mapping data structtures on one side to the other. It could be so elaborate that you might wish to maintain it outside the call preamble, and just refer to it there.

The stack pragmas allow you to have any sized stack, including an unlimited one, in your RPN program. The default for the RPN side would be a classic XYZT and L arrangement. This stack would be *separate* from the RPL stack, and it would have genuine RPN semantics. It would copy the top element down on stack drop, and it would allow you to drop an empty stack position. It could however contain the full bestiary of objects supported by he RPL environment. That's the default, but pragma's could enable lots of alternate stack behaviors in the local environment, according to the needs of the calculation, and/or the taste of the programmer.

Re: Ease/Dis-ease of Keystroke Programming

Message #15 Posted by ***Howard Owen*** *on 31 Dec 2005, 12:09 a.m.,*
in response to message #2 by hugh steers

So a macro facility, sort of like a macro assembler would work? Interesting idea.

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Special Module for HP-41CX

*Message #1 Posted by **FABIO ALBONICO** on 30 Dec 2005, 9:53 a.m.*

I want to understand the difference between the special modules made for HP-41 like CCD, ZENROM etc.

Somebody can explain me and tell me how to find these?

Thanks and happy new year

Re: Special Module for HP-41CX

*Message #2 Posted by **Doug Wilder** on 30 Dec 2005, 9:59 p.m.,*
in response to message #1 by FABIO ALBONICO

Hello Fabio,

Guess we could say that the HP41C "Special Modules" are modules not programmed by HP. There are too many for me to list here however, Matthias Wehrli has a .pdf which lists almost all of them along with some data for each module:

http://www.hp-collection.org/modules.html

As far as "find these"; eBay or the Classified Ads here (place a "wanted" ad) are the best bets yet some modules are VERY rare (nearly impossible to find).

The modules that you mention (CCD, ZENROM) are micro-coded roms, whereas many special roms are user-coded roms. The other possibility is using an MLDL device to load module "image". Two such devices are currently being produced: the Clonix/NoVRAM and the MLDL2000. Google is your friend.

Best Regards

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hp71B does not get off

*Message #1 Posted by **inaki** on 29 Dec 2005, 7:38 p.m.*

I have a 71B that seems to have a problem when replacing batteries. After I place the new batteries I press ON. The 71B does not start at first time so I must press ON several times and then it goes up. However, if now I press f+ON to put it OFF the 71B does not get OFF but stays in an indefinite situation: the arrow prompt stays in the display, although the machine cannot be used (there is no keyboard answer). I must press ON several times to put the 71B finally OFF. I have tried to INIT from 1 to 3 and have tried to discharge the circuits by pressing ON for 30 seconds with batteries removed, but nothing works. Anyone knows what is hapenning here ?

Re: hp71B does not get off

*Message #2 Posted by **David Smith** on 30 Dec 2005, 11:18 a.m.,*
in response to message #1 by inaki

I suspect that the ON switch contacts need to be cleaned.

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another ebay seller's question ...

*Message #1 Posted by **erik** on 29 Dec 2005, 6:58 p.m.*

i've got another questions from a seller's perspective ...

how deep do you think the demand is for relatively common HPs on eBay?

For instance, let's say I have 3 or 4 HP-10Cs or HP-35s. Am I going to drive the price down if I put 'em on all at once? I mean, I have 50 or 60 HPs to auction off, spread out unevenly over about 12 different models, and I'd like to get 'em gone as quickly as possible; at the same time, I don't want to drive down the price by flooding the market. But, given the size of eBay, I don't even know if flooding with such a small amount is possible. Suggestions and thoughts?

Re: another ebay seller's question ...

*Message #2 Posted by **Namir** on 29 Dec 2005, 7:08 p.m.,*
in response to message #1 by erik

Erik,

You are on teh right track! You need to determine which is more priority (a) Selling the calculators ASAP, or (b) Maximizing your sales?

I'd recommend taking your time and selling similar items one at a time. Experience shows that this approach keeps prices down. You also need to see who else is selling the same type of item at the same time. Yet another HP12C, for example, will not stirr the passion of collectors to click the BIN button faster than the speed of light!

Also keep in mind, that detailed descriptions of the item and a reasonably good pictures also help. Typical bidders want to know about the functionality of the display (any dead pixels on LCD? All LED segments work?), dents, scratches, beanding, battery-contact corrosion, covers, modules/accessories included, and so on. State these attributes whether present (calculator has dents for example) or not.

Don't rush the auctions and be patient with the whole process. You will find it to be rewarding and something interesting to learn.

amir Namir

Re: another ebay seller's question ...

*Message #3 Posted by **Howard Owen** on 29 Dec 2005, 7:39 p.m.,*
in response to message #1 by erik

10C's are not "relatively common," as you'll find out when you list them. (Did you mean "10B's"?) Remember that the available auction records, which smart buyers and sellers both will search before bidding or selling, only goes back a limited amount of time.That means that a machine that is not uncommon, like a 71B, say, can go for a large premium over the average price, as long as there haven't been many sold recently. We have one

seller everyone loves to hate who relies on this phenomenon. His may be the only 71B selling at any given time, and he asks a whopping multiplier on a price you might think of as reasonable.

So I guess that means you actually could drive down the prices for 71Bs if you sold five or more all at one time. Your market for these luxury items is not all of eBay, but all bidders willing to buy right now. And what they will be willing to pay mainly depends on recent history, if they are smart, or the phase of the moon if they are not. Of course, for common calcs, like the 10B, it would be hard to affect the price, because the market is much larger. And for true rarities, it would also be hard to sell too many, unless the quantities offered made collectors reassess how many of the items were actually in circulation, and thus to recalculate their worth.

But in the middle, you can get a saturation phenomenon. I bid rashly when I started collecting, but I've gotten cagier. I look for oversupply situations as one way to get relative bargains. Choosing when an auction will close can be important. As a seller, you want to close in the evening in the US, since that's the most active time in the biggest marketplace. People bid at work, too, but things really seem to pick up around 5:30 PM Eastern Time. (As a buyer, you want to avoid those times, if you can.)

Good luck!
Howard

Re: another ebay seller's question ...

*Message #4 Posted by **erik** on 29 Dec 2005, 8:10 p.m.,*
in response to message #3 by Howard Owen

thanks for the thoughts!

now, here's a related question. i see that the seller everyone luvs to hate sells onl y by high BIN prices. i don't want to do that. my feeling is i should just open with the same 9.99 i use for just about everything and let the chips fall where they may. am i being foolish doing this? should I follow that *other* sellers lead?

Re: another ebay seller's question ...

*Message #5 Posted by **Howard Owen** on 29 Dec 2005, 8:41 p.m.,*
in response to message #4 by erik

You can get unlucky doing that, which is to say the buyer can get lucky.

I usually set an opening bid amount about 1/2 of the price I think an item will sell for. That usually scares off bottom feeders, which is good. But set it too high, and you will scare off casual bidders, which is bad, since they can turn into serious bidders later. As a buyer, I dislike high "reserve" prices that tend to encourage people to bid higher than they otherwise would, initially. That could be good for a seller, but it's one of the places I personally draw the line to do as I would be done by. 8)

I should make it clear that I don't do an awful lot of eBay selling. But these are the rules I follow when I do, and they have worked well for me.

You Know Who has bid!

*Message #6 Posted by **erik** on 30 Dec 2005, 5:59 a.m.,*
in response to message #5 by Howard Owen

hey, howard: well, i put one of my not-cosmetically great 10Cs up with an opening amount of $24.95 ... and guess who jumped right on it with the first bid? yup, that's right: you know who! i hope he's not going to take me to the cleaners on this one; ie win the auction, turn around, add

some feet to the back of the calc where they're missing, magically make the "U.S. Gov't" etching disappear, and sell it for a ton more. otoh, i guess if he can do all that, more power to him!

Re: You Know Who has bid!

*Message #7 Posted by **Namir** on 30 Dec 2005, 8:50 a.m.,*
in response to message #6 by erik

Erik,

You need not wory about you know who. H is cheap and very easy to outbid.

I noticed that you placed your auction in Vintage Electronics rather than Calculators. I had to do some extra searching to find it.

Re: You Know Who has bid!

*Message #8 Posted by **Erik** on 30 Dec 2005, 8:52 a.m.,*
in response to message #7 by Namir

i didn't even know there was a "calculators" heading. maybe i'll see if i can switch 'em from "vintage electronics".

Dont forget listing fee

*Message #9 Posted by **Mike H** on 30 Dec 2005, 9:20 a.m.,*
in response to message #8 by Erik

eBay propaganda states that listing in two different categories will boost bids by 18%, and increase final sale price by 17% on average, but your listing fees are doubled also. Maybe you could write a program that will calculate the break even point ;-)

Mike

Re: You Know Who has bid!

*Message #10 Posted by **Namir** on 30 Dec 2005, 11:36 a.m.,*
in response to message #8 by Erik

Erik,

To keep your cost down, you might want to leave the current auction in the category listed and have future auctions posted in the Calculators (or any of it's sub-categories) category.

I suggest that you add a classified ad here to point to the URL of the HP-10C auction.

Namir

Edited: 30 Dec 2005, 11:37 a.m.

Re: You Know Who has bid!

*Message #11 Posted by **Howard Owen** on 30 Dec 2005, 11:38 a.m.,*
in response to message #8 by Erik

Looking for "misfiled" listings is another way to get bargains!

I strongly advise you to add "Consumer Electronics > Gadgets & Other Electronics > Calculators > Scientific Calculators > Hewlett-Packard" or "Consumer Electronics > Gadgets & Other Electronics > Calculators > Vintage Calculators" to your listing. Since you have a bid, you can't change the listing category for free, so you'll have to add one of the above. Either one will do to get your listing noticed by folks who would understand what a 10C is. For something like that, a posting to the Classfied section of this website would also get your auction noticed by people who might want to own a 10C.

Regards,
Howard

Re: You Know Who has bid!

*Message #12 Posted by **Chan Tran (USA)** on 30 Dec 2005, 4:32 p.m.,*
in response to message #11 by Howard Owen

If I WERE you I would simply post a classified ad on this site. There are enough of us, HP calculator fans, here to buy all of your stuff. You can sell them for any price you want or any price we would offer you. You will avoid paying ebay fee. You won't part with your calc for price that you don't want to. Coburlin won't bid on your calcs. You won't get as much money as you would on Ebay but you should get a fair amount. After all, doing so would benefit you as well as those of us who buy from you.

Re: You Know Who has bid!

*Message #13 Posted by **karl gruber** on 30 Dec 2005, 9:04 p.m.,*
in response to message #12 by Chan Tran (USA)

Although this site is a great reference it PALES in comparison to EBay. Believe me, I've tried both. I tried to sell some BRAND NEW 41CX's here with no result, even though I thought I'd sell them cheap here to the real affectionatos!

Karl

Finding stuff on ebay ??

*Message #14 Posted by **Dave Shaffer** on 1 Jan 2006, 9:04 p.m.,*
in response to message #7 by Namir

re: "I noticed that you placed your auction in Vintage Electronics rather than Calculators. I had to do some extra searching to find it. "

Does this really make a difference?

When I, as a potential buyer, look for something on ebay, I search "all of ebay". As far as I know, but maybe I am missing something, I've found whatever was available with my search words in the sale title. I guess if you just want to see what's available in "calculators" the seller has to have put it in the correct category.

How does everybody else search?

Re: Finding stuff on ebay ??

*Message #15 Posted by **Howard Owen** on 1 Jan 2006, 9:37 p.m.,*
in response to message #14 by Dave Shaffer

How many hits for outboard motors do you get when you search for "hp" in all of eBay? 8)

Searching the categories is helpful to find stuff you are interested in among appropriately categorized items. Broader searches have to be carefully limited with search term exclusions and inclusions to be effective. Both have their place in my toolkit.

Regards,
Howard

Re: Finding stuff on ebay ??

*Message #16 Posted by **Dave Shaffer** on 2 Jan 2006, 1:52 p.m.,*
in response to message #15 by Howard Owen

"How many hits for outboard motors do you get when you search for "hp" in all of eBay? 8)"

Yeah - I discovered that. And then when you try to be more specific, you find all the 45 hp motors!

So far, "hp calculator" seems to work pretty good.

Part of selling well on ebay is putting as much specific info into your listing title as possible.

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Thinkjet printer 2225D

*Message #1 Posted by **Bill Lafferty** on 29 Dec 2005, 5:33 p.m.*

I know it's not a calculator query, but someone here might know ... Do you need a special HP cable to connect a HP Thinkjet 2225D serial printer to a computer? Mine doesn't seem to work with an order RS232C cable. Thanks, Bill in Cooma, Australia

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HP Forum Archive 15

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HPs on ebay: should I sell overseas?

*Message #1 Posted by **erik** on 29 Dec 2005, 1:46 p.m.*

I'm about to put a whole mess of HPs on eBay and I'm totally undecided about selling overseas. All I can see ahead of me are hassles and paperwork. Does anyone know how to minimize the negatives?

One thing I'm thinking about is only taking Paypal from overseas bidders, since (obviously) payment will be quick and I can use Paypal to pay for global priority mail postage. What's the general feeling here about Paypal only? Sure would make my life easier!

Re: HPs on ebay: should I sell overseas?

*Message #2 Posted by **Ron Ross** on 29 Dec 2005, 2:06 p.m.,*
in response to message #1 by erik

It is the Seller's right to make any terms he please's.

However, I do not bid on Paypal only auctions as I refuse to use Paypal. I may be the only one on this site that doesn't, but I suspect not.

But also, I seldom use Ebay anymore either (occasionally, but nothing like in the past).

It is your best way to clear out you items and recieve top dollar (depending upon your terms and your ebay rating).

I won't buy from anyone with more than a few negatives or low percentage. I do look at the reasons for the negatives and bid (or don't bid) accordingly.

Good luck with your auction.

Re: HPs on ebay: should I sell overseas?

*Message #3 Posted by **erik** on 29 Dec 2005, 2:11 p.m.,*
in response to message #2 by Ron Ross

thanks ron. just so i'm clear, i'm thinking paypal-only for overseas only; here in the u.s., it'd be paypal plus checks and m.o.'s, etc.

also, regarding batteries ...

*Message #4 Posted by **erik** on 29 Dec 2005, 2:09 p.m.,*
in response to message #1 by erik

one other thing:

i've got a number of battery packs for my HPs floating around, all in various states of leakage and other sorts of disrepair. in auctions, do bidders generally like to see batteries included, no matter how worthless they

might be, or does it add relatively little to the auction. i guess i'd have similar questions regarding added-value with regard to cases and chargers as well. thanks!

Re: HPs on ebay: should I sell overseas?

*Message #5 Posted by **Matthias Wehrli** on 29 Dec 2005, 2:59 p.m.,*
in response to message #1 by erik

Yes, you have more work with filling out papers, but you also earn more money because there are some hardcore collectors (as me) who will pay high prices on rare items.... ;)

Matthias www.hp-collection.org

Re: HPs on ebay: should I sell overseas?

*Message #6 Posted by **Daniel Diggelmann** on 29 Dec 2005, 4:07 p.m.,*
in response to message #5 by Matthias Wehrli

Yes I can only double Matthias' words. I've bought and also sold from/to all places in the world. The additional paperwork is reduced to a customs declaration sticker on the package which takes less than one minute. Is this different when sending packages from USA? Of course you're reaching more collectors when selling worldwide. One thing I've also noticed is that only little US bidders buy in Europe. Is there a special cause for this? My use of eBay has become more rare lately. I prefer to trade stuff whith people I know. This usually takes more time but at the end it is more fun. Regards from Switzerland, Daniel

Re: HPs on ebay: should I sell overseas?

*Message #7 Posted by **erik** on 29 Dec 2005, 4:36 p.m.,*
in response to message #6 by Daniel Diggelmann

thanks all for the help so far! it's not filling out paperwork that takes time but standing in the lines at the post office, which can be quite long. if i only ship domestically, i can print the postage out at home and just shove the boxes in the window at the po, no need to stand in line. that said, i think i'm going to do overseas, albiet paypal only.

sadly, nothing i have is too rare, except maybe for an hp-10 and an hp-65 with all the trimmings and a number of calcs with boxes. that's about it.

Re: HPs on ebay: should I sell overseas?

*Message #8 Posted by **Howard Owen** on 29 Dec 2005, 5:05 p.m.,*
in response to message #6 by Daniel Diggelmann

> Quote:
>
> .. One thing I've also noticed is that only little US bidders buy in Europe. Is there a special cause for this? ..

I've bought from all over the world, but mostly I purchase from within the US. Two things conspire to keep my dollars here at home. One is the volume of goods available here. My (unscientific) impression is that there simply are more interesting items (as defined by context) on offer in North America than anywhere else. Europe is a close second. Second, there's shipping cost and time. The cost is usually somewhat higher, and the time is always a good deal longer, if you don't opt for very expensive premium shipping. I always use Paypal for foreign transactions. I will only do a cash transaction with someone who I am familiar with through this forum or other means.

As far as selling overseas, I am glad to do that. The extra paperwork really is minimal, and the walk to the post office gets me away from my computer for a bit. 8) It would seem to be in any seller's best interest to increase the pool of available customers as much as possible, but particularly in an auction environment.

Regards,
Howard

Re: HPs on ebay: should I sell overseas?

*Message #9 Posted by **Raymond Del Tondo** on 29 Dec 2005, 4:01 p.m.,*
in response to message #1 by erik

Hi,

in my experience, the additional paperwork
consists of simply writing some words about
the package contents, a number representing
the content's worth, and a signature .
Ok, I'm from Europe, but judging from the
US parcels I got so far, and the parcels
I sent to the U.S. , it wasn't too
much additional effort for the senders;-)

PayPal, and other forms of non-cash payments,
may all have pros and cons .

I made good experiences with PayPal so far.
It's the fastest way to pay.
Overseas postal money orders are more expensive,
especially to the USA take much longer to arrive,
and force the receiver to go to the postal office
to make it money or put it onto his bank account.

With all online banking or trading methods,
you have to be extra careful regarding your password,
and to avoid opening spam or virus mails which
try to suck your access data.
But that's not a PayPal problem in particular,
but a general problem with all online services.
So these services are as safe as you
handle your personal access data;-)

So to answer in short, IMHO it's not that bad
to at least offer PayPal payments as an option,
because there may be more interested bidders,
especially from non-US locations.

Regards, and have a happy new year!

Raymond

Re: HPs on ebay: should I sell overseas?

*Message #10 Posted by **Gene Wright** on 29 Dec 2005, 4:56 p.m.,*
in response to message #9 by Raymond Del Tondo

From a seller viewpoint, paypal has caused some people problems if they happen to sell to dishonest bidders. As I understand it, if a bidder claims they received material substantially different than the auction, paypal refunds $$ to the buyer when they still have the goods...before the goods have been returned to the seller.

That's a rough spot to be in as a seller...you're out the goods and have no $$.

I know several web sites where people were very upset about it. Searching on google should reveal them.

I personally have no idea as to the truthfulness of these reported problems, but they scared me enough for potential bogus buyers that I usually don't take paypal.

One would think that if an ebay buyer had a relatively high, good feedback rating that accepting paypal from them would not be a problem...but often, saying you take paypal will mean you have to accept it from those with 0 or negative feedback too.

For overseas bidders, bidpay.com is another alternative and one that I usually accept.

Just FYI.

Again, for all I know these web pages you will find are made-up nonsense...but I decided not to risk it.

Re: HPs on ebay: should I sell overseas?

*Message #11 Posted by **sjthomas** on 1 Jan 2006, 11:04 p.m.,*
in response to message #10 by Gene Wright

> Quote:
>
> For overseas bidders, bidpay.com is another alternative and one that I usually accept.

I just saw the following notice at bidpay.com:

Effective December 31, 2005, BidPay.com, Inc. will be discontinuing operations. As a result, BidPay will no longer offer payment services to the online auction industry. We regret any inconvenience to our users and thank them for their loyal patronage. Customer service will remain available at bidpayservice@bidpay.com through the month of February.

Re: HPs on ebay: should I sell overseas?

*Message #12 Posted by **Randy** on 29 Dec 2005, 6:55 p.m.,*
in response to message #1 by erik

My two cents worth:

0) There are very, very few dishonest people in the HP game :)

1) Include batteries even if leaking, package separately.

2) Accept Paypal no matter what, it means higher bids. Dismiss the naysayers as sour grapes. You can have problems no matter what the source of funds. Paypal, like their fees or not, is by far the lowest overhead for a buyer. More buyers = higher bid prices.

3) International shipments and Paypal. Well, there's the rub. Most low cost ways to ship out of the US do not meet Paypal's "seller protection" plans because you do not have tracing. Solution: insist on EMS (Express Mail Service) shipping for any export deals. You can print your postage and customs forms online and have package tracing to most destinations. Just list EMS (only) in the eBay shipping calculator for export and the buyers can see what the cost will be and make their own decision.

IMO, it's a no brainer. eBay and Paypal can work well if you use it wisely. Lots of photos, good, honest descriptions and fair shipping fees work to your advantage.

Re: HPs on ebay: should I sell overseas?

*Message #13 Posted by **erik** on 29 Dec 2005, 7:03 p.m.,*
in response to message #12 by Randy

randy:

i'm going to do pretty much as you suggest. paypal also offers global priority mail and i think that's cheaper than express, so unless i'm wrong i'll use that. thanks for chiming in!

Re: HPs on ebay: should I sell overseas?

*Message #14 Posted by **Randy** on 29 Dec 2005, 7:54 p.m.,*
in response to message #13 by erik

A couple of things about Global Priority:

1) It is very good to most Western European (EU) countries and AUS/NZ. There are many central euro countries for which it is not accepted (Italy being a notable exclusion).

2) There is a four pound weight limitation.

3) There is no package tracability.

4) There is no insurance available.

GPM is a "Youz pays your money, youz takes your chances" situation. Personally, I've never lost a package using GPM with the exception of Mexico (alleged). In general, the postal systems of France and Italy can be slow to deliver. It all comes back to rule (0) in my previous post...

Re: HPs on ebay: should I sell overseas?

*Message #15 Posted by **Erik** on 29 Dec 2005, 8:42 p.m.,*
in response to message #14 by Randy

thanks, randy, for the postal info. man, is there a lot to know! in any event, i think i'll try global priority and if someone wins in a non-gp country, then i'll suggest express. sheesh! but i do appreciate your help.

Re: HPs on ebay: should I sell overseas?

*Message #16 Posted by **Giuseppe Marullo** on 30 Dec 2005, 2:32 p.m.,*
in response to message #14 by Randy

Italians are VERY aware about the postal problems, and I DO require the seller to ship insured, if tracked even better.

That's my rule when I accept to BUY from an overseas seller from Italy. So far, only very positive experience, kind people ebay or not, paypal or not.

Buon Anno!

Giuseppe Marullo

Re: HPs on ebay: should I sell overseas?

*Message #17 Posted by **thebullcabinet** on 31 Dec 2005, 2:57 a.m.,*
in response to message #1 by erik

We have sold many items outside the US, usually with no problems. However, there is one issue that regularly comes up - Many foreign buyers ask us to label the item sold as a "gift" on the customs form, in order to avoid paying customs.

Re: HPs on ebay: should I sell overseas?

*Message #18 Posted by **erik** on 31 Dec 2005, 6:24 a.m.,*
in response to message #17 by thebullcabinet

And do you comply?

Re: HPs on ebay: should I sell overseas?

*Message #19 Posted by **Walter B** on 31 Dec 2005, 7:47 a.m.,*
in response to message #18 by erik

So far I *never* had to pay customs for a vintage calc delivered from USA. I live in Germany (= EU) and traded quite a bit with Northern America, using USPS always. The only "extra" I saw on the parcels was a green sticker indicating they contain a "calculator" worth some 10 US$. But there may be other laws in other countries.

Until today, everything arrived safely - no losses even without insurance or tracking. The only drawback IMHO is that USPS is *terribly* slow even with air mail (several weeks). Charles Lindbergh had a faster plane than they use by far! Wonder they still work with biplanes overseas, needing a stop on Greenland ... d;-P

So the typical situation is: when I win an auction, I send the money using PayPal, then I wait weeks until the item arrives - and most sellers will give feedback not earlier than I give. No comment, just experimental facts.

For you as a seller I recommend: Address a bigger market. You will gain.

Re: HPs on ebay: should I sell overseas?

*Message #20 Posted by **thebullcabinet** on 31 Dec 2005, 5:24 p.m.,*
in response to message #18 by erik

No. If it's a 48GX, we put "48GX" in the detailed description field. In the value field, we put the actual selling price (e.g., $250), excluding shipping charges, as this is the documented value of the item. Claiming low or no value on an item that is easily documented to have value (e.g., see eBay for value), is asking for trouble from the postal inspector and customs officials, in the admittedly small chance that your package is selected for inspection.

Favorite quote for the day: "A clear conscience is a bargain at any price." Besides, fighting the feds over something this trivial can ruin your whole day.

Re: HPs on ebay: should I sell overseas?

*Message #21 Posted by **Andrés C. Rodríguez (Argentina)** on 31 Dec 2005, 1:11 p.m.,*
in response to message #17 by thebullcabinet

Usually a "no commercial value" is enough to make clear to customs that items are for personal use and not imported goods to be resold. That may make you more comfortable than the "gift" word.

For instance, an HP25 may be worth U$S 40 for me because of my particular fondness for that model, but for customs purposes is a "non commercial value" good, comparable to U$S 5 current scientific calculators of today.

Customs, however, may be very complex for items over a certain money threshold / allowance.

Re: HPs on ebay: should I sell overseas?

*Message #22 Posted by **Andy** on 10 Jan 2006, 11:58 a.m.,*
in response to message #21 by Andrés C. Rodríguez (Argentina)

I've had good luck so far selling HP's overseas. I use Paypal and Western Union. Both have worked out great. The Collectors in Japan have bid quite high on vintage calculators, ie sold an HP 35 for over $500.00 in Mint condition. I usually indicate GIFT and OFFICE PRODUCTS on Customs' forms to prevent pilferage. Value is usually agreed on between Seller and Buyer. One shipment to Switzerland for a battery pack was lost. Package arrived empty. I use USPS GLOBAL PRIORITY MAIL or US AIR MAIL depending on item.

Good luck

Regards,

Andy

Re: HPs on ebay: should I sell overseas?

*Message #23 Posted by **Joe Edwards** on 24 Jan 2006, 10:05 a.m.,*
in response to message #22 by Andy

You just have to let the people know up front that there is a chance of the item being lost. I only ship overseas with some type of tracking..EMS, FedEX, UPS. The buyer pays the shipping bill, so it really doens't matter what it costs...as long as they are willing. I sold my 71B to a gentleman in Japan for very nice sum and made a friend in the process.

Joe

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ENTER key lives on, w/o RPN...(flight computer)

*Message #1 Posted by **ECL** on 29 Dec 2005, 1:37 p.m.*

The large ENTER key caught my eye, but it appears to be an ALG input system.

Link here

If that gives any trouble:

http://www.sportys.com/acb/showdetl.cfm?DID=19&Product_ID=225&CATID=171

ECL

Re: ENTER key lives on, w/o RPN...(flight computer)

*Message #2 Posted by **Les Bell** on 29 Dec 2005, 5:34 p.m.,*
in response to message #1 by ECL

I have one of those, and you're right - it's not RPN. On the other hand, it does have some solver-style capabilities for speed/time/distance and similar calculations. I haven't used it for years, though - it's a battery hog and GPS does all the calculations faster with less data entry, while a circular slide-rule "whizz wheel" is most reliable.

Best,

--- Les
[http://www.lesbell.com.au]

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HP Forum Archive 15

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"New" "HP" Calculator

*Message #1 Posted by **Samuel Heddle** on 29 Dec 2005, 12:50 p.m.*

linky Reason for the quotes: It's not really "New", or an HP. In fact, word is that it's a copy of a Casio calculator. Don't expect too much.

Re: "New" "HP" Calculator

*Message #2 Posted by **Namir** on 29 Dec 2005, 12:54 p.m.,*
in response to message #1 by Samuel Heddle

Intersting ... but not enough fire power!

Thanks for sharin about this new little baby!

Namir

Re: "New" "HP" Calculator

*Message #3 Posted by **Les Bell** on 29 Dec 2005, 5:41 p.m.,*
in response to message #2 by Namir

The mention of "Super visually perfect algebraic mode" is a dead giveaway that it's a Casio under the covers. As a matter of fact, it looks remarkably similar to the Casio that my son's school mandated for his maths class - I hope it has a better manual, but I doubt it. My RPN-leaning brain couldn't work the darned thing.

I noticed that educalc.net is actually based in Singapore. Coincidentally, I think I bought all of my later HP models - 32C, various 41's, 17B and 16C - in Singapore, either while visiting on business or while transitting the airport. The duty free stores there used to have a good selection, but they could never understand why I used to ask to see the manual rather than picking up the calc and pushing buttons at random like the other shoppers. ;)

Best,

--- Les
[http://www.lesbell.com.au]

Re: "New" "HP" Calculator

*Message #4 Posted by **Samuel Heddle** on 29 Dec 2005, 6:00 p.m.,*
in response to message #3 by Les Bell

I actually like the design of this "HP"; I just wish the 33S had used it.

http://www.casio.com/images/a/fx-300msplus_a_300x362.jpg

http://img504.imageshack.us/img504/972/17370889ke.jpg

Edited: 29 Dec 2005, 7:03 p.m.

Re: "New" "HP" Calculator

*Message #5 Posted by **Les Bell** on 29 Dec 2005, 7:05 p.m.,*
in response to message #4 by Samuel Heddle

Yep - that's *very* like the Casio my son uses. Even more annoying is the fact that it has outlasted - by several years - the HP6S I bought for him. Good mechanical design, with a slide-on cover that protects it well in a school bag.

Best,

--- Les
[http://www.lesbell.com.au]

Re: "New" "HP" Calculator

*Message #6 Posted by **Samuel Heddle** on 29 Dec 2005, 9:40 p.m.,*
in response to message #5 by Les Bell

I might buy this one; no RPN, but it's cheap, and might be a nice 20S replacement.

Re: "New" "HP" Calculator

*Message #7 Posted by **Jan** on 30 Dec 2005, 9:23 a.m.,*
in response to message #6 by Samuel Heddle

It appears the guys at HP don't have any sense of honour left. Of all the crap they have presented on the calculator market lately this is I think the limit (or is it the 33S? HP, please do something about the design of that one! It ****!). Sorry for the explicit reaction folks, just got a little upset. I revived an old HP-67 today: now that's what you call a calculator. Where have the good old days gone?

Re: "New" "HP" Calculator

*Message #8 Posted by **Gene Wright** on 30 Dec 2005, 9:59 a.m.,*
in response to message #7 by Jan

Lol. When in the good old days did HP ever had a calculator for under $15?

Don't like it? Then don't buy one. :-)

Re: "New" "HP" Calculator

*Message #9 Posted by **Jan** on 30 Dec 2005, 11:27 a.m.,*
in response to message #8 by Gene Wright

You are right Gene: HP never had a calculator under $15 in the good old days. But low end HP models were not that expensive in those days either (HP 21/31/10c for instance). I have nothing against the fact that HP offers the 8s. The fact is that I am just afraid that HP will move more and more to mass-consumption electronics and that it will abandon its old more traditional trade: high quality electronics for professionals. The fact that they offer a casio calculator with an HP label could very

well be consistent with a desire to have a market share also on the low-end market, but since they do not develop their calcs by themselves anymore for some time, I think we could also very well be the whitnesses of the last generation of high quality HP calculators (49 series). I do not exclude the possibility that the 8s will in fact be the first product in a line of mediocre machinery sold (not even produced) by HP, whereas the high-end trade will be left to other manufacturers. That would just be a pitty.

Re: "New" "HP" Calculator

*Message #10 Posted by **Gene Wright** on 30 Dec 2005, 1:15 p.m.,*
in response to message #9 by Jan

Jan wrote: "You are right Gene: HP never had a calculator under $15 in the good old days. But low end HP models were not that expensive in those days either (HP 21/31/10c for instance)."

Gene: Until adjusted for inflation. The HP21 was $125 back in 1975. Today, that's well over $300. The HP10c was $75 or so back in 1983. Today, that's still over $150 at least.

"I have nothing against the fact that HP offers the 8s. The fact is that I am just afraid that HP will move more and more to mass-consumption electronics and that it will abandon its old more traditional trade: high quality electronics for professionals."

Gene: A lot of that business went with Agilent.

"I do not exclude the possibility that the 8s will in fact be the first product in a line of mediocre machinery sold (not even produced) by HP, whereas the high-end trade will be left to other manufacturers. That would just be a pitty."

Gene: Well, the 30S, 9S, and 9G were all OEM products, just as the HP8S seems to be. I don't make any conclusions at all about the low-end products. HP still has quite a hand in their products that aren't low-end. I just wouldn't get too up in arms about a $15 calculator.

Re: "New" "HP" Calculator

*Message #11 Posted by **Bob** on 30 Dec 2005, 9:14 p.m.,*
in response to message #7 by Jan

I just picked up another 33S a week ago and I am impressed with the improvements over the early versions. The display is clearer and it is RPN.

It is no 41CV or 42S, but then it is only $49.

Of course, I don't use a calc the way I did 20 years ago either, so I guess it all balances out.

Re: "New" "HP" Calculator

*Message #12 Posted by **Jan** on 31 Dec 2005, 7:51 a.m.,*
in response to message #11 by Bob

Ok but there is still that keyboard. I simply cannot like it, it makes the calc look like a remote control or something. It's not user friendly either since it is somewhat messy. And that's the pitty because in terms of functionality it is a good calculator I believe (quite similar to the 32SII) and it's an RPN calculator. The latter is perhaps the strangest thing from a marketing point of view, since I don't think that the vast majority of RPN enthousiasts will like the looks of the 33S. They usually want something more down to earth and a more professional appearence. I mean, compare the 33S to the 41-series or even the voyager series: quite a difference in style isn't it. The design of the 33S would be nice for a lower end ALG calculator meant for high-school students but not for a professional calculator. At least, that is what I think.

Re: "New" "HP" Calculator

*Message #13 Posted by **Gene Wright** on 30 Dec 2005, 10:04 a.m.,*
in response to message #4 by Samuel Heddle

Slightly better image. :-) I'm not sure this will be sold in the US. The dealers appearing to carry it are all in the Taiwan region.

http://home.comcast.net/~genela/HP8S.jpg

Re: "New" "HP" Calculator

*Message #14 Posted by **Samuel Heddle** on 30 Dec 2005, 11:16 a.m.,*
in response to message #13 by Gene Wright

Hey, everyone got one wish fulfilled; blue and yellow shift keys!

Re: "New" "HP" Calculator

*Message #15 Posted by **Wayne Brown** on 30 Dec 2005, 7:36 p.m.,*
in response to message #13 by Gene Wright

Wow, a new HP that actually *isn't* horrifyingly ugly. If it were RPN and had a big **ENTER** key, I'd be glad to buy at least two or three of them.

Re: "New" "HP" Calculator

*Message #16 Posted by **brian healy** on 1 Jan 2006, 6:02 p.m.,*
in response to message #13 by Gene Wright

Gene,

Any chance that in the future we might get a 33s with revised cosmetics? Say a dark background with blue and gold or orange shifted functions? It would make living with the chevron keyboard and the small enter key a lot easier. The functionality of the 33s is good in my opinion, but the cosmetic design is hard to live with.

Re: "New" "HP" Calculator

*Message #17 Posted by **Jim Creybohm** on 30 Dec 2005, 12:26 p.m.,*
in response to message #1 by Samuel Heddle

If you really need to buy an HP, and it is OK if it is ALG, then why not pick up an HP20S on EBay? I bought a (very) used on a couple of months ago, and it is a great little rig - OK its not a 41 nor a 48, but I am not

nearly as stressed leaving it at work. I paid 10 bux for it.

Programmable, 10 mem, has a large horizontal INPUT key (looks almost like an Enter key) and best of all, a quality feel.

Highly recommended!

I don't need hp; I need RPN

*Message #18 Posted by **db (martinez, ca.)** on 30 Dec 2005, 12:37 p.m.,*
in response to message #17 by Jim Creybohm

Fortunatly, I have a few.

Re: I don't need hp; I need RPN

*Message #19 Posted by **Nenad** on 31 Dec 2005, 5:06 a.m.,*
in response to message #18 by db (martinez, ca.)

Strongly supported!

RPN is really something to be appreciated. IMHO, RPN is preferably related to Hewlett Packard calculators, though there existed other RPN models. HP Invent calculators are something completely different.

IMHO, there is no need to even discuss HP 6s, 8s and simmilar algebraic HP Invent stuff. The reason is obvious: why not discuss then every 5$ (or 32 kuna) kung-fu-drastic-plastic produced calculator available in a supermarket or delivered freely with a 5 kg pack of washing powder.

Happy New Year to all the moHP community. For me, it is very nice to have such a web place where I can read informative, well prepared and polite posts from very competent people. Thank you Dave and thank you all!

Re: I don't need hp; I need RPN

*Message #20 Posted by **Walter B** on 31 Dec 2005, 8:10 a.m.,*
in response to message #19 by Nenad

Fully agree! :-))

IMO, the most elegant algebraic pocket calc HP designed was the 27s. For me as a statistics aficionado also the 21s has some value. But I would love them if they were RPN ...

Re: I don't need hp; I need RPN

*Message #21 Posted by **brian healy** on 1 Jan 2006, 6:13 p.m.,*
in response to message #19 by Nenad

I agree with you 100%. I need RPN. I need a basic RPN calculator similar to the 33s, but without the bad design associated with invisible decimal points, bad keyboards, and a bad color scheme. HP, please no more styling gimmicks. I want something that looks like a prefessional tool, not a toy.

Nicer than 6s, IMHO

*Message #22 Posted by **Andrés C. Rodríguez (Argentina)** on 31 Dec 2005, 1:13 p.m.,*
in response to message #1 by Samuel Heddle

Oh, if only it had RPN...

Re: "New" "HP" Calculator

*Message #23 Posted by **Eddie Shore** on 2 Jan 2006, 10:37 a.m.,*
in response to message #1 by Samuel Heddle

It looks like a Casio. Why no (optional) RPN mode? It is what differentiates HP from anyone else.

Re: "New" "HP" Calculator

*Message #24 Posted by **John** on 18 Jan 2006, 12:42 p.m.,*
in response to message #23 by Eddie Shore

Continuous memory ? Programable ?

This Looks like another standard dumb Calculator that powers-up with a full memory-wipe. (Academic meddelers love calcs w/ no real memory)

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HP-11C

*Message #1 Posted by **cbond** on 29 Dec 2005, 7:01 a.m.*

Lost the manual and can't remeber how to get into program mode. Help!!!

Re: HP-11C

*Message #2 Posted by **Vieira, L.C. (Brazil)** on 29 Dec 2005, 11:19 a.m.,*
in response to message #1 by cbond

Hi, Chond;

the program mode is activated through [g][P/R], where [P/R] is written in blue in the slanted face of the the [R/S] key (Run/Stop). This sequence toggles from Program mode to Run (normal) mode.

Cheers.

Luiz (Brazil)

Edited: 29 Dec 2005, 11:21 a.m.

Re: HP-11C

*Message #3 Posted by **Charle** on 30 Dec 2005, 12:00 a.m.,*
in response to message #2 by Vieira, L.C. (Brazil)

You are awesome, I must have pressed every series of buttons but that...GREAT!!!!!!!!!!

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More value than a HP01! ! !

*Message #1 Posted by **Gileno** on 28 Dec 2005, 4:14 p.m.*

http://cgi.ebay.com/UNIQUE-CASIO-SCIENTIFIC-CALCULATOR-CFX200-WATCH-RUNS_W0QQitemZ5071139464QQcategoryZ31387QQrdZ1QQcmdZViewItem

Re: More value than a HP01! ! !

*Message #2 Posted by **Larry Corrado, USA (WI)** on 28 Dec 2005, 9:20 p.m.,*
in response to message #1 by Gileno

But the buyer gets $5 in "future store credit." ;-)

Caveat emptor.

Larry

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Sells a HP41CY :-))

*Message #1 Posted by **Gileno** on 28 Dec 2005, 2:32 p.m.*

http://www.mh2img.net/fotos/1205/28/Image.jpg

Edited: 28 Dec 2005, 3:52 p.m.

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HP-41/71B/48 VIBRATION ANALISYS

*Message #1 Posted by **FABIO ALBONICO** on 28 Dec 2005, 10:49 a.m.*

I'm looking for general software for one of the machine in subject for mechanical vibration analisys. Somebody can help me?

Thanks

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HP-48SX display problem

*Message #1 Posted by **FABIO ALBONICO** on 28 Dec 2005, 5:42 a.m.*

I have some problem with the display of my HP-48SX. Normally a vertical line of pixel near the middle (a little on the right) doesn't light. Sometimes if I stroke hardly the calculator on the desk (on a paper) then I light on and the display is ok. As anybody similar problem?

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TI-57 emulator beta testers needed ... [OT]

*Message #1 Posted by **HrastProgrammer** on 28 Dec 2005, 4:32 a.m.*

As some of you already know, I am investigating a possibility to develop a TI-59 emulator for HP-48GX/49G for some time. While such emulator is still very far away, I just succeeded to make a true TI-57 emulator for Windows (TI-57E). Although I am with HP most of the time, TI-57 was my first (programmable) calculator so it has a special value for me because I learned (calculator) programming on it.

To be honest, TI-57E is more a development and test platform because it is very ugly but it does the job. The development was possible because of the availability of a few TI patents describing TMC1501 CPU and containing TI-57 ROM object code. This object code was obviously manually retyped on a typewriter because it contains a lot of errors. And each patent has different errors so I took 6 of them and compared the whole ROM instruction by instruction (I just had nothing smarter to do during the holydays) trying to figure out which instruction is correct if there is a difference between individual patents. Then I wrote a disassembler and disassembled the ROM and resolved a few more errors by running the emulator and following the instruction traces. Currently there are just a few instructions for which I am not 100% sure but it seems like they are all correct. The additional problem was that this object code is probably not from the final product because it contains a few bugs which aren't present in the production calculators (or, at least, I haven't heard about them): (1) RST instruction breaks a running program and (2) Sigma+/Sigma- corrupt instructions at program steps 48 and 49 (and modify program counter, as well). I corrected these bugs so TI-57E seems to work correctly for all test cases and programs I executed. Even synthetic programming is working so CPU emulation is complete. For example, the famous GTO 2nd 48 LRN Exc SST Lbl 1 GTO 2nd 48 R/S INV STO 3 +/- +/- sequence which in fact turns TI-57 into TI-57C is working (and from the ROM disassembly I can even find why)!

As far as I know, it is the first real emulator of an old TI calculator and TMC CPU ever. The second stage would be to port TI-57E to HP-48/49. But, before I proceed, I need a few beta testers for TI-57E. If you are interested then you can contact me by mail (e-mail address is somewhere on http://hrastprogrammer.tripod.com) ...

Thanks and sorry for OT ...

Re: TI-57 emulator beta testers needed ... [OT]

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 28 Dec 2005, 2:11 p.m.,*
in response to message #1 by HrastProgrammer

Hi, Hrast;

I still have my TI57 (working fine, and effectively my first calculator...), and I can go ahead trying out whatever you want related to it. I am sure that there are many other owners around here, so, consider me as one of them.

lcvieira (at) quantica (dot) com (dot) br

As you know, I have the HP49G/G+ and the HP48SX/G+/GII And I'd gladly try your emulator out.

Best regards.

Luiz (Brazil)

Re: TI-57 emulator beta testers needed ... [OT]

*Message #3 Posted by **HrastProgrammer** on 29 Dec 2005, 7:27 a.m.,*
in response to message #1 by HrastProgrammer

I forgot to mention (in all mails) that you can access the debugger and look at the CPU registers by double clicking with the mouse on the emulated display above the keyboard ...

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www.kuipers.to/hp41.htm - Can anyone access it?

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 28 Dec 2005, 12:17 a.m.*

Hi all, Meindert (?);

I am trying to access Meindert's home page for a couple of days and did not succeed. Does anyone know if it has been moved or renamed? Meindert?

Maybe it is in maintenance or being rebuilt...

Any news are welcome. Thanks.

Luiz (Brazil)

Re: www.kuipers.to/hp41.htm - Can anyone access it?

*Message #2 Posted by **Howard Owen** on 28 Dec 2005, 3:34 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

No news, but it appears to be a failure in name service:

```
hbo@gate|501> whois kuipers.to
Tonic whoisd V1.0
kuipers ns1.bluedns.nl  213.196.1.192   ns3.bluedns.nl  213.196.31.200
hbo@gate|502> host kuipers.to
Host kuipers.to not found: 3(NXDOMAIN)
hbo@gate|503> host kuipers.to ns1.bluedns.nl
Using domain server:
Name: ns1.bluedns.nl
Address: 213.196.1.192#53
Aliases:


kuipers.to has address 62.221.254.185
```

So its registered name server knows where it is. It's probably a failure in delegation between the .to root and bluedns.nl. Can't say which one is the problem, though.

http://62.221.254.185 returns:

```
Deze website is niet beschikbaar.
```

Which I assume says "This website is not configured." That would mean that the web server is up and running. But it hosts many domains and needs the name in order to serve the right website.

Remember that Meindert said he was moving into a new home? He also mentioned setting up a bunch of computers. I'll bet he's hosting the site at home, and has transferred it to the service provider while he moves, or something like that.

Re: www.kuipers.to/hp41.htm - Can anyone access it?

*Message #3 Posted by **Chris Roccati** on 28 Dec 2005, 3:49 p.m.,*

in response to message #2 by Howard Owen

Apparently there's some problem with the DNS:

The site itself works fine if you put

62.221.254.185 kuipers.to www.kuipers.to

in /etc/hosts (or your OS' equivalent)

Re: www.kuipers.to/hp41.htm - Can anyone access it?

*Message #4 Posted by **Howard Owen** on 28 Dec 2005, 9:41 p.m.,*
in response to message #3 by Chris Roccati

Doh!

Of course that should work. It's a named virtual host on the other end, and it uses whatever name the client browser gives it, regardless of where the browser gets it from. Entering it into /etc/hosts as you suggest works just fine.

The Windows equivalent file is C:\WINDOWS\SYSTEM32\DRIVERS\ETC\HOSTS . That works on Windows 9X and XP. For NT or 2K, replace "WINDOWS" in the path with "WINNT" Syntax is exactly as demonstrated by Chris.

If you do that, be sure to remove it after awhile. Otherwise it will quit working when (if) the host changes its IP address.

Regards,
Howard.

Edited: 29 Dec 2005, 3:39 p.m.

Re: www.kuipers.to/hp41.htm - Can anyone access it?

*Message #5 Posted by **Meindert Kuipers** on 2 Jan 2006, 3:52 a.m.,*
in response to message #2 by Howard Owen

Hi guys,

This is a bad start of the year. I do not yet have broadband access at home myself (I am back at work now) so I have not noticed this. My website is located at a provider (not at home) and I will contact them today about this.

Meindert

Re: www.kuipers.to/hp41.htm - Can anyone access it?

*Message #6 Posted by **Meindert Kuipers** on 2 Jan 2006, 10:43 a.m.,*
in response to message #5 by Meindert Kuipers

My website is offline at the moment, the registration was expired and my provider failed to extend it. This should be corrected now, but will need several hours for the domain to appear again in the DNS.

Meindert

Thanks, Meindert!

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 2 Jan 2006, 9:34 p.m.,*
in response to message #6 by Meindert Kuipers

Hey, Meindert;

although you are facing these problems, it is good to 'read' from you again.

If there is anything we can do from here... Let us know.

Most of all, thank you for allowing us to have access to such information you have at your website.

Best regards.

Luiz (Brazil)

Domain still not available

*Message #8 Posted by **Meindert Kuipers** on 3 Jan 2006, 4:29 a.m.,*
in response to message #7 by Vieira, Luiz C. (Brazil)

Status is that the domain is still propagating through the DNS. This also involves my email, and its seems that all mails that have been sent to me the last two weeks have disappeared. Through webmail I have answered most on the 25th and 26th of December, but I may have no way of retrieving the emails (and my answers). If there were any urgent messages, please send them again after about 24 hrs from now when the domain is up and running again.

My broadband connection in my new home still does not work either. The problem is now identified and I hope that this is fixed before the end of the week.

Meindert

MLDL2000 website available again.

*Message #9 Posted by **Meindert Kuipers** on 4 Jan 2006, 8:02 a.m.,*
in response to message #8 by Meindert Kuipers

The MLDL2000 Website and email is now working again. The good news is that all my emails that were pending on the server are still there, so nothing seems to be lost (except the messages sent while the domain was down, but those should have resulted in an error message).

Meindert

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Looking for the first Field Engineering HP RPN model 15C

*Message #1 Posted by **Nostradamus** on 27 Dec 2005, 10:51 p.m.*

I had used the 15C with either hand without a desk, you can't do that with the 32SII. When will a field calculator be made? One loaded with conversions (my memory is lacking and the pamphlet in the pocket tears and fades), register memory, basic integrals and derivatives simply a semi-NON-programmable model. One with trig, ln, e, pi, i, factorial, the 32SII is semi-close but it's oriented vertically instead of horizontally - and is "tapered" seems the 15c shape was ideal, if not why continue to make a 12C. I can only assume mankind doesn't want to consider: "in the field engineering" What is the modulus of elasticity or thermal growth of whatever... or natural frequency, BTU's, horsepower, joules, blah, blah, blah..... I can only guess HP has had more than one email about it's good old 15C that just didn't have enough customers. What do these antiques retail for on eBay, $180 to $300 ? And they still don't know what 9.8x10E-6 is, so you have to memorize it along with 300 other tidbits, so can you say on the spot if it will hold or break, should you evacuate or stay? I don't know let me go back to the office and program it. Better yet let me use a colloquial equals sign to slow down repetition in the field.

Re: Looking for the first Field Engineering HP RPN model 15C

*Message #2 Posted by **Hugh Evans** on 28 Dec 2005, 2:29 a.m.,*
in response to message #1 by Nostradamus

The designs I have created for OpenRPN are all highly rugged but are constrained to fitting in a shirt pocket. I'm open to making an optional ultra rugged accessory kit (perhaps a more hefty protective boot for example). If you have suggestions or requests I'd love to hear them.

The stock enclosures will feature a rigid core containing all the electronics surrounded by a 0.125" thick black neoprene boot. It will be bordering on overkill for normal usage, but field workers will undoubtedly want more protection.

Either post to this thread or send me an e-mail.

Best Regards, Hugh

Re: Looking for the first Field Engineering HP RPN model 15C

*Message #3 Posted by **Anon** on 28 Dec 2005, 6:35 a.m.,*
in response to message #2 by Hugh Evans

Hugh,

I'm very sorry, but eventually you are going to have to face reality. OpenRPN, like QonoS, is Vaporware . The difference is Hydrix had cash and managed to produce prototypes - something openRPN has not yet done.

Edited: 28 Dec 2005, 6:37 a.m.

Re: Looking for the first Field Engineering HP RPN model 15C

*Message #4 Posted by **Howard Owen** on 28 Dec 2005, 9:15 a.m.,*
in response to message #3 by Anon

Bad troll! No cookie!

Re: Looking for the first Field Engineering HP RPN model 15C

*Message #5 Posted by **Eric Smith** on 28 Dec 2005, 1:52 p.m.,*
in response to message #3 by Anon

> Quote:
>
> The difference is Hydrix had cash and managed to produce prototypes - something openRPN has not yet done.

There's another interesting difference between the two projects. OpenRPN seems thus far to be focusing on developing a cost-effective manufacturing plan (for relatively low volumes without needing a very large investment in tooling), and hasn't yet developed electronics or software.

The Quonos from Hydrix had working electronics and software, but no cost-effective manufacturing plan.

In my not-so-humble opinion, developing the electronics and software is EASY compared to the manufacturing issues. If OpenRPN can successfully tackle the latter, the rest will be a cakewalk.

Re: Looking for the first Field Engineering HP RPN model 15C

*Message #6 Posted by **Nostradamus** on 28 Dec 2005, 4:27 p.m.,*
in response to message #2 by Hugh Evans

Yes. Make it the exact same shape and size as the 12C or 15C. Put a large enter button in the middle like the 15C or 12C. Make the screen exactly like the 12C or 15C perhaps a few decimals longer (easier said than done), maintain all the basic primary button functions like on the 32SII, and majority of secondary functions but, Get rid of the programming ability (aside from complex mode ability), supplant the programming with a library of constants i.e. thermal capacity of sand, thermal growth of steel, stainless, aluminum, copper, glass, yield stresses of steel, stainless, aluminum, density of steel, water, aluminum, concrete, granite, polyethylene, conduction of wood, asbestos, brick, concrete, water, max solar radiation, heat of vaporization of water, of course I know all these things and then on a Tuesday or Thursday I forget one of them! You could display: k sand = 0.44 btu/hr-ft-F (alpha numeric library seems simple enough) Or and I never said this: provide the alphabet "on the keys" to allow us to type in our own. (No external methods please, no extra devices). In this way I'll only have to memorize applicable equations. And I'd say an 1/8 inch protective skin like an iPod would have been fine for the old 15C but, why talk of extraneous things like skin what happened to physical function, look at how your hand grips an object - why is it fact that a calculator laid out horizontally is better than vertical (and now watch everyone say, hum is that right?). The key is simplify. I don't just mean to mention construction, consider canvasing the engine testing world 26,000 rpm mil displacement or production line equipment monitoring decision making "constants" ... When do you apply MC/I or even simpler sigma = F/A or Thrust = PxA but, I can graph y=x**2 + 5 I've said enough, good luck with an on-the-spot engineering calculator.

Re: Looking for the first Field Engineering HP RPN model 15C

*Message #7 Posted by **ECL** on 28 Dec 2005, 5:18 p.m.,*
in response to message #6 by Nostradamus

Nostradamus wrote:

> Quote:
>
> Get rid of the programming ability (aside from complex mode ability), supplant the programming with a library of constants

You must be kidding? There are numerous programs that can apply to 'in the field' work.

If you expect us to respond to your points, please format your statements. You jump around quite alot, and it places the burden on us to extract your intent.

Nixing programmability for more storage space is unecessary. How many megs of text do you anticipate you will need? Perhaps you would find a PDA w/ Excel more suitable. I have created some nice reference files on my PocketPC.

ECL

Re: Looking for the first Field Engineering HP RPN model 15C

*Message #8 Posted by **Howard Owen** on 28 Dec 2005, 6:13 p.m.,*
in response to message #7 by ECL

Perhaps "don't require programming for this laundry list of functions" is a compromise that would work? Or maybe "make the machine easy to use for the non-programmer" would be closer?

With today's memory capacities, I don't think you seriously have to trade off the *capability* of programming with, say, an extensive library of constants. But you could embed programmability to such a degree that the real utility of the machine would only be accessible through programming. I think that ought to be avoided, but I don't think programmability should be jettisoned.

Regards,
Howard

Re: Looking for the first Field Engineering HP RPN model 15C

*Message #9 Posted by **Nostradamus** on 28 Dec 2005, 9:32 p.m.,*
in response to message #7 by ECL

I don't program in the field. What I need is a simple small calculator that is loaded with conversions and constants and functions - simply no need for programming - so why have it in a simple field tool.

Perhaps it should be titled a fast reference field calculator.

Re: Looking for the first Field Engineering HP RPN model 15C

*Message #10 Posted by **Howard Owen** on 28 Dec 2005, 10:02 p.m.,*
in response to message #9 by Nostradamus

Got it. And if folks like you were the only customers, then I would expect OpenRPN to deliver a product more or less in line with your specifications. But I doubt they'll rip out the programmability just to exactly hit your tarets. But there are a couple of points that may not be obvious about that.

1. Ripping out the programming probably won't reduce the price of whatever OpenRPN delivers, like it might if it were HP or TI doing the machine. A lot of the software engineering is probably going to be volunteer work.
2. That also means the software will reflect the interests of the volunteers. (And they are all programmers!)
3. You could benefit from someone else's programming, even if you didn't do any yourself. Perhaps the presentation of the constants would end up not being ideal for you, and a small amount of programming would make a difference.
4. Programmibility shouldn't get in the way of operation of the calculator in normal, non-automated modes.

In an ideal world, your input on how you use a machine should have influence in a community focused project like OpenRPN. I wouldn't expect them to drop the programming, but your overall requirements sound like they could make a heck of a good "use case" in a system design effort. I think it would be useful for them to hear that you don't want a programmable. It should make them think how to ensure the regular operation of the machine doesn't get bogged down in bells and whistles. You should wander over there and put in your 2 cents.

Regards,
Howard.

Re: Looking for the first Field Engineering HP RPN model 15C

*Message #11 Posted by **Walter B** on 29 Dec 2005, 3:40 a.m.,*
in response to message #9 by Nostradamus

@ Nostradamus:

Please take a look to this link.

Therein please take the post of Oct.14th to start with, giving you a comprehensive user interface proposal to look at. You'll see plenty of space reserved for CONSTants and CONVersions already as you requested. And you will have the comfort of a typewriter-style keyboard in this model. The keyboard was developed furtheron with the basic concept kept (follow the thread). If you see a need for more functions than incorporated there please tell me.

Besides, I agree with ECL: *some* formatting would be beneficial in your post. And I would keep the programming capabilities, too: you might come to like them later - and they don't limit you in the beginning.

Edited: 29 Dec 2005, 4:43 a.m.

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Hurray for all HP Museum website users!!!

*Message #1 Posted by **Namir** on 27 Dec 2005, 1:42 p.m.*

I have to congratualte all of us who frequent this website. On Sunday there was **NOT A SINGLE NEW MESSAGE** posted! This means we are not the geeks we are accused of, but dedicate folks who have a normal and healthy family life!!

:-)

Re: Hurray for all HP Museum website users!!!

*Message #2 Posted by **Howard Owen** on 27 Dec 2005, 4:11 p.m.,*
in response to message #1 by Namir

Not so fast there! How many people checked for new messages *on the 25th??*

Maybe we are just geeks who don't like to speak first. 8)

Re: Hurray for all HP Museum website users!!!

*Message #3 Posted by **Namir** on 27 Dec 2005, 4:29 p.m.,*
in response to message #2 by Howard Owen

You hve a point! Ask the curator!

:-)

Re: Hurray for all HP Museum website users!!!

*Message #4 Posted by **Ed Look** on 27 Dec 2005, 6:47 p.m.,*
in response to message #3 by Namir

Heh.

How many of us WOULD HAVE got on and posted if they got a "break in the action" on the 25th! ;) ;P

Re: Hurray for all HP Museum website users!!!

*Message #5 Posted by **Bram** on 28 Dec 2005, 5:01 a.m.,*
in response to message #1 by Namir

> Quote:
>
> ... but dedicate folks who have a normal and healthy family life!!

True, and my guess is that Santa brought us all an HP related present that had to be examined first.

Re: Hurray for all HP Museum website users!!!

*Message #6 Posted by **Tony Duell** on 28 Dec 2005, 6:12 a.m.,*
in response to message #1 by Namir

Well, I may not have been active here, but I spent the afternoon of Newtonsday (25th December) assembling the Y-drive mechanism from an HP7245A thermal printer/plotter. I'd made the special alignment tools a few days earlier and finally had time to use them.

Some of us rarely spend a day without some HP toy...

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HP-41 different speeds

*Message #1 Posted by **Geir Isene** on 27 Dec 2005, 10:20 a.m.*

I have two fullnut HP-41 CXs. One is about .2-.3 seconds slower at startup than the other. Any info on why?

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12C vs 12C Platinum Cash Flows

*Message #1 Posted by **Katie Wasserman** on 27 Dec 2005, 4:09 a.m.*

In looking through the 12C, 12C Platinum and the New 12C Platinum manuals I see that cash flow processing has been increased. The original 12C allows for 21 cash flows, the 12C Platinum allows for 31 cash flows and the New version allows for 81 cash flows.

But the Error section of the manuals for the 12C Platinum say that Error 6 will be returned if you attempt to set N0 (the number of cash flow in the initial cash flow register). This contradicts what an earlier section of the manual implies and is different from the original 12C. I don't have either Platinum calculator to try this out on, but would like to know what the true situation is.

(Why do I care about this? I'm playing around with various sorting and median calculations that make use of the Nj registers and the algorithms need to use N0.)

Re: 12C vs 12C Platinum Cash Flows

*Message #2 Posted by **Don Shepherd** on 27 Dec 2005, 5:35 a.m.,*
in response to message #1 by Katie Wasserman

Katie, they didn't lie! I don't have the "new" 12c platinum, but the "old" platinum does behave that way. You cannot set n(0) to a value between 2 and 99, like you can on the original 12c. Kinpo strikes again!

Re: 12C vs 12C Platinum Cash Flows

*Message #3 Posted by **Gene Wright** on 27 Dec 2005, 10:09 a.m.,*
in response to message #1 by Katie Wasserman

Katie is correct.

The original 12c platinum would not allow for a value input for N0 and the 12c platinum manual was adjusted to tell users to not do this (which was a change from the black/gold 12c).

When the new 12c platinum was coming out (the one with parentheses) and the manual was being edited to put in algebraic examples everywhere, it became apparent that on the newest 12c platinum, the prohibition against having a value for N0 no longer applied. I convinced Cyrille to allow that language in the body of the manual to be changed to its present state.

Sadly, the change needed in the error section notation of the Error 6 slipped past me. :-(That's the first mistake that's been brought to my attention in the manual.)

In summary:

original 12c : N0 can be used original 12cp: N0 cannot be used newest 12cp: N0 can be used again.

So, thanks for finding it and keep looking!

(Interestingly, Tony Hutchins was instrumental in correcting most of the error section of the manual. Many of these had been wrong since the ORIGINAL 12c manual back in 1981. If you compare the error sections of the 12c manual and the newest 12cp manual, you'll see the differences. Where there are differences, it will be the newest 12cp manual that is in almost all cases correct!)

Gene

Re: 12C vs 12C Platinum Cash Flows

*Message #4 Posted by **Katie Wasserman** on 27 Dec 2005, 11:47 a.m.,*
in response to message #3 by Gene Wright

Gene,

Thanks for alleviating my confusion over this. Sorry about the error section mistake, but you did a great job on the manual! I'm glad to see the additional 50 cash flow registers in the new 12cp and that I can use N0. I better go and buy myself one of these so that I can do some serious programming on it :)

-Katie

Re: 12C vs 12C Platinum Cash Flows

*Message #5 Posted by **Gene Wright** on 27 Dec 2005, 12:58 p.m.,*
in response to message #4 by Katie Wasserman

No, no Katie!

It is never ! a problem to find mistakes. That means they can be corrected when a chance arises. :-)

And, yes, please develop some good programs for the 12cp. I particularly like Tony Hutchins good games for the 12cp. :-)

Gene

Re: 12C vs 12C Platinum Cash Flows

*Message #6 Posted by **Namir** on 27 Dec 2005, 1:39 p.m.,*
in response to message #5 by Gene Wright

Gene,

Do you know of any online store that sells the NEW version of the HP-12CP??? It has been very frustrating to find one. All the storesthat carry HP calclators in my area do not carry the 12CP. I know buying online can be tricky in this case. My wife who buys TI/HP/Casio calculators for a local university bookstore was unable to get me a new 12CP. She called her suppliers and they were too lazy to go look for one that is a new version.

Namir

Re: 12C vs 12C Platinum Cash Flows

*Message #7 Posted by **tony(nz)** on 27 Dec 2005, 11:33 p.m.,*
in response to message #6 by Namir

Quote:

> Gene,
>
> Do you know of any online store that sells the NEW version of the HP-12CP???

I am delighted to see that:

www.educalc.net

have a front page link to the *new* hp12cpt.

They are based in Singapore & excellent to do business with.

I see they now also have a message board.

Cheers, Tony

Re: 12C vs 12C Platinum Cash Flows

*Message #8 Posted by **GE** on 28 Dec 2005, 5:04 a.m.,*
in response to message #7 by tony(nz)

They also carry the "new" HP8s. Does anyone have any info on this one ? At $12 one can't expect major miracles.

Re: 12C vs 12C Platinum Cash Flows

*Message #9 Posted by **tony(nz)** on 28 Dec 2005, 3:43 p.m.,*
in response to message #8 by GE

> Quote:
>
> They also carry the "new" HP8s. Does anyone have any info on this one ?
> At $12 one can't expect major miracles.

It's being launched in SE Asia on 1/1/2006. Picture of box:

http://www.educalc.net/181086.page

There is a lot of detailed info about it at www.educalc.net.

Cheers, Tony

Re: 12C vs 12C Platinum Cash Flows

*Message #10 Posted by **tony(nz)** on 27 Dec 2005, 3:58 p.m.,*
in response to message #3 by Gene Wright

Gene, I totally missed that Nj behaviour - till I was writing a little article a month or so ago. Till then I didn't even realise we could have a variable N0 - I was mislead by the formulae in Appendix D for NPV and IRR - the NPV formula there is only valid for all Nj=1, and the IRR formula is only valid for N0=1 - the +CF0 term should be generalised.

You can even have N0=0 - useful if you want NPV and IRR to ignore R0 (a.k.a. CF0).

Katie, thanks for spotting that superfluous last phrase under Error 6! I look forward to your programs. Hope you can find the new 12cpt - I can report that the keyboard is greatly improved. At work I even switch to ALG so visitors to my desk can use it - much easier than explaining about RPN :-)

Cheers, Tony

Edited: 27 Dec 2005, 4:19 p.m.

Re: 12C vs 12C Platinum Cash Flows

*Message #11 Posted by **tony(nz)** on 28 Dec 2005, 10:12 p.m.,*
in response to message #1 by Katie Wasserman

> Quote:
>
> (Why do I care about this? I'm playing around with various sorting and median calculations that make use of the Nj registers and the algorithms need to use N0.)

One undocumented improvement on the new 12cpt is that [g][CFj] does *not* change the associated Nj. This can make correcting cashflows less stressful. I'd often forget about Nj, assuming it would be unchanged, but on the 12C gold it got reset back to 1.

[g][CFo] does however still always reset the Ro to 1.

It never got documented because the examples in the manual don't really touch on this (he says hurriedly re-scanning the manual<G>)- it's only really evident for j>19 as then one cannot just use [STO] to alter a cashflow. On the 12C gold all cashflows can be manually altered without affecting Nj, by using a direct [STO].

CLEAR REG (non-programmable) resets all Nj=1 on the new 12cpt.

Looking forward to your median program :-)

Cheers, Tony

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HP-42S Rocks!

*Message #1 Posted by **Howard Owen** on 26 Dec 2005, 11:56 p.m.*

I haven't been able to put this little guy down for very long since I got it two weeks ago. This machine is just great! It fixes lots of things that were limiting and/or awkward of the 41C and adds some very nice extras of its own. In the first column are the full alphanumeric capability, easy access to functions, without typing and nearly ideal form factor. In the latter column are items like named variables, matricies with editor, complex numbers, built in solver and numeric integrator and graphics.

Now for the downside. It's such a pity that the 42S represents the high-water mark of keystroke programmable RPN calculators. The machine is full of promise for the future. The I/O is officially limited to printer output, though clever folks discovered you could dump raw memory, ROM and RAM, through the hidden memory editor, out the infrared port. It's still one way, though. The additional memory compared to the 41C is nice, but its tiny compared to other machines of the day. Once again,clever folks have designed a hardware hack to raise the memory to 32K. But then you have to fill it all up one keystroke at a time! The machine cries out for more RAM, and effective mass storage.

The CPU is slow. Nice new features like the alpha graphics are practically unusable for anything beyond small accents because of the speed. The system software isn't perfect either. The matrices are cool, but they are slow too. In an application I'm writing, I use alpha graphics to draw a screen. The graphics data is stored in a 5X7 matrix. The graphics are slow, but if I dump that data out to registers before I run the display update routine, it runs about twice as fast! So there's room for optimization there.

Some annoying limitations from the HP-41C are retained in the 42S. Registers are 56 bits, just like on the 41C, so they can only contain 6 alphanumeric characters. (6x8 = 48 bits + header byte). This make the alpha register size increase to 44 characters less helpful than it might otherwise be. The RPL machines showed the way to stacks and storage that could contain any type of data.

Taking all that into consideration, the 42S is still an awesome machine, all these many years later. HP has refused to release the 42S ROM into the public domain. I take a faint glimmer of hope from this that they might release a "43S" machine someday, with enhanced RAM and processor. Even if they did that in the same way they did the 33S, without changing the system software very much, it would still be a heck of a product. And perhaps some day something like OpenRPN will succeed to the point where it would be realistic to consider what an advanced keystroke programmable RPN machine based on current hardware technology would look like. When that happens, I hope the designers each have access to an HP-42S, to remind them of what the state of the art looked like at its zenith!

Regards,
Howard

Re: HP-42S Rocks!

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 27 Dec 2005, 12:36 a.m.,*
in response to message #1 by Howard Owen

The 32KRAM upgrade makes it sing and dance... Thanks to some of our gurus, here. Open one jump, close

another, change the RAM chip and there it is!

I successfully upgraded at least five (maybe six) units, one of them is my own unit. About keystroke programming, let's see another side of the upgrade: consider inverting a big complex matrix...

Best regards, and welcome to the HP42S fan club!

Cheers.

Luiz (Brazil)

Edited: 27 Dec 2005, 12:39 a.m.

Re: HP-42S Rocks!

*Message #3 Posted by **Howard Owen** on 27 Dec 2005, 2:24 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Thanks for the welcome, Luiz!

The 32K upgrade sounds interesting. Scanning the articles forum here, I don't see one relating to that upgrade. Is information about it available somewhere on the net?

Regards,
Howard

Re: HP-42S Rocks!

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 28 Dec 2005, 12:09 a.m.,*
in response to message #3 by Howard Owen

Hi, Howard;

please, have a look at the posts in this thread and you'll find some info about the 32KRAM chips used to upgrade the HP42S.

If you have the skills and the necessary equipments to go ahead with the upgrading AND you still need advice, let us know. There are some pics around (I have at least two, need to search for) with detailled images.

Best regards.

Luiz (Brazil)

Re: HP-42S Rocks! (32K)

*Message #5 Posted by **Paul Brogger** on 6 Jan 2006, 4:36 p.m.,*
in response to message #3 by Howard Owen

If I may be so bold, MoHPC Article # 199 gives many of the essential details. Do ask questions if you have any.

And, I've bought parts by mail from futurlec.com (COMPONENTS tab, Integrated Circuits / Memory / RAMs). You want a 256K bit (32Kx8) low-power CMOS *surface mount* part. In the barely-remembered past, they sold me quantity 1 at reasonable price. Don't know if they're still so accomodating. But make sure you get the *surface mount* part with the proper dimensions.

Good Luck!

Edited: 6 Jan 2006, 4:45 p.m.

Re: HP-42S Rocks! (32K)

*Message #6 Posted by **Howard Owen** on 6 Jan 2006, 6:57 p.m.,*
in response to message #5 by Paul Brogger

Thanks for the reply, Paul and Luiz. I decided that soldering tiny surface mount parts was beyond my meager soldering skills. If it was a throwaway machine, I might risk it. But not on a 42S that has the 2X speed capability!

Re: HP-42S Rocks! (32K)

*Message #7 Posted by **Paul Brogger** on 6 Jan 2006, 7:17 p.m.,*
in response to message #6 by Howard Owen

You're welcome.

There's also the question of whether you'll ever enter more than 8K of programming, anyway? (And, should you get 8k filled up, will you then want to sacrifice it all to upgrade the calc's memory?)

The 32K is probably useful for large, computationally-generated arrays, perhaps? But the lack of speedy, reliable electronic I/O severely hampers the upgraded 42s as a programming platform.

I took the whole 32K upgrade issue as more of a technical challenge than anything else. Having accomplished it, I never used my 42S again. In fact, I love the 33s' programming model for the kind of problems I end up playing with on the calculator anyway. For anything more complicated than the 33s can easily handle, I'm off to Java on a computer.

Someone *really* oughtta implement a one-finger, hunt & peck robotic programming service for the 42s & 33s. It probably wouldn't pay any bills, but it would be a fun challenge and a marvelous contribution to the community!

Re: HP-42S Rocks! (32K)

*Message #8 Posted by **Howard Owen** on 6 Jan 2006, 11:26 p.m.,*
in response to message #7 by Paul Brogger

LOL!

What *I'd* like to see is a beowulf cluster of HP-41s. 8)

And I've nearly filled the memory of the 42S up with a 1500 line program to play Yahtzee, with bells and whistles. I also sacrificed it (but not before saving it with INPRT) in order to download the ROM so I could use it with EMU42. Your points are well taken, though. I'm not using the machine for real work, but as part of my quest to understand how the architectures of HP handheld calculators evolved over the years. I'm positive nobody would want to key my program into a real 42S, memory enhanced or otherwise. People might like to look at it under EMU42 or Free42, however. It does run in both environments.

Regards,

Howard

Edited: 6 Jan 2006, 11:27 p.m.

Re: HP-42S Rocks!

*Message #9 Posted by **Karl Schneider** on 27 Dec 2005, 1:03 a.m.,*
in response to message #1 by Howard Owen

Hi, Howard --

Very astute observations of yours, regarding the HP-42S. I agree with everything you said, save for one item.

I'm sure that I saw one for the first time (long with the HP-32S and/or HP-32SII) in 1991 at a H-P calculator promotion at a college bookstore. However, I was quite pleased with my HP-15C from 1983, and was a very tight-spender at the time, due to circumstances. (It's probably just as well that I didn't buy one, because I would have spent valuable time learning it.)

I rediscovered the HP-42S in 2002 when participating in this forum, and got a 1989 model that summer through eBay from a somewhat-disgruntled former H-P employee. (Note: the ROM version on the 1988-1990 flat-screen models is different from the later ROM versions, allowing the user to run a program that will change settings to double the processing speed, until the "EXIT" button is pressed.)

It is true that only six alphanumeric characters can be stored in the numbered storage registers or stack registers. However, a numbered register dimensioned for real (not complex) values is 8 bytes (64 bits), because that is the size of the binary-coded decimal floating-point numbers used on all Pioneer-series models.

I/O would have been a very nice thing to have. I wonder if the trim form factor and the expensive, limited-capacity 1.5V cells could have supported I/O adequately. My opinion is that I/O would have been a pre-requisite for H-P to install 32kB of RAM, for issues of practicality and not allowing the user to overextend himself. (Consider a large library of keystroked programs lost, due to lack of backup capability...)

There are ways to utilize large RAM for purposes other than storing programs or data -- for example, programs that create large matrices for calculation of sensitivity or statistics. However, no built-in HP-42S functions do these things.

Regards,

-- KS

Re: HP-42S Rocks!

*Message #10 Posted by **Howard Owen** on 27 Dec 2005, 2:16 a.m.,*
in response to message #9 by Karl Schneider

My 42S has a serial number starting with '29' indicating a 1989 manufacture date. What was that magic command to get 2X speed?

Thanks for the correction on the register size. I assumed that since a register could store only 48 bits of text, that the width was actually 56 bits like the 41C. Knowing there are actually 8 more bits makes the limitation even harder to swallow. (Although I'm not sure 7 or even 8 characters would be a huge improvement, practically.)

I agree that full-featured I/O would probably have seriously compromised the very nice form factor and the price. I also agree that 32K would be risky to maintain on battery backup alone. But part of what I meant by saying the machine was "full of promise" was the fact that those things could be provided today within

the form factor and relatively cheaply. Two SD slots could be stacked in the thickness of a 42S, and all you would need would be one to provide huge quantities of storage, and the capability of loading programs and data from a PC.

Regarding the fact that none of the HP-42S built-ins provide features for large matrix applications, I'd expect a modern follow-on to the 42S to have a fairly extensive math library that would include things like that. The RPL machines are the benchmark there, once again. They seem to set a very high standard in breadth and quality for calculation support libraries, though I am by no means expert enough in that area to judge. But along with a modern processor would come a nice, large, modern, flat memory model. That in turn would allow very large quantities of ROM as well as RAM. What to fill the former with ought to be an interesting discussion.

I'm really hoping this will turn out, some day, not to have been merely an exercise in wishful thinking. If you look at what the mechanical engineering people are doing with small, relatively inexpensive prototyping factories, then we could be on the verge of an era of small-scale, low-cost manufacturing. Even without breakthroughs in that area, projects like Open RPN are trying to deliver the goods today. Here's wishing them all the success they can handle! 8)

Regards,
Howard

Re: HP-42S Rocks!

*Message #11 Posted by **Juergen (CH)** on 27 Dec 2005, 7:29 a.m.,*
in response to message #10 by Howard Owen

HP-42S fast mode under program control

Unfortunately, it does not work on my HP-42S :-(

Regards, Juergen

Re: HP-42S Rocks!

*Message #12 Posted by **Howard Owen** on 27 Dec 2005, 8:41 a.m.,*
in response to message #11 by Juergen (CH)

Thanks, Juergen!

Sorry to hear it doesn't work for you. It does work on my machine, so I'm grateful to you and to Karl for the tip.

Regards,
Howard

Re: HP-42S Rocks!

*Message #13 Posted by **Lee G** on 5 Jan 2006, 10:50 a.m.,*
in response to message #1 by Howard Owen

I cannot agree more. I had a 42s throughout most of college. It handled everything I needed it to for my engineering degree.

The downside: Other people like them too, enough to steal them

Alas, I no longer have one (for over eight years now). But I still remember how much better it was than anything else or since. I also vote for HP to release a new model. Here's hoping they read this forum.

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HP 67

*Message #1 Posted by **Clive Truman** on 26 Dec 2005, 7:37 p.m.*

I would like to find some one to repair my calculator (to HP standard). I would idealy like my "Card Reader" repaired also the battery pack updated to take Nicad/and Duracell type batterys if possible. I live in the UK. can any one help me with suggestions.

Regards Clive Truman.

Re: HP 67

*Message #2 Posted by **Karl-Ludwig Butte** on 1 Jan 2006, 8:06 a.m.,*
in response to message #1 by Clive Truman

Hello Clive,

If you like, I could do the repairs for you. You can contact me at LKL_Butte@web.de

Kind regards

Karl

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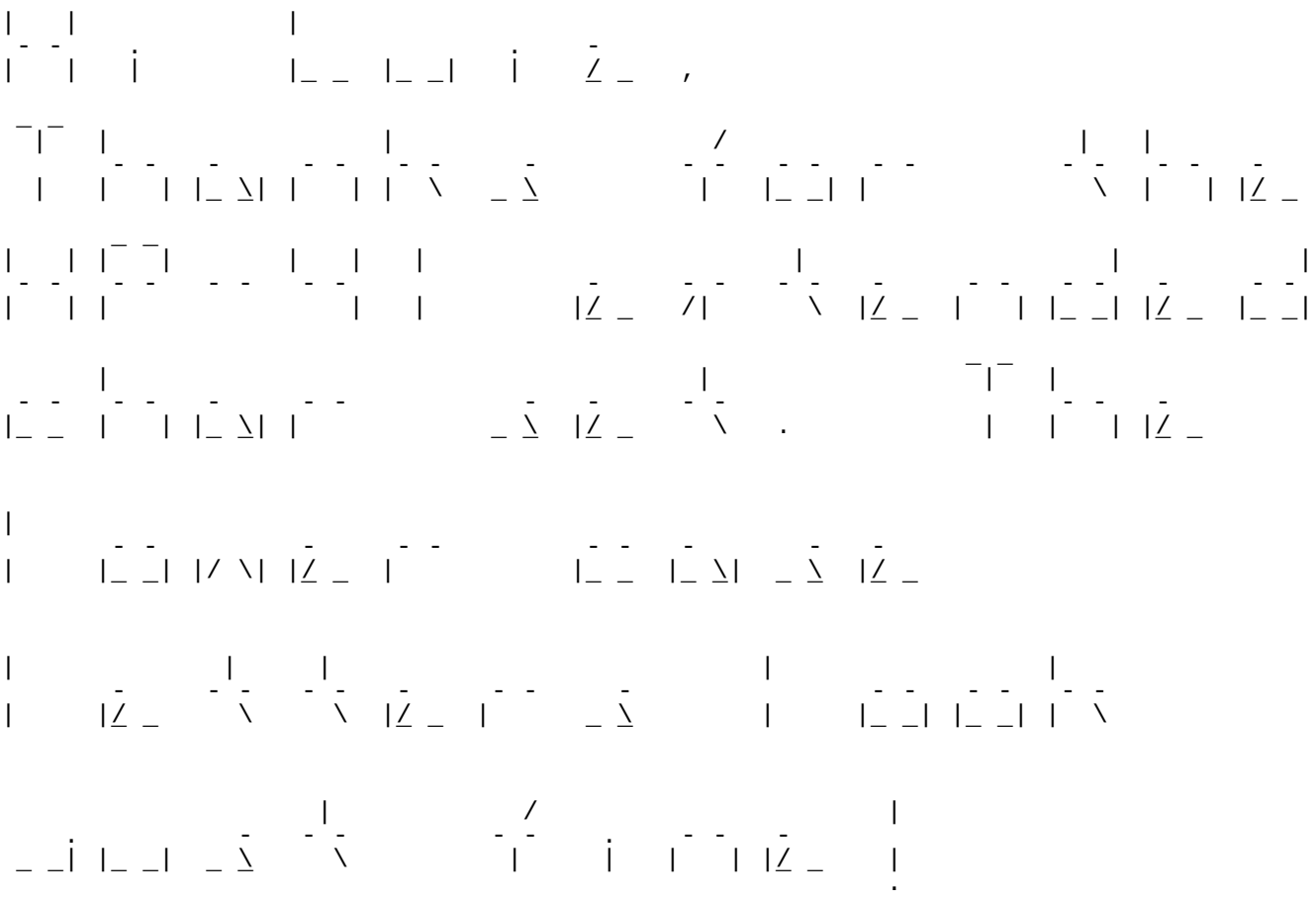
To Luiz (HP-41 extended char set font)

*Message #1 Posted by **Gerson W. Barbosa** on 26 Dec 2005, 2:03 p.m.*



Gerson.

You're welcome! (was: HP-41 extended char set font)

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 26 Dec 2005, 2:25 p.m.,*
in response to message #1 by Gerson W. Barbosa

Hey, Gerson;

thanks for taking the time to try them out and, mainly, to 'build' such post... Amazing!

Best regards.

Luiz.

(in time: did not post your books yet... Shame on me! To plead X-mas is guilty for that would not be an honest excuse...)

Edited: 26 Dec 2005, 2:34 p.m.

Re: You're welcome! (was: HP-41 extended char set font)

*Message #3 Posted by **Gerson W. Barbosa** on 26 Dec 2005, 3:45 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Hello Luiz,

Don't you worry about the books. I know you've been busy lately. Anyway, it'll take long before I have the time to read them.

About the post, to be honest, it was not built by hand. I wanted to post a Christmas message using HP-41 characters. I tried to do it by hand but it was harder than I had imagined. Writing a small QBasic program for the task proved to be much easier :-)

At first, I had included only the standard 41 character set. I had trouble designing the lower characters as I haven't been able to find any commercial 14-segment display decoder table with low case letters. These seem to be difficult to implement even on 16-segment displays. When I remembered to take look at your 41 font, I noticed at least sixteen letters matched your set, including 'j', 's', 'z' and 'y'. Now, out of curiosity, how have you come up with the extended set? Have you built it all by yourself or have you received suggestions then?

Best regards,

Gerson.

Re: You're welcome! (was: HP-41 extended char set font)

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 26 Dec 2005, 11:17 p.m.,*
in response to message #3 by Gerson W. Barbosa

Hi, Gerson; (Ê nóis no 'thread'...)

First of all, congratulations! I have some knowledge on BASIC, but I'd never be able to go that deep on character handling...

About the HP41 extended character set: when I first announced my fonts here at the MoHPC Forum (late 2001), I had only siv, maybe seven fonts ready. I told the guys I was creating others, then Gordon Dyer (U.K.) sent me an image from one HP-related publication (HPCC, I guess) showing all of the lower-case characters as they are shown in the halfnut LCD when programming accordingly. After that I draw the X-tended character set so users could either use the standard character set or the extended, depending on their application. The other TTF files where created almost in the same period of time.

The first time I actually saw the HP41 LCD lowercase characters was a couple of months ago, when trying some ROM's out with Meindert's MLDL2000. Ángel Martin's Sandbox 3d uses lowercase headers that can only be fully read with a halfnut. A [CAT] 2 in a fullnut with the Sandbox ROM would show

```
[-Sa db   3d ]
```

as the first header instead of

```
[-Sandbox 3d ]
```

normaly read with a halfnut.

Time passes and the HP41 never ceases to amaze us...

Best regards.

Luiz (Brazil)

Edited: 26 Dec 2005, 11:22 p.m.

You've got mail! (NT)

*Message #5 Posted by **Gerson W. Barbosa** on 27 Dec 2005, 10:04 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

.

Thanks! (N.T.)

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 28 Dec 2005, 12:33 a.m.,*
in response to message #5 by Gerson W. Barbosa

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HP-41 contrast adjustment?

*Message #1 Posted by **Geir Isene** on 26 Dec 2005, 12:54 p.m.*

Seeing the listing from the AlphaRom, it seems to be possible to adjust the contrast of the HP-41, is that so? Is this the only way?

Re: HP-41 contrast adjustment?

*Message #2 Posted by **Howard Owen** on 26 Dec 2005, 1:16 p.m.,*
in response to message #1 by Geir Isene

I think it's only possible with the halfnut models.

Re: HP-41 contrast adjustment?

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 26 Dec 2005, 2:31 p.m.,*
in response to message #2 by Howard Owen

HI Howard, guys;

as far as I read about, you are correct. Either full lower-case alphabet or contrast adjustment are only possible with the half-nut units. As an example, Angel's Sandbox ROM has headres that can only be fully read with halfnut units. And if I am not wrong, Angel's Sandbox ROM (would that be the Toolbox?) has a contrast adjustment function.

Best regards.

Luiz (Brazil)

Re: HP-41 contrast adjustment?

*Message #4 Posted by **Geir Isene** on 26 Dec 2005, 3:24 p.m.,*
in response to message #2 by Howard Owen

Is it possible to make a halfnut from a halfnut main board and a fullnut casing?

Re: HP-41 contrast adjustment?

*Message #5 Posted by **Howard Owen** on 26 Dec 2005, 4:04 p.m.,*
in response to message #4 by Geir Isene

If you swap out the daughter card and the mainboard, including LCD, together, I don't see why not.

Re: HP-41 contrast adjustment?

*Message #6 Posted by **PeterP** on 26 Dec 2005, 5:42 p.m.,*
in response to message #5 by Howard Owen

i think there are a few threads on this one here, but I think you are right - bascically one has to change everything. Tony Duell, aside from all the other gurus here, would know all about it I believe...

The one thing I'm not sure about is if the keyboard can stay. Also, changing the LCD - which has the display drivers included. might be a pain to do. ONe migh tbe better of selling the fullnut and purchasing a halvenut. The price-difference, even via ebay, should be somewhere between 0 and 35 USD...

Cheers

Peter

Half+Full nuts?(was: HP-41 contrast adjustment?)

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 27 Dec 2005, 12:12 a.m.,*
in response to message #4 by Geir Isene

Hi, Geir;

I have done such 'transplantation'. I have a halfnut HP41CV with a bad RAM (shows up only 63 registers) inside an original HP41C fullnut case. As mentioned in this thread, all of the inner package must be transplanted, LCD assembly included. Look at the picture below:

http://www.logeng.com.br/images/hn_fn_front_compare.jpg

After removing the entire 'guts' from both calculators, it is necessary to cut out some small posts in the fullnut case (shown as black spots in the picture) prior to settle the halfnut main PCB. This is due to the fact that the halfnut main PCB does not have all small holes available in the fullnut main PCB. Appart from that, evertyhing else fits perfectly fine. The rounded-edge LCD frame is actually in the LCD assy itself, so it goes with the whole package.

Hopes this helps a bit.

Cheers.

Luiz (Brazil)

Re: HP-41 contrast adjustment?

*Message #8 Posted by **Miki Mihajlovic** on 26 Dec 2005, 3:36 p.m.,*
in response to message #1 by Geir Isene

Sandbox (CTRST, CTRST?, CNT+, CNT-) and Hepax (CTRAST or HEPAX 005) are the only two modules to my knowledge that have functions to adjust the contrast of LCD on halfnut models only.

Re: HP-41 contrast adjustment?

*Message #9 Posted by **Geir Isene** on 26 Dec 2005, 5:03 p.m.,*
in response to message #8 by Miki Mihajlovic

When contrast is adjusted, does it stay adjusted after the module is removed?

Re: HP-41 contrast adjustment?

*Message #10 Posted by **PeterP** on 26 Dec 2005, 5:39 p.m.,*
in response to message #9 by Geir Isene

yes.

And... (was: HP-41 contrast adjustment?)

*Message #11 Posted by **Vieira, Luiz C. (Brazil)** on 27 Dec 2005, 12:20 a.m.,*
in response to message #10 by PeterP

I tested once, and the contrast set is kept even after a [MEMORY LOST] procedure, module(s) inserted or not.

Just to add this bit...

Cheers.

Luiz (Brazil)

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12C Platinum LCD Dust Problem

*Message #1 Posted by **Jeff** on 26 Dec 2005, 10:38 a.m.*

Well, it's kind of annoying. I have one of the newer 12C Platinum units, and have noticed specks of dust that are plainly visible in the display area.

Does anyone have a suggestion? Should I open it up and spray it out with compressed air? Is that a tricky process?

Or should I buy a new one at Office Depot and return this one as defective?

How does dust even get there in the first place?

Many thanks!

Re: 12C Platinum LCD Dust Problem

*Message #2 Posted by **Anthony L. Mach** on 26 Dec 2005, 1:02 p.m.,*
in response to message #1 by Jeff

Hi Jeff,

I bought a new one there recently, too. I also have the dust problem, but mine isn't too bad. It could be manufacturing defects. Office Depot has a very good return policy (I've had to return more than one thing). You could try the canned air, but it didn't work in my case. It's probably best to return for a new one - after all, they're not cheap!

Tony

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Prime numbers...

*Message #1 Posted by **Anthony L. Mach** on 26 Dec 2005, 1:19 a.m.*

Hello all,

I always get a ton of good information and programs from the forums. Anyway, here's a present of dubious(?) value to everyone. This is what happens when you have too much time on your hands during the holidays! :) Please check it out:

Check to see if the number you have entered is prime. Program gives a result of "1" if prime, or "0" if not. If the number is not prime, hitting RCL 3 will give you the square root if the number has one, or will give you the lowest factor of the number. It isn't optimized or anything, just plain jane. The original number can be recalled by hitting RCL 1.

Legend:
/ = divide
SQRT = The square root

```
00-
01- STO 1
02- SQRT
03- STO 3
04- FRAC
05- X=0
06- GTO 33
07- RCL 1
08- 2
09- STO 3
10- /
11- FRAC
12- X=0
13- GTO 33
14- 3
15- STO 3
16- RCL 1
17- SQRT
18- INTG
19- STO 2
20- RCL 1
21- RCL 3
22- /
23- FRAC
24- X=0
25- GTO 33
26- RCL 3
27- RCL 2
28- X<=Y
29- GTO 36
30- 2
31- STO +3
32- GTO 20
33- 0
34- ENTER
35- GTO 00
36- 1
37- ENTER
38- GTO 00
```

Enter positive integers only. Enjoy!

Tony, AB9IO

Re: Prime numbers...

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 26 Dec 2005, 2:07 a.m.,*
in response to message #1 by Anthony L. Mach

Hi, Anthony;

First, congratulations for your program. Looks like being an efficient code (did not run it yet, sorry...).

BTW, to which calculator has it been written? First I thought it was for the HP12C, then it came to my mind it might also fit in the HP10C. Well, based on the INTG code instead of INT, I consider that it is for the HP12C.

Best regards.

Luiz (Brazil)

Re: Prime numbers...

*Message #3 Posted by **alfredop** on 26 Dec 2005, 9:36 a.m.,*
in response to message #1 by Anthony L. Mach

Hi,

unless I made an error in copying the program, it seems that it does not work for the primes 1, 2, and 3.

Ciao Alfredo

Re: Prime numbers...

*Message #4 Posted by **Anthony L. Mach** on 26 Dec 2005, 12:00 p.m.,*
in response to message #3 by alfredop

Hi Alfredo,

You are absolutely correct. The program does not report 2 or 3 as prime. It is an error that I could have easily corrected. Sorry about that. I did write it for the 12c, but it should work for all of the Voyager calcs. It will probably work for others, but [sigh] I don't have any others to work with.

Thanks for the response. I've tested the program with the prime checker at math.com and gotten perfect results. All responses welcome.

Tony

Re: Prime numbers...

*Message #5 Posted by **GE** on 27 Dec 2005, 9:54 a.m.,*
in response to message #4 by Anthony L. Mach

Hello, I would no call prime factorization with trial division efficient, but criticizing is easier than programming, so congratulations on your program. The 12C was probably not intended as a tool for number theory explorations...

Re: Prime numbers...

*Message #6 Posted by **Anthony L. Mach** on 29 Dec 2005, 3:50 a.m.,*
in response to message #5 by GE

Hi GE,

You're not kidding! ;) I sometimes enjoy writing little programs for the 12C to keep my mind agile- and to have a couple of laughs.

Tony

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HP41 battery refurbishment

*Message #1 Posted by **Helmut Wabnig** on 25 Dec 2005, 5:29 a.m.*

I have made a PDF file of 1,7 Mbyte which explains how to refurbish the HP41 rechargeable batteries and am looking for a place where I can put it for others to download. Also available as doc file for making a HTML to put on a Homepage.

post here or mail me hwabnig@aon.at

Re: HP41 battery refurbishment

*Message #2 Posted by **Helmut Wabnig** on 25 Dec 2005, 8:27 a.m.,*
in response to message #1 by Helmut Wabnig

I placed it in my homepage, for some time it may be there,

http://members.aon.at/hwabnig/

w.

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A little bit of history

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 24 Dec 2005, 12:35 p.m.*

If you would like to hear the mid 1980's voice of Richard Nelson describing the Casio fx-7000G and giving a pre-release description of the Advantage module for the HP-41 go to Viktor Toth's site at www.rskey.org/, click on "The Library", click on "Miscellaneous Documents" and click on "PPC CHHU EduCALC Phone Bulletins ...".

As an alternate you can go directly to www.rskey.org/chhubulletins.html

Merry Christmas!

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Opening a HP41

*Message #1 Posted by **Roberto FURLAN** on 24 Dec 2005, 10:23 a.m.*

Hello Everybody! After a little battery leakage with corrosion on one of the contacts, my 41 doesn't turn on anymore. Anybody knows how I can open the case to look inside? Thank you very much and Merry Christmas!

Re: Opening a HP41

*Message #2 Posted by **Michel Beaulieu** on 24 Dec 2005, 11:13 a.m.,*
in response to message #1 by Roberto FURLAN

Just remove the 4 rubber feets and under them, remove the 5 screws and it will open like a clam! Pay attention when you will colse the calc; check CPU plastic connectors for allignment and don't FORCE SCREWS to much because you will break plastic post retaining them.

Good luck!

Re: Opening a HP41

*Message #3 Posted by **db (martinez, ca.)** on 24 Dec 2005, 11:46 a.m.,*
in response to message #1 by Roberto FURLAN

If it was only a little leakage then something is probably just not making contact. You could first try cleaning the contacts and springs again with vinnegar on a Q tip. Sometimes you have to wiggle the battery in place (it moves just a little bit). If the metal on the contact is corroded through; you can get metal contact paint, either in a pen (Katie uses this) or a bottle of "Nickel Print" that you brush on. If you want permanence and beauty; Diego Diaz should soon have the replacement flex connectors that he is having made.

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HP museum DVD.

*Message #1 Posted by **Michel Beaulieu** on 23 Dec 2005, 4:28 p.m.*

I just received my new DVD from the Museum; what a great job - Thanks to Dave and all "scanners".

I just finish "reading" old EDUCALC catalogs from various years. I was fascinated by the presence of the HP-41 complete SYSTEMS that were available in 1985. Gradually "competition" from other models take place and finally the 41CX discontinuation was annonce on volume 54, 1991 page 56. You could buy a CX for 184$: they need place for the new 48S...

I was too young at the time to have interest in HP 41 systems, but hey, just give me that catalog today and someone that really wait at the other end and i can buy everything. And have you look at the prices for the 15C, 41CX, HP-IL stuff: A lot cheeper brand new than "mint" on eBay today!

After 1991, catalogs were not as fun as before... New technology that, for a lot, has been forgotten...

I think i miss a great era playing with my casio...

Michel

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HP-71b ANd IL card

*Message #1 Posted by **Michel Beaulieu** on 23 Dec 2005, 4:09 p.m.*

"I" already communicate with my HP-41 and ISA HP-IL card with various programs.

Is there a way to use the PC card with the HP-71? Where can i find such program?

I have the original HP-IL ISA card on a 386 computer ready to talk with my 71 !

I also have a HP-75C to test. Can it talk to the PC card?

Thanks Michel

Edited: 23 Dec 2005, 4:11 p.m.

Re: HP-71b ANd IL card

*Message #2 Posted by **Howard Owen** on 23 Dec 2005, 7:01 p.m.,*
in response to message #1 by Michel Beaulieu

Yes! You need to get EMU41 or EMU71 from JF Garnier. The €20.00 versions can talk to the real HP-IL card as well as the virtual devices it sets up. I prefer EMU41 for this, because the external machine can be the loop controller.

There's also hpillink and hplink on the museum's FTP server. The first one is a software development enviroment. You have to have one of the FORTH based ROMS, or the KEYBOARD lex file before you can use it to best advantage. But you can transfer text files for sure, and maybe binary. I haven't tried to do that because EMU41 works so well for file transfer. I also haven't used HPLINK, the second one above. It is supposed to emulate a printer or a disk, but only one at a time. Again, EMU41 does such a great job at emulating disks printers and interfaces, I havn't bothered with this one.

Here's a link to JF Garnier's site where you can get EMU41 and EMU71. They both run under Windows, and I even have them working under Linux.

I frequently use HP-75s with EMU41 as well, so those are supported.

Regards,
Howard

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Help: HP97 key not working

*Message #1 Posted by **Stephen Easterling** on 23 Dec 2005, 1:48 p.m.*

I just bought and received a mint (and I mean mint!) HP97 with case, manuals, battery pack. The battery pack looks mint. I started performing some basic exponential decay calcs here at work with it and quickly found out that the zero (0) button does not work at all. What can I do. This looks like a keeper but I really want it to work properly. I don't think I can find one as nice as this. I've never opened up an HP, so I don't really feel comfortable trying to fix it, and I only want an honest person that won't mark it up with a screwdriver.

Re: Help: HP97 key not working

*Message #2 Posted by **David Ramsey** on 23 Dec 2005, 8:59 p.m.,*
in response to message #1 by Stephen Easterling

It's probably a very simple fix. The HP-97 keys merely press down on a set of contacts printed on a PC board. I imagine removing the keyboard and cleaning the contacts and the bottom of the key switch would fix it-- it's worked on my 97s.

Re: Help: HP97 key not working

*Message #3 Posted by **db (martinez, ca.)** on 23 Dec 2005, 9:10 p.m.,*
in response to message #1 by Stephen Easterling

The 97 is easy to open. From memory: 6 small phillips screws on the back and 7 to pull the internal frame off. The pcb pulls off a bunch of spreading connector pins with only your fingers as tools. There is no label to peel up. If i can do it then you can. There is a post by waterhosco in the articles forum on the sticky wheel repair and that will get you deep enough to atack the keypad from the back with some cleaner. You might do the sticky wheel fix while you're in there, if it hasn't already been done.

Re: Help: HP97 key not working

*Message #4 Posted by **Stephen Easterling** on 23 Dec 2005, 10:33 p.m.,*
in response to message #3 by db (martinez, ca.)

Thanks, guys! I don't mind sending it to someone competent to fix it and even do a little preventative maintenance. I would gladly pay the person.

Re: Help: HP97 key not working

*Message #5 Posted by **David Ramsey** on 26 Dec 2005, 1:44 a.m.,*
in response to message #4 by Stephen Easterling

Stephen,

If you're still nervous about opening your HP-97 to clean the keyboard contacts, you can send it to me...it takes < 30 minutes if you've done it before.

No guarantees, of course, but it sounds like a simple fix.

Re: Help: HP97 key not working

*Message #6 Posted by **David Smith** on 26 Dec 2005, 12:20 p.m.,*
in response to message #5 by David Ramsey

Of course, the reader will need to be rebuilt.

Also, if the printer was never used the printer drive cam will probably be so screwed up it will need to be replaced also (you can use one from an 82143A). On machines that were never used, the rubber tended to degrade much worse than on machines that were used.

Re: Help: HP97 key not working

*Message #7 Posted by **Tony Duell** on 24 Dec 2005, 5:13 a.m.,*
in response to message #3 by db (martinez, ca.)

Actually, the HP97 (and other Topcat) keyboard is easy to dismantle fully. There are no heatstakes.

Once you've removed the bottom cover and the chassis plate, undo the 2 screws inside, one at each end of the keyboard. Unclip the display window from the top case, then take the whole lot out (it comes out from the outside, not down into the case. Bend the display cable as little as possible, it can be fragile.

Then take off the 7 screws on the back of the keyboard. Lift off the PCB. Don't lose the contacts for the slide switches. Take off the plastic spacer sheets and the gold-plated contact sheets. It's now obvious what to clean -- I use propan-2-ol (isopropanol) for this.

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looking for 5x7 display diagrams

*Message #1 Posted by **tommasone** on 23 Dec 2005, 12:51 p.m.*

Hi any one can give me the diagrams of the 5x7 dot matrix display found in hp calculator 9830a? 1990-0345 638

Re: looking for 5x7 display diagrams

*Message #2 Posted by **Tony Duell** on 24 Dec 2005, 5:14 a.m.,*
in response to message #1 by tommasone

What do you mean by 'diagrams'. It's just a matrix of LEDs, no internal logic. You can get 'my' schematics for the 9830 either on the HPCC CD-ROM or from the Australian museum site, I think I included a pinout in there.

Re: looking for 5x7 display diagrams

*Message #3 Posted by **tommasone** on 24 Dec 2005, 3:51 p.m.,*
in response to message #1 by tommasone

thanks for the info what is the link for the Australian museum site?

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ZENROM Manual

*Message #1 Posted by **Tobie** on 23 Dec 2005, 5:15 a.m.*

hi all
i search the manual for the ZENROM module. i dont find it on the hpmuseum dvd (?)

i just like a list with all commands and what they do.

thank you
tobie niggli

Re: ZENROM Manual

*Message #2 Posted by **Raymond Del Tondo** on 23 Dec 2005, 2:56 p.m.,*
in response to message #1 by Tobie

Hi,

did you take a look at TOS (The Other Site)?

Hint: Search the hpmuseum site for the keyword 'Furlow',
without the quotes. There you'll find the link to TOS.

Ok, because it's near Xmas, here's the link to the link:
http://www.hpmuseum.org/software/41uc.htm
Look near the bottom of the page...

Raymond

Re: ZENROM Manual

*Message #3 Posted by **DavidMY** on 23 Dec 2005, 9:45 p.m.,*
in response to message #1 by Tobie

Sorry Tobie --

I'm afraid that the ZENROM is not GPL so it's illegal to post the rom code or manual on the internet. While TOS has quite a few rom's and, in fact, Warren's v41 emulator comes with most, the ZENROM is not on that site.

The only way to get a copy of the manual is probably post a request to buy in the classified here and/or search EBAY.

David

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HP34 European decimal change to American

*Message #1 Posted by **Tim P** on 23 Dec 2005, 10:58 a.m.*

Hi, I have a European 34C. Is there any way to change the decimal display from commas to dots ie, now it displays 123.456,2457 (European format) and I'd like to change it to 123,456.2457 (American format)? Or is this hard-coded and not changeable?

Re: HP34 European decimal change to American

*Message #2 Posted by **Gerson W. Barbosa** on 23 Dec 2005, 12:12 p.m.,*
in response to message #1 by Tim P

Please take a look at this link:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=81352#81352

Regards,

Gerson.

Re: HP34 European decimal change to American

*Message #3 Posted by **Etienne Victoria** on 26 Dec 2005, 3:47 p.m.,*
in response to message #1 by Tim P

And/or at this one:

Spice separator change

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OT: PC-100 (A) printers need repair

*Message #1 Posted by **Marcus von Cube, Germany** on 23 Dec 2005, 5:17 a.m.*

Hi,

Sorry for the off topic post from the "dark side", but I'd like to keep some old TI gear working and here are the hardware guys who might be able to help.

I've a couple of PC 100 (A) printers that don't work any longer, due to corrosion (failed batteries had been stored in the units for too long.) I've a working PC 100C but that doesn't support the SR-52 and SR-56 calculators.

Are there any schematics available for these machines?

I also need datasheets for two linear ICs: SN75492 and SN96912. They drive the thermal print head. Both chips seem to be similar. I found one set in one machine and the other in my second printer.

Marcus

P.S.: Happy Holydays!

Re: OT: PC-100 (A) printers need repair

*Message #2 Posted by **Frank Boehm** on 23 Dec 2005, 8:59 a.m.,*
in response to message #1 by Marcus von Cube, Germany

the 75492 is *very* commonly found in early LED calculators, I found the schematics here (if it is broken, a cheap Datamath will provide two of these parts):

http://www.people.freenet.de/lessthanjake/ic.JPG

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Merry Christmas

*Message #1 Posted by **Matthias Wehrli** on 23 Dec 2005, 12:24 a.m.*

Hi you crazy people

Today is the last working day in this year from me. You can not imagine how long I was waiting for it as I had a very, very hard last quarter (maybe as many of you). But now it´s the 23th!

Merry Christmas and a Happy New Year to everyone! Enjoy the holidays, relax and have a smooth start into a happy 2006!

For next year too I will continue my work on presenting you as much HP accessories as I can find on my website. I will also continue my work on the HP-41 module database. I hope you´ll also continue next year so that we can keep alive the sprit of world´s best calculators .

Best wishes to all of you, Matthias Wehrli www.hp-collection.org

Re: Merry Christmas

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 23 Dec 2005, 1:36 a.m.,*
in response to message #1 by Matthias Wehrli

Yeah!
Merry Christmas to you all.
I'll be leaving in a few hours and I won't read anything from you for a couple of weeks.

I wish you all the best.

Massimo

P.S. ...and a **H-P** New Year!! ;-)

Re: Merry Christmas

*Message #3 Posted by **Raymond Del Tondo** on 23 Dec 2005, 1:38 a.m.,*
in response to message #1 by Matthias Wehrli

Merry Christmas and a Happy New Year to all
from another crazy HP fan, too:-)))

Raymond

Re: Merry Christmas

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 23 Dec 2005, 2:27 a.m.,*
in response to message #1 by Matthias Wehrli

Hi, all;

Merry Xmas! And a Happy New Year.

Or, as we say in Portuguese: Feliz Natal, Feliz Ano Novo!

As Massimo say: let's hope for newer HP (actual, please!) calculators for this next year.

Cheers.

Luiz (Brazil)

Re: Merry Christmas

*Message #5 Posted by **Walter B** on 23 Dec 2005, 2:48 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Hi everybody,

A Merry Xmas and a Peaceful, Happy and Prosperous New Year to All of You!

Or, in my mother tongue: Fröhliche Weihnachten und ein glückliches Neues Jahr!

May the spirit of true H-P-ness rule until the crow turns white and the water runs uphill. May we see at least one running calc emerging from OpenRPN. Or may HP start a calc with a *BIG* ENTER key at the right place... ;-)) Just kidding!

Good luck to everybody!

Edited: 23 Dec 2005, 2:51 p.m.

051223 Re: Merry Christmas and Happy New Year 2006

*Message #6 Posted by **Antoine M. Couëtte** on 23 Dec 2005, 3:32 a.m.,*
in response to message #1 by Matthias Wehrli

Thanks to all of you for your very nice wishes for Christmas !

Thanks also to the help I faithfully received over this forum in 2005.

Slightly early though, let me forward to all my Very Best Wishes for 2006, with the very same words which were formerly exchanged in France :

Bonne Année, Bonne Santé et le Paradis à la fin de vos jours.

- Happy New year, Good Health, and let us all rejoice in Paradise at the end of our lives.

Antoine M. "Kermit" Couëtte

:-)**Bonne Année, Bonne Santé et le Paradis à la fin de vos jours.Happy New year, Good Health, and let us all rejoice in Paradise at the end of our lives.**

Merry Christmas and Happy New Year 2006

*Message #7 Posted by **Johnny Bjoern Rasmussen** on 23 Dec 2005, 5:14 a.m.,*
in response to message #6 by Antoine M. Couëtte

Hi

I wish all a Merry Christmas and Happy New Year 2006 from hpmuseum.dk, Denmark.

Johnny Bjoern Rasmussen

www.hpmuseum.dk

http://www.rammebhf.dk/Rammetrae.jpg

Edited: 23 Dec 2005, 5:15 a.m.

Re: Merry Christmas and Happy New Year 2006 (and Dad's decorated house)

*Message #8 Posted by **Gene Wright** on 23 Dec 2005, 11:09 a.m.,*
in response to message #7 by Johnny Bjoern Rasmussen

Best wishes to all. I hope everyone has a wonderful time with friends and family.

My father goes all out for decorating. He even won the city-wide contest this year (town has about 800,000 population). Note especially the arrow pointing at the chimney...we wouldn't want Santa to not find it. :-)

Gene

http://home.comcast.net/~genela/DadsHouseXmas1024.jpg

Re: Merry Christmas and Happy New Year 2006 (and Dad's decorated house)

*Message #9 Posted by **Namir** on 23 Dec 2005, 11:41 a.m.,*
in response to message #8 by Gene Wright

Gene,

Your father RULES!!!

Namir

Re: Merry Christmas and Happy New Year 2006 (and Dad's decorated house)

*Message #10 Posted by **Dave Shaffer** on 23 Dec 2005, 5:21 p.m.,*
in response to message #8 by Gene Wright

How many of those are RED LEDs????

Re: Merry Christmas and Happy New Year 2006 (and Dad's decorated house)

*Message #11 Posted by **Ed Look** on 3 Jan 2006, 10:49 p.m.,*
in response to message #10 by Dave Shaffer

> Quote:
>
> How many of those are RED LEDs????

You can't blame anyone... did you see the price tags on the LED lights??

Re: Merry Christmas and Happy New Year 2006 (and Dad's decorated house)

*Message #12 Posted by **Massimo Gnerucci (Italy)** on 3 Jan 2006, 8:40 p.m.,*
in response to message #8 by Gene Wright

WOW!
Stunning!

Don't know why but my thoughts went to Chevy Chase in "National Lampoon's Christmas Vacation"

:-)

Massimo

Re: Merry Christmas and Happy New Year 2006 (and Dad's decorated house)

*Message #13 Posted by **Gene Wright** on 3 Jan 2006, 9:24 p.m.,*
in response to message #12 by Massimo Gnerucci (Italy)

That's one of my Dad's favorite movies. :-)

Re: Merry Christmas

*Message #14 Posted by **PeterP** on 23 Dec 2005, 11:20 a.m.,*
in response to message #1 by Matthias Wehrli

Merry Christmas also from me, this was my first year (after a long hiatus) with the HP 41 and this wonderful community. Thanks a lot to all of you for the wealth of information and friendly advice. And making me feel less awkward about my passion for this 20 year old device for the company of all you other fans!

have a great Christmas and I'm looking forward to next year!

Cheers

Peter

Re: Merry Christmas

*Message #15 Posted by **Howard Owen** on 23 Dec 2005, 3:08 p.m.,*
in response to message #1 by Matthias Wehrli

Since everyone is rendering holiday greetings in their native tongues, I thought I'd do the same:

Have a non-bogus downtime for the generic winter festival thing, and a quick, healthy reboot into y2k6. Metareality honcho throw some Zs at all you happy dudes and dudettes.

(With apologies to nearly everyone, but especially to Lord Buckley 8)

Re: Merry Christmas

*Message #16 Posted by **Eddie Shore** on 24 Dec 2005, 12:18 a.m.,*

in response to message #1 by Matthias Wehrli

Same to you and all the HP'ers here (the BEST calculators in the world).

:) Here's to a great 2006!

Re: Merry Christmas

*Message #17 Posted by **Erik Ehrling (Sweden)** on 24 Dec 2005, 3:21 p.m.,*
in response to message #16 by Eddie Shore

Merry Christmas and a Happy New Year! (or "God Jul och Gott Nytt År" as we say in swedish).

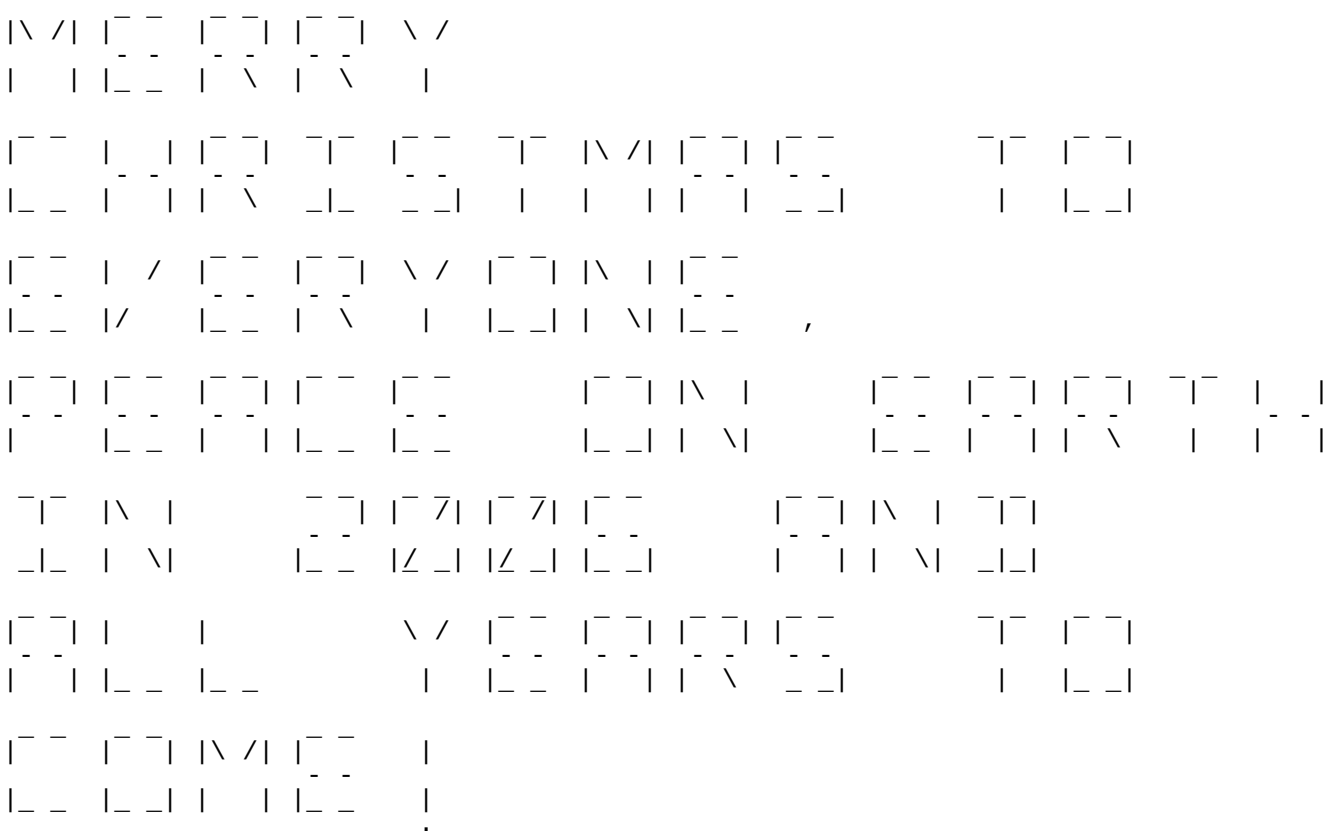
Not too much time for calculators for me this year, the 42S is still unthreatened as my first choice for problem solving, though!

Erik Ehrling (Sweden)

Edited: 24 Dec 2005, 3:22 p.m.

Re: Merry Christmas

*Message #18 Posted by **Gerson W. Barbosa** on 24 Dec 2005, 4:16 p.m.,*
in response to message #1 by Matthias Wehrli



Gerson.

(Guess what I've just become fond of! :-)

Re: Merry Christmas

*Message #19 Posted by **Don Shepherd** on 24 Dec 2005, 10:27 p.m.,*
in response to message #18 by Gerson W. Barbosa

Ahh, Gerson, a throwback to the old pictures of Mona Lisa printed on the IBM highspeed printers in the early 70's!

I second your motion for peace in all years. Let us hope that at least our children will know a world with real peace.

Don Shepherd

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WHOOPS! Meant to say 49g+ ROM VERSION

*Message #1 Posted by **Ron Allen** on 22 Dec 2005, 11:11 p.m.*

sorry about the error, I was working with the 48 and just had it in my head when I asked for info on current version and build.

I apparently have version 3,54 build 0031. Do I need to upgrade?

THE HP49G+

Thanks!

Re: WHOOPS! Meant to say 49g+ ROM VERSION

*Message #2 Posted by **Tim Wessman** on 23 Dec 2005, 11:02 a.m.,*
in response to message #1 by Ron Allen

Yes--upgrade.

Recently they have started assigning a "build number" in addition to a VERSION number. Type VERSION and you will see a stiring that tells you which rom you have installed. Recently there have been several ROM versions with different build numbers that have slightly different things in them. Version 83 is the most recent. Get it at hpcalc.org http://www.hpcalc.org/details.php?id=6376

Don't worry that it isn't an official release. The only difference between the version 80 and version 83 is a slight change in the keybounce timing. Most people report better keyboard performance with the 83 instead of the 80.

TW

Re: WHOOPS! Meant to say 49g+ ROM VERSION

*Message #3 Posted by **Ron Allen** on 24 Dec 2005, 12:48 a.m.,*
in response to message #2 by Tim Wessman

Thanks, Tim.

From this readout I am way behind (revision 1.23). Don't know why the diagnostic gave so different.

Exact readout to "VERSION" is:

Version HP49-C Revision #1.23

Doesn't sound at all like the "build" numbers I expected. I feel assured that I can get the correct numbers at hpcalc.

Thanks again! MERRY CHRISTMAS

Ron

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HP9S facelift?

*Message #1 Posted by **Gene** on 22 Dec 2005, 9:15 p.m.*

HP9S On Ebay

The keyboard background in this auction seems different than the white background on MY HP9S.

?

Re: HP9S facelift?

*Message #2 Posted by **Raymond Del Tondo** on 23 Dec 2005, 1:27 a.m.,*
in response to message #1 by Gene

I think you mean the area surrounding the display;-)
The keyboard area has exchangeable faceplates since the beginning.

Raymond

Re: HP9S facelift?

*Message #3 Posted by **Gene Wright** on 23 Dec 2005, 8:47 a.m.,*
in response to message #2 by Raymond Del Tondo

Hi Raymond.

I know the HP30s had changeable faceplaces, but I didn't think the 9S did. My 9S has a white background with blue shifted functions (which is actually a very GOOD contrast even if somewhat garish).

Do you really have a 9S with changeable faceplates? I dont' think mine came with any.

Cheers! Gene

Re: HP9S facelift?

*Message #4 Posted by **Raymond Del Tondo** on 23 Dec 2005, 10:16 a.m.,*
in response to message #3 by Gene Wright

Hi Gene,

yes, I have some of these (30S, 9S, 9G) units,
and a 'marketing kit' which consists of a
blue cardboard box with one 9G and one 9S each.
You can exchange the faceplates between them,
although it doesn't make too much sense,
since the keyboard legends are not compatible
between the 9G and 9S.

The 9G and 9S basically share the same housing
as the 30S, only the ROM and display are different,
and of course the keyboard legends...
The display of the 9G seems to be the same
as one of my old Casios, a 7400G.

At least for the 30S there's a faceplate kit available.
I don't know if this is the case for the 9G and/or 9S.

Regards

Raymond

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MoHPC *The Museum of HP Calculators*

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Alpha Rom from Angel Martin

*Message #1 Posted by **PeterP** on 22 Dec 2005, 12:14 a.m.*

Hi,

Just wanted to check if anyone of you has done some investigation of the functions of the Alpha-Rom? I have tried to come up with the functions, and got stuck with a few. Anyone has some ideas? (simply could not hold my curiosity until the arrival of a QRG... ;-))

Here is what I have so far (sorry for the bad format...)

Cheers

Peter

```
        XROM    Name    Function
-ALPHA
aView    6.01   Lower Case AVIEW        Displays M&N with lowercases
ACL?     6.02   Is Alpha Clear? Checks if Alpha is Clear. Skip if not true
Aleng?   6.03   Alpha Length    Reports back length of Alpha
AlengX   6.04   Make length of Alpha to x       Deletes n chars from left, to make Alpha as
long as indicated by X-reg
AlengXY  6.05   Make alpha string of y char, x times    create a string in alpha with Char
with code in y, x times repeated
AnumI    6.06   Anum Integer    Gets Integer Number from Alpha into x, -1 if none found
AnumDel  6.07   ANUM and Del    gets the value of the first number from the left into x and
deletes all chars from the left to the end of the number
ArclChr  6.08   ARCL Chars      Append x chars from currently active file
ArclI    6.09   ARCL Integer    Recalls the integer portion of x into Alpha
Arev     6.10   Alpha Reverse   Reverses Alpha to its mirror image
ArotX    6.11   Alpha Rotation by X     Rotates Alpha by X chars
ASCII    6.12   ASCII   Get ASCII code of leftmost char into X
ASHFX    6.13   Alpha Shift by X        Deltes X chars from the left in Alpha
ASTOXX   6.14   Asto in X, x chars      stores x chars from the left into x
ASUB     6.15   Alpha Substitution      Substitutes the Char at pos Y with Char X
ASWAP    6.16           ??? Creates "Private when one goes to PGM mode"
AEXEQ?   6.17   Execute Alpha   Checks if a lable like alpha exists, if so executes it, if not
skips a line
A>RG     6.18   Alpha to Regs   Stores alpha in 4 cons regs, starting at x
A>ST     6.19   Alpha to Stack  Copies reg MNOP to Stack registers
A<>ST    6.20   Alpha Exchange Stack    Exhchanges the context of the alpha regs with the stat
regs
ChrSet   6.21   Char Set        Shows all available characters, scrolling through the screen
ClaC     6.22   Clear Alpha from Comma  Clears Alpha from the Comma to the right
DCNT     6.23   Set Display Contrast    sets display contrast to value in x
DCNT?    6.24   What is Display Contrast?       Retrieves the currently active display contrast
into x
DCNT+    6.25   Increase Disp Contr     Increases the current display contrast by 1
DCNT-    6.26   Decrease Disp Cont      Decreases the current display contrast by 1
Display  6.27   Display the Alpha       Display Alpha reg, maybe some difference with printer
etc…
Dtest    6.28   Display Test    Light up all segments of the display
Ladel    6.29   Left Alpha Del  Deletes the leftmost char
LadelX   6.30   Left Alpha del by x     deltes the x leftmost chars from Alpha
LAtoX    6.31   Left A to X     Deletes leftmost char and puts code in X, just like ATOX from
the X/F mod
Left$    6.32   Left String     Keep x leftmost chars
Low$     6.33   Low String      Replace all upper chars with lower case charts
Mid$     6.34   Mid String      Kepp chars x to y
M<>N     6.35   Switch M and N
M<>O     6.36   Switch M and O
N<>O     6.37   Switch N and O
```

```
PMTA     6.38   Prompt A        Prompt for Text entry
PosAX    6.39   Pos of x in Alpha       Puts the position of the char with the code in X into
X
PostFX   6.40   Post found X    find char in x in alpha, delete all to the left of the found
char
PostSP   6.41           ???
Prefx    6.42   Pre found X     find char in x in alpha, delete all to the right of the found
char
PreSP    6.43           ???
RADel    6.44   Right Alpha Del Deletes the rightmost char, like ABSP
RAtoX    6.45   Right Alpha to X        Seems to not be working. Supposedly takes right alpha
char and puts char code in x
RemZer   6.46   Remove Zeros    Remove leading zeroes from String
Right$   6.47   Right String    Leaves x chars from right in Alpha
RG>A     6.48   Registers to Alpha      copies 4 consec regs starting with x into Alpha
St>A     6.49   Stack to Alpha  Copies Stack regs into Alpha
ToglC    6.50           ???
Upr$     6.51   Alpha Upper     Replace all lower case chars with uppercase chars
ViewA    6.52   View Alpha      Show Alpha, maybe some special treatment of printer
XAtoX    6.53   Alpha to X by X Puts char code of (x+1)th position in x, alpha undisturbed
XtoAI    6.54   X to A Integer  Appends integer of x to Alpha
XToAL    6.55   X to Alpha left puts char with code in x into alpha on left
XToAR    6.56   X to Alpha Right        puts char with code in x into alpha on right
YToAX    6.57           ??? Data Error


-Sound FX
Buzzon   6.59   Buzz On Turns a CPU buzz on
NoBuzz   6.60   Buzz Off        Turns the CPU buzz off
ClaxOn   6.61   Claxon  A new "Beep"
Rasp     6.62   Rasp    Another "Beep"
ToneXY   6.63   Tone by X and Y Y is length (ie number of repetitions) and x is pitch (lower =
higher)
```

Edited: 22 Dec 2005, 12:15 a.m.

Re: Alpha Rom from Angel Martin

*Message #2 Posted by **Howard Owen** on 22 Dec 2005, 12:27 a.m.,*
in response to message #1 by PeterP

Quote:

```
        XROM    Name    Function


..
PostFX   6.40   Post found X    find char in x in alpha, delete all to the left
of the found char
PostSP   6.41           ???
Prefx    6.42   Pre found X     find char in x in alpha, delete all to the right
of the found char
PreSP    6.43           ???
..
```

Given the context and the names, might these find and remove trailing and leading spaces as the case may be?

Re: Alpha Rom from Angel Martin

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 22 Dec 2005, 1:14 a.m.,*
in response to message #1 by PeterP

Hi, Peter;

I tried some of the ALPHA ROM features, but I did not dig too deep as you did. Allow me to congratulate

you!

About YTOAX (Y TO A through X-index), the Extended IO has a function with the very same name. If the ALPHA YTOAX works the same (hopefuly), it places the character defined by the ASCII code in Y to ALPHA, in 'X' position. If X is positive, left-to-right count; if X=0, leftmost character; if X is negative, right-to-left count. So: (using Extended IO YTOAX)

```
                [ABCDEFGHI  ] (ALPHA contents)
79    ENTER                   (ASCII dec code for 'O')
3     YTOAX     [ABCOEFGHI  ] (resulting ALPHA)
[CHS] YTOAX     [ABCOEFOHI  ]
```

Hope this helps.

Cheers.

Luiz (Brazil)

Edited: 22 Dec 2005, 1:17 a.m.

Re: Alpha Rom from Angel Martin

*Message #4 Posted by **PeterP** on 22 Dec 2005, 10:20 a.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Luiz,

thanks for your kind input. I tried that version (and quite some variations of it) remembering the Ex-IO function. However I only get "Data Error" in the display...

Re: Alpha Rom from Angel Martin

*Message #5 Posted by **Doug Wilder** on 22 Dec 2005, 6:24 a.m.,*
in response to message #1 by PeterP

Hi Peter,

Angel copied several functions from the Bldrom for the AlphaRom. So Bldrom manual will describe these.

For example ALENGX allows plus of minus argument in X for left or right padding of spaces or stripping of characters. Similar for ALENGXY (makes alpha X chars long using char in Y (pads or strips)), ASHFX, ASTOXX (from left if pos right if neg, X in LASTX after). PRESP and POSTSP strip characters after or before the first space character (prefix and postfix parseing). PREFX (prefix) and POSTFX (postfix) using the character specified in X (either decimal, text or NNN). DISPLAY sends the text line that follows to the LCD display using unique LCD setting for each of 256 different bytes and only prints if in NORM or TRACE. A couple of bldrom functions have been renamed (XAI and AXI). You have AXEQ? and ACL? correct!

Best Regards, Doug

Re: Alpha Rom from Angel Martin

*Message #6 Posted by **PeterP** on 22 Dec 2005, 10:21 a.m.,*
in response to message #5 by Doug Wilder

Doug,

Thanks! Great corrections & additions!

Cheers

Peter

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HP48G+ ROM VERSION

*Message #1 Posted by **Ron Allen** on 21 Dec 2005, 10:50 p.m.*

Would someone be so kind as to verify my rom version and let me know if it is up-to-date?

I looked into the system using the "hold on-f5" keys and requested the self test to find "VERSION 3,54 BUILD 0031"

Did I search correctly?

Is my version close to current?

How do I get an upgrade if needed? (I have a 128mb SD card for transfer)

I personally have difficulty with the Adobe Reader searching for info. Thank you in advance for assistance!

Ron

Re: HP48G+ ROM VERSION

*Message #2 Posted by **Tim Wessman** on 21 Dec 2005, 11:37 p.m.,*
in response to message #1 by Ron Allen

Do you mean a 49g+? Type VERSION and see what it returns. I am guesing you don't have the latest which reports build 83.

TW

Re: HP48G+ ROM VERSION

*Message #3 Posted by **Ron Allen** on 22 Dec 2005, 11:03 p.m.,*
in response to message #2 by Tim Wessman

whoops! You're right Tim. I was working with the 48 (easier to use on some work than the 49). I did mean to say the 49g+. Guess I better repeat it and put the right model into the heading or will miss some advice.

Thanks for betting on my error and responding anyway. I take it that you believe the version is up==to=date, but the build is way behind current status. Do I just contact tech support for download or do I go to an out source?

thanks again.

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Battery pack hp41 duration

*Message #1 Posted by **Calc** on 21 Dec 2005, 6:38 p.m.*

How many time lasts this battery in full cahrge and with an average use of the calculator? Thank you

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Clonix-41 Low Power SW update (Xmas gift... again ;-)

*Message #1 Posted by **Diego Diaz** on 21 Dec 2005, 6:30 p.m.*

Hi all,

Some of you have already tested the new Low Power software version for the Clonix-41 module. So far I have not received any complains... and this is a good symptom. :-))

But, one of the known drawbacks of the Low Power SW *was* that it cannot handle Bank-switched modules, namely, the Advantage, which BTW is one of the most popular "cloned" ROM-Pac's.

After some re-coding, I've finally managed to handle the BS feature into the Low Power version too.

The new version (same name: ClonixLP) is available at:

http://www.clonix41.org/Projects/Clonix-41/clonixlp.zip

Just download and replace the old files.

Enjoy your 41's!!

My very best wishes for this Xmas season.

Diego.

Re: Clonix-41 Low Power SW update (Xmas gift... again ;-)

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 22 Dec 2005, 1:58 a.m.,*
in response to message #1 by Diego Diaz

Thank you very much once more, Diego, for your continued efforts!
I will try your new tricks when back home from holydays

And, of course, have a really Merry Christmas.

Massimo

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Any IRC channel?

*Message #1 Posted by **Geir Isene** on 21 Dec 2005, 5:40 p.m.*

Are there any IRC channels to discuss HP calculator related topics

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Defective ROM help

*Message #1 Posted by **Roberto Bazzano** on 21 Dec 2005, 5:10 p.m.*

Hello. I'm trying to fix a defective HP-85A. I made some diagnostics using Assembly Level Diagnostic Rom, and it found ROM 2 defective (U6 chip, part number 1MA7-0066). Swapping roms between sockets give always the same error, so probably is really the rom that's defective.

So my question is: do anyone know where to find one in the World? Or do you know if it's possible to replace it with some type of "standard" eprom (what type)? Or is it completely custom so there is no way except to find an original one?

Thank you very much. Roberto

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HP-41 Module conflicts or what?

*Message #1 Posted by **Geir Isene** on 21 Dec 2005, 5:00 p.m.*

Sudden erratic behaviour (weird tones beeping, flashing display, funny symbols, locked display, had to take batteries out to unlock the calc, then more erratic behaviour when turned back on etc). Config:

HP-41CX with the following modules installed in the various slots:

X-Memory - Financial I

Math/stat - Navigation

The one I added last that caused erratic behaviour is the Navigation module. I then took the Math/Stat out and moved the Navigation module in its place. Then it's all ok again. Hm...

Any idea why?

Re: HP-41 Module conflicts or what?

*Message #2 Posted by **Howard Owen** on 21 Dec 2005, 6:02 p.m.,*
in response to message #1 by Geir Isene

Can you recreate the fault by putting the modules back where they were?

Re: HP-41 Module conflicts or what?

*Message #3 Posted by **Raymond Del Tondo** on 21 Dec 2005, 8:03 p.m.,*
in response to message #1 by Geir Isene

Check if any of the software modules you use have
either same XROM numbers and/or same function names.
This information can usually be found in the associated manuals.

Additionally, you should place the X-Memory into the lowest numbered slot.
AFAIR the latter is not mandatory, but recommended by HP.

Raymond

Re: HP-41 Module conflicts or what?

*Message #4 Posted by **PeterP** on 21 Dec 2005, 10:24 p.m.,*
in response to message #3 by Raymond Del Tondo

XROM numbers should not be an issue. Math = 1, Stat = 2, Navigation = 14, Finance = 04. Only cuprit I can think of is the Finance mod, if it is a different one (like GMAC or so). To check, plug it in and enter a program using one of its functions and then plug it out and check the program. It will show the XROM number for that function. If it is 1,2 or 14 you have found the issue...

Cheers

Peter

Re: HP-41 Module conflicts or what?

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 21 Dec 2005, 11:17 p.m.,*
in response to message #1 by Geir Isene

Hi, Geir;

I had seen some problems related to erratic behavior and, in extreme cases, calculator locked, mainly because of bad contact between the Battery/IO assembly and the keyboard PCB. In some cases, broken/cracked screw posts are the case, and solutions are diverse. Do you have the means to check if the both upper and lower halfcases are firmly together? Just slightly (SLIGHTLY) try to pull them appart, close to the LCD assembly. The simplest feeling of having them moving appart from each other is enough to certify if there is a case problem.

Also: please, don't be mad with me after reading my suggestion, because it is more likely that you'd have done this if you had the means to, but I can't help asking: do you have the means to perform a ROM checksum in these modules?

Hope this gives you some new clues... Let us know how it goes.

Success!

Luiz (Brazil)

Re: HP-41 Module conflicts or what?

*Message #6 Posted by **Geir Isene** on 22 Dec 2005, 4:34 a.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

Hi guys,

Thanks for the input.

1) Problem can be replicated.

2) The calculator is very firm, not possible to move apart at all.

3) No means of seeing ROM checksum

4) I will try another CX I have. I'll let you know.

Edited: 22 Dec 2005, 4:45 a.m.

Re: HP-41 Module conflicts or what?

*Message #7 Posted by **Wayne Brown** on 28 Dec 2005, 9:41 a.m.,*
in response to message #1 by Geir Isene

> Quote:
>
> Sudden erratic behaviour (weird tones beeping, flashing display, funny symbols, locked display, had to take batteries out to unlock the calc, then more erratic behaviour when turned back on etc).

Sometimes that kind of behavior can be caused by a module that is not inserted fully, or that has loose-fitting or dirty contacts, etc. It may happen more with some module/port combinations than others. For instance, I have a 41CV that behaves that way when my barcode wand is inserted in one port, but it works fine in the other three ports. Other modules work fine in the "bad" port, and the wand works fine in all four ports of my 41CX.

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New Datafile articles

*Message #1 Posted by **Valentin Albillo** on 21 Dec 2005, 8:50 a.m.*

Hi, all:

This is to briefly let you know that the just recently published V24N6 Xmas issue of Datafile features two of my articles, namely:

Long Live the HP-16C

> Five-page article commemorating this wonderful, one-of-a-kind HP model belonging to the much celebrated Voyager series. Includes a new program written specifically for the article, which puts to good use some of its distinctive advanced capabilities.

25 Years of Othello

> Eight-page article which commemorates the 25th anniversary of my original Othello program written for the HP-41C back then. As such, it includes a fond, highly-personal remembrance of the circumstances involving its creation and publication, which constitutes a small chronicle of just how golden and how exciting those days were. The article also includes a slightly-revamped version of my original 41C Othello specifically written for the HP-71B.

That's all for now, hope you enjoy them both.

I'll be out for vacation and don't know if I'll be able to read and post to the forum but be as it may, I truly wish you all a Merry Xmas (or Hanukkah, etc ... :-) and very Happy New Year 2006, it's been a pleasure sharing this MoHP forum with all of you.

Best regards from Valentin Albillo

Edited: 21 Dec 2005, 8:53 a.m.

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HP75 Internal Design Specifications ?

*Message #1 Posted by **Edouard Lafargue** on 21 Dec 2005, 8:48 a.m.*

I recently received the museum's DVD (awesome work), and browsing throught the list of available documentation, I noticed that the HP75 IDS are not there (you can check this on the web site directly without ordering the DVD, I know :))

Does anyone remember the stories of Roo-Man and Joey that supposedly came from those HP75 internal design specifications, and were published from time to time by Joe Horn on his famous 'Goodies Disks'? Look below for an example...

... and more to the point, does anyone have a copy of these specs? I'd be very curious to have a better look at them, if only to see those small stories in their context.

"Roo-man," Joey looked up with a quizzical plea upon his boyish face. "I can't find any reason why the FOR and NEXT tokens can't follow a THEN statement."

"Well, Joey," Roo-man paused for a moment, his eyes gazing off into some future that could never be. "Well, Joey," he started again, "there is no reason why they can't. There are those who fear what this new found power may be put to. It is a distrust of freedom, much like the bird in a cage, who, when the door is accidentally left open, huddles in a corner in fear of the open air -- his natural inheritance."

Re: HP75 Internal Design Specifications ?

*Message #2 Posted by **Tony Duell** on 21 Dec 2005, 2:14 p.m.,*
in response to message #1 by Edouard Lafargue

They do exist (I have them). There are 2 volumes. One is the commented source code to the HP75C ROM, the other is a commentry/explanation on that source code. I can't remember which volume contains the jokes, maybe some in each.

The bad news is that it's around 1000 A4 pages (!). And as ever I don't own a scanner. This is not the sort of thing I can easily copy and get to you.

Re: HP75 Internal Design Specifications ?

*Message #3 Posted by **Howard Owen** on 21 Dec 2005, 3:34 p.m.,*
in response to message #2 by Tony Duell

Does someone else besides Tony have access to these documents? (The answer to this in the past has been silence.)

Tony, if you are the only one in the current online HP calculator community that has a copy of the 75 NOMAS documents, won't you please consider lending them to someone who can make copies for the benefit of the community? All other things being equal, I imagine someone in Europe would be preferable

to someone elsewhere in the world. I know that Thomas Okken has expressed interest in the past. His HP87 simulator could be more easily adapted to simulate the 75, if he had the benefit of the system source code. Can't we work something out?

Thanks,
Howard.

Re: HP75 Internal Design Specifications ?

*Message #4 Posted by **Eric Smith** on 21 Dec 2005, 4:44 p.m.,*
in response to message #3 by Howard Owen

I've got them.

The only reason I haven't already scanned them is that they're printed 4-up, like volume 3 of the HP-71 Software IDS. My usual very-high-speed scanner only does 400 DPI, which is not adequate for that. It took me a very long time to scan the 71 IDS on a 600 DPI scanner, which was barely adequate. (That's what's on the MoHPC CD/DVD set now.) I have recently obtained a 3200 DPI scanner, so I'll scan them at 800 DPI, which should be fine, but it will take a very long time as this scanner is even slower than my older 600 DPI scanner, and does not have a sheet feeder.

Eric

Edited: 21 Dec 2005, 4:44 p.m.

Re: HP75 Internal Design Specifications ?

*Message #5 Posted by **Jim Rudnick** on 21 Dec 2005, 9:01 p.m.,*
in response to message #4 by Eric Smith

Think about it everyone...these design specifications were printed from a COMPUTER FILE and now with much time and effort the printed results will become a computer file once again! I'll bet the files are still archived by HP somewhere... Merry Christmas everyone Jim

Re: HP75 Internal Design Specifications ?

*Message #6 Posted by **Eric Smith** on 22 Dec 2005, 1:17 a.m.,*
in response to message #5 by Jim Rudnick

Sadly not. I know the last person at HP who had a tape of them, and it's gone. No one at HP wanted the old tapes and discs, so they were destroyed. That's the way things work at big corporations, especially when responsibility for a product line moves to different divisions around the world three times in ten years.

Re: HP75 Internal Design Specifications ?

*Message #7 Posted by **J-F Garnier** on 22 Dec 2005, 6:49 a.m.,*
in response to message #4 by Eric Smith

I'm interested in the HP75 IDS too. If there is a way to share the scan job between different people, I'm ready. But I understand it can be dangerous to send the original document by mail.

J-F

Re: HP75 Internal Design Specifications ?

*Message #8 Posted by **Edouard Lafargue** on 22 Dec 2005, 11:06 a.m.,*
in response to message #4 by Eric Smith

Nice to see that those specs still exist somewhere!

When you say 'printed 4-up', what does this mean in terms of A4/A3/Letter/etc ?

In case the overall format is less than A3 and the pages can be separated somehow, I have access to copy machines that are able to bulk-scan from their sheet feeder, I'd be willing to do the job if someone DHL'ed the specs to my address... I'll return them, of course.

Let me know!

Edouard

Edited: 23 Dec 2005, 10:36 a.m.

Re: HP75 Internal Design Specifications ?

*Message #9 Posted by **Thomas Okken** on 22 Dec 2005, 8:10 p.m.,*
in response to message #3 by Howard Owen

You have me mixed up with someone else -- the only simulator I ever wrote is for the 42S...

Re: HP75 Internal Design Specifications ?

*Message #10 Posted by **Howard Owen** on 22 Dec 2005, 8:23 p.m.,*
in response to message #9 by Thomas Okken

Oops! Sorry about that.

I was just using your emulator (having just taken delivery n a real 42S) and I must have transferred the labels incorrectly. 8)

I was thinking of Olivier De Smet in connection with the HP-75 NOMAS material. He has written an HP-87 emulator, and expressed interest in writing one for the HP-75. (They use the same processor.) My apologies for the mixup.

Regards,
Howard

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HP museum DVD fantastic

*Message #1 Posted by **Hal** on 21 Dec 2005, 4:26 a.m.*

I recently purchased the HP museum DVD...Wow, what a resource! My hat's off to Dave Hicks and his team for putting it together. I recommend anyone reading this forum to buy one and support the museum.
Hal:)

Re: HP museum DVD fantastic

*Message #2 Posted by **Stephen Easterling** on 21 Dec 2005, 8:11 a.m.,*
in response to message #1 by Hal

I didn't know about it. What's it about?

Re: HP museum DVD fantastic

*Message #3 Posted by **Gerson W. Barbosa** on 21 Dec 2005, 8:28 a.m.,*
in response to message #2 by Stephen Easterling

http://www.hpmuseum.org/cd/cddesc.htm

Re: HP museum DVD fantastic

*Message #4 Posted by **PeterP** on 21 Dec 2005, 11:21 a.m.,*
in response to message #3 by Gerson W. Barbosa

Hal is absolutely right! It was one of the first things I got when I joined the HP community just a little while ago - great way to catch up, learn, read, have fun!

Thanks Dave!

Cheers

Peter

Re: HP museum DVD fantastic

*Message #5 Posted by **Namir** on 21 Dec 2005, 12:04 p.m.,*
in response to message #4 by PeterP

I agree. The HP Museum DVD is priceless. Being able to access the old calculator manuals, module books, and solution books is wonderful. I often use them to look up the equations used in the calculations.

Namir

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34c hard detents

*Message #1 Posted by **Hal** on 21 Dec 2005, 2:08 a.m.*

Hi folks.
Recently acquired my first spice, a nice 34c. In using it, I've noticed that the key detents are quite stiff (to the point that my finger started getting tired!). In fact, a couple keys even emit a sharp snapping sound when depressed (although this sound softens a bit after working the key a few times). The keys all function perfectly though. I guess HP envisioned ham fisted, heavy fingered operators when designing this machine. Is this characteristic of all spice models?
Thanks and best regards, Hal

Re: 34c hard detents

*Message #2 Posted by **Karl Schneider** on 21 Dec 2005, 3:29 a.m.,*
in response to message #1 by Hal

Hal --

I'd surmise that you have the original design (serial # beginning with 22 or lower) with plastic snap-ring detents and the unsoldered keyboard clamped on a steel plate. These snap rings are quite stiff and allow long key travel.

The 1982 redesign featured metal-dome detents on a properly-soldered keyboard without steel backing plate. The calc is lighter; there is less key travel and less effort; and, the circuitry is more reliable.

-- KS

Re: 34c hard detents

*Message #3 Posted by **Hal** on 21 Dec 2005, 4:00 a.m.,*
in response to message #2 by Karl Schneider

Yes indeed, the SN starts with 20 (made in Singapore), and it surely is heavy. Sometimes I lose a segment in the display also, but a slight twist on the case brings it back.
May have to acquire a redesigned unit just to see the difference. Thanks, Hal

Snapping Keys

*Message #4 Posted by **Larry Corrado, USA (Wisc)** on 21 Dec 2005, 8:17 p.m.,*
in response to message #1 by Hal

I have an HP-12C I got three years ago, used (s/n 3215xxxxxx). It works fine, but the "f" key snaps if I haven't used it recently (ie, in the last five seconds.) It seems to be both a tactile (touch) and audible snap.

It seems that the snap gets stronger the longer it (the "f" key") has been unused. My guess is that there is something sticky under the faceplate causing the problem. I haven't had the machine apart.

Have others noticed things like this?

larry

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1515C calculator

*Message #1 Posted by **Burhan Ozmat** on 20 Dec 2005, 11:17 p.m.*

My calculator stuck in the USER mode.f+ USER key does not reset the mode back to normal.

I performed all of the tests recomended in te user's manual, including taking out the bateries and shorting battery terminals with batteries in.

They all show that the 15C is working fine.

Do you know if there is a specific sequence of key stroks that would reset it.

Please help.

Thanks

Burhan

Re: 1515C calculator

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 21 Dec 2005, 1:09 a.m.,*
in response to message #1 by Burhan Ozmat

Hi, Burhan;

please, forgive me if the question goes above what you have already done, but I am curious about one fact: after shorting the batteries terminals in the calcualtor, did you get the

```
[  Pr Error  ]
```

message in the display? This is important to notice, because this is the (only?) way to be sure the calculator had its (user) memory cleared and all setting are in their default state. If you did not get the

```
[  Pr Error  ]
```

message in the display, chances are your HP15C still maintains prelious contents.

If you saw the Power Error message and you still have the [USER] annunciator lit, have you tested to see if the calculator behaves accordingly?

In any event that you cannot see the solution for this particular issue, at least you have a rare unit in hands. Not a consolation, though, and please, forgive me if it 'sounded' pun; not inteded, believe me. I had two old HP31E (Spices) and one of them had the following peculiarity: after the [STO][ENTER] self test, registers R1, R2 and R3 had their contentes altered to some not-zero value, althought the test itdself finished O.K.:

```
[8,8,8,8,8,8,8,8,8,]
```

As I know that one of the Brazilian contributors at the MoHPC has many calculators and he is a collector, I sent him this particular unit to be taken as a curiosity. And because this is not a common behavior, the unit

itself is a rare one, as seen by collectors...

Please, let us know how it goes. And success!

Luiz (Brazil)

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Copies of the hp18c solutions books?

*Message #1 Posted by **John** on 20 Dec 2005, 10:30 p.m.*

Does anyone have electronic copies of the HP made solutions books for the hp18c? I'm remembering a set of books like they made for the hp28c covering a variety of topics. I see that the museum dvd has the 27s technical applications book in pdf form, but I don't see any of the other topics. Can anyone help?

Re: Copies of the hp18c solutions books?

*Message #2 Posted by **Gene Wright** on 21 Dec 2005, 3:45 p.m.,*
in response to message #1 by John

I have a copy of the HP27S/HP19B technical applications solutions book. Email me. Does anyone else have copies of the others? I'd like to see them too.

Re: Copies of the hp18c solutions books?

*Message #3 Posted by **Gene Wright** on 22 Dec 2005, 10:23 p.m.,*
in response to message #2 by Gene Wright

I've also found a "Personal Investment Consultant" and "Business Finance Consultant" book in paper form.

Does no one here know how many others there may have been? :-)

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HP 3468A US / German voltage selection

*Message #1 Posted by **gebripe** on 20 Dec 2005, 3:44 p.m.*

Folks,

there's a sticker with multiple supply voltages on the back of the 3468A / B Multimeter (see image below - sorry for the bad scan), with one option being "checked". This indicates that the voltage can somehow be selected...

http://www.24up.de/geb/3468A.gif

Now that these Multimeters are relatively hard to get in Germany, I though about buying one in the US. There's a switch for frequency selection (50Hz/60Hz), but I haven't found anything for the voltage. Usually, one could probably use a power converter, but I don't know in how far the device relies on the supply voltage as a comparator.

So question is: Can the device be reconfigured / rewired / resoldered for use with the German supply voltage of 230V instead of the US 110/120V?

Thanks in advance for your help.

Gunther

Re: HP 3468A US / German voltage selection

*Message #2 Posted by **Daniel Diggelmann** on 20 Dec 2005, 4:13 p.m.,*
in response to message #1 by gebripe

Hi Gunter,

No problems in using a US Model in Germany. After taking off the cover you'll fin a cable on the PCB (printed circuit board) next to the power transformer which can be plugged on the correct voltage selection pin. The voltages to choose from a printed on the PCB. I've bought my HP-3468A in USA and am using it in Switzerland on 230VAC.

Cheers Daniel

Re: HP 3468A US / German voltage selection

*Message #3 Posted by **Etienne Victoria** on 20 Dec 2005, 4:21 p.m.,*
in response to message #2 by Daniel Diggelmann

Hi Daniel,

Ooops, sorry I didn't see your post before posting mine!!

Apologies & best regards!

Etienne

Re: HP 3468A US / German voltage selection

*Message #4 Posted by **gebripe** on 20 Dec 2005, 4:24 p.m.,*
in response to message #2 by Daniel Diggelmann

Daniel,

you've made my day. Now I have another use for your HP-IL module that is hopefully to arrive in the next few days... :-)

I'll try and get a 3468 asap.

Thanks!

Gunther

Re: HP 3468A US / German voltage selection

*Message #5 Posted by **Etienne Victoria** on 20 Dec 2005, 4:20 p.m.,*
in response to message #1 by gebripe

Hallo Günther,

Yes, you can change the voltage selection on the 3468A/B but, contrary to the frequency, the change must be performed internally.

You have to open the multimeter. inside, you have to solder a jumper (J701) between 2 connections that will provide you with the desired voltage.

The precise scheme to follow is given on page 2.1 figure 2.4 of the 3468A/B service manual.

More precisely on this page:

http://hp41.claughan.com/files/00009/hbhypsfm.gif

After soldering and double-checking your soldering...

Test & enjoy!

MfG aus Frankreich!

Etienne

Edited: 20 Dec 2005, 4:22 p.m.

Re: HP 3468A US / German voltage selection

*Message #6 Posted by **gebripe** on 20 Dec 2005, 4:28 p.m.,*
in response to message #5 by Etienne Victoria

Etienne,

wow, thank you for taking the time to provide explanations and scans, that's awesome!

Gunther

Re: HP 3468A US / German voltage selection

*Message #7 Posted by **gebripe** on 6 Jan 2006, 5:02 a.m.,*
in response to message #5 by Etienne Victoria

Just in case anyone else is interested: I just modified a 3468A to 240V by soldering in the correct jumper as described above. You don't even have to lift the PCB, just open the case by the 4 screws on the bottom, solder the existing bridge out and a new one in. Easy thing.

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MLDL2000 Conversation

*Message #1 Posted by **Jeff D** on 20 Dec 2005, 1:07 p.m.*

I have not seen any recent conversation on the MLDL2000. I was under the impression that there was going to be a few postings regarding MLDL programming and MCODE. Did this conversation move elswhere?

Re: MLDL2000 Conversation

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 21 Dec 2005, 12:52 a.m.,*
in response to message #1 by Jeff D

HI, Jeff;

as I was one of the guys that started some threads about the MLDL2000, I felt like commenting.

As far as I know (or have been told about), it's been a matter of subject only, I mean, no new MLDL2000 related subject to be discussed, though. After some small issues (mainly because of my own actions) and having them all solved with the help of Meindert, Diego and many others, I'm now collecting relevant data and reading many related documentation prior to go ahead (classes are over till February, so I'll have time to get back to some previous issues and to go ahead with new ones, MCODE included). In fact, I saw that MCODE programming and techniques are discussed in at least one publication (MCODE Programming for Beginners, available with the MoHCP CD/DVD set and at TOS, if I am not wrong), as they are the related modules manuals (HEPAX, David Assembler, MLROM, etc.). With these plus the modules contents themselves, we have a vast source of reference. Too bad I had no knowledge about these in the 80's... No complaints, just a bit of sadness.

I want to use HEPAX' DISASM together with the IR module (captured by an HP48G+) and generate my own VASM listings in typset fashion. This is mainly because the available VASM listings (at least the ones I found) are bitmapped images, and I would like to have them in compact, easier to read documentation. And the ones I found are only the C/CV/CX mainframe ROM and the X-Functions plus Time modules. With HEPAX' DISASM it is somehow easier to generate single line, briefly commented VASM listings. As I have two HP41CV fullnut with the possibility to use external batteries, it is just a matter of time and a few try-outs... I'll let you know as I succeed generating usefull documentation.

Any other ideas/suggestions? Let's go ahead with the thread, shall we?

In time: I am trying to get in contact with Meindert and have not 'heard' from him since November; does anybody know any news about him?

Cheers.

Luiz (Brazil)

Re: MLDL2000 Conversation

*Message #3 Posted by **Howard Owen** on 21 Dec 2005, 1:02 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Hi, Luiz,

"HP41 MCODE for Beginners" is on the museum CD/DVD, but not on TOS. I didn't know it was on the first resource, and I couldn't find it on the second, so I'm grateful for the pointer!

Your documentatiom project sounds very, very interesting. If you'd like someone to transcribe comments found in the NOMAS stuff, I'm willing to help out.

Regards,
Howard

Re: MLDL2000 Conversation

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 21 Dec 2005, 7:21 a.m.,*
in response to message #3 by Howard Owen

Hello, Howard;

thank you very much for your offer on helping by adding comments to the typesetting VASM listing. I appreciate that! My initial idea, after seeing what can be done with DISASM (the example program in the HEPAX manual, "DISSST", is a lot helpfull, too.), was actually to read the original VASM and to add such relevant comments to the typesetting, generated VASM listing and let it available to download (plain text, TeX/LaTeX, PDF, others?), so your offer comes in the very best moment! I also believe that a coordinated "task force" would improve final results and generate final documentation in less time; is this too ambitious?

I'll try some listings for these days and let you know.

Best regards and thanks again.

Luiz (Brazil)

Re: MLDL2000 Conversation

*Message #5 Posted by **PeterP** on 21 Dec 2005, 11:29 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

sorry if this is a very dumb thought - couldn't we do the VASM from the PC to a laser or something via one of the simulaters?

One additional resource for the MCODE stuff I would mention are the documented listings from Angel Martin for both his SandBox project and his 41Z project. They have very good documented code (in color!). he also might have good ideas on how to create a similarily well documented VASM listing. Feel that my skills might be far to inferior to participate in such a project, yet I'm interested nonetheless...

BTW, I have collected all MCODE articles I could find in the various magazines from the old days (PPC, Prisma, HPX, etc) and plan on putting them into a pdf document via scanning or something the like. if that idea is useful for others as well, I might change the timetable from "one day" to "soon"...

Cheers

Peter

Re: MLDL2000 Conversation

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 21 Dec 2005, 12:50 p.m.,*
in response to message #5 by PeterP

Hi, Peter; thank you for your additional suggestion. For the records, I do NOT consider it dumb at all. d8^)

I briefly considered the possibility of generating a plain text listing from a simulator/emulator so one could change it the best way, I mean, organize in many columns as for a reference, add specific/custom comments, etc. I have two emulators installed in my computer (Nonpareil and Warren's), and I do not know how to generate such plain-text file with a VASM listing through a simulator. Using existing ROM features, like HEPAX DISASM or any other, would generate the same commented list, that's a fact, so the ROM format used by the specific emulator would not be an issue. There is also Hrast's HP41X, where I first tested the DISSST functionality (works perfectly fine, you bet!)

My primary proposal is actually not to print a compact VASM listing, but your idea gives another view. Please, let me know if an output file from an emulator with a plain text is easier to generate, because if so, this is going to be faster and more accurate than what I had in mind.

I see we are going ahead with the MCODE development, and this is a very good point by itself.

Thanks!

Luiz (Brazil)

Re: MLDL2000 Conversation

*Message #7 Posted by **HrastProgrammer** on 21 Dec 2005, 2:35 p.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

Hi Luiz,

Just a note regarding HEPAX DISASM on HP-41X: Although it is perfectly possible to make disassembled ROM listings using HP-41X (especially in the combination with Helios Printer Emulator on PC) don't do this because HP-41X contains highly modified ROMs inside (disassembled using HP-41EPC built-in disassembler then modified according to my needs and reassembled using my own specialized assembler called ASM41) and its "CPU" is 12-bit (I am currently using only 2048 out of 4096 possible instruction codes, many of them are precompiled GOLs/GSUBs to increase execution speed) so you won't get the expected result :-)

Re: MLDL2000 Conversation

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 21 Dec 2005, 3:14 p.m.,*
in response to message #7 by HrastProgrammer

Hi, Hrast; thank you for your additional information.

What I did was using the HP41X to write the beginning of the SKWID ROM (example in 'MCODE Programming For Beginners') and disassemble the resulting code, so I saw that the comments added by DISASM are very usefull and help understanding most of what is programmed.

In fact, to do what HP41X does, mostly to access VXMemory (Very eXtended

Memory...8^), I guess you needed to modify the code in some ROM images and in the mainframe core so the emulator can handle the extra memory space. Specific parts of the resulting HP41X disassembled code would not be helpfull in a real HP41, right?

Thanks again.

(BTW, did the mail delivered something for you already??? Please, let me know as it happens.)

Luiz (Brazil)

Re: MLDL2000 Conversation

*Message #9 Posted by **HrastProgrammer** on 22 Dec 2005, 1:42 a.m.,*
in response to message #8 by Vieira, Luiz C. (Brazil)

In fact, to do what HP41X does, mostly to access VXMemory (Very eXtended Memory...8^) ...

I would rather call it VLMM (Very Large Main Memory) because it contains 3392 registers of program/data memory so you can easily execute SIZE 1999 and still have .END. REG 1392. Extended Memory is further "extended" to 686 registers.

I guess you needed to modify the code in some ROM images and in the mainframe core so the emulator can handle the extra memory space.

Yes, 4096 registers address space, 16-characters LCD, extended character set, extended XM and many other things required a lot of mainframe (and other modules) changes ...

Specific parts of the resulting HP41X disassembled code would not be helpfull in a real HP41, right?

Yes, the resulting listing would not be "synchronized" with VASM in many places because the code is not equal to the HP-41C ROMs.

BTW, did the mail delivered something for you already??? Please, let me know as it happens.

No, not yet ... I will let you know.

Best regards.
Hrast

Edited: 22 Dec 2005, 3:47 a.m.

Re: MLDL2000 Conversation

*Message #10 Posted by **Howard Owen** on 21 Dec 2005, 12:18 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Luiz,

I'd be delighted to help out. Just let me know when you have a disassembled listing ready for annotation.

You might consider using the disassembler from SDK41. It can produce output from the ROM images on a PC. It can also fill in the names of system entry points, which would save about half the work required to annotate the listings. It can also generate disassembly in one of three different mnemonic systems, including HP's.

Richard Nelson, in his forward to "HP-41 MCODE for Beginners" mentions that Jim De Arras produced an annotated listing of the 41s OS, which probably caused HP to release their source. I wonder if copies of that listing, presumably already in editable text form, still exist? That too could save work in attempting to annotate a disassembly of the ROM OS.

Regards,
Howard

Re: MLDL2000 Conversation

*Message #11 Posted by **Vieira, Luiz C. (Brazil)** on 21 Dec 2005, 1:13 p.m.,*
in response to message #10 by Howard Owen

Hi, Howard;

thanks again for your support and interest. I completely agree with you when you mention time saving by using existing documentation.

After reading Peter's post, I realised that many other ways exist, and my brief consideration in the beginning of using an emulator meets both Peter's and your idea of going ahead with this line of action. What I thought not being available was the possibility of generating a text file as an output from such emulators.

I was reading David Assembler's documentation (ERAMCO) and found a list of mainframe entry points for many usefull routintes. As other ROM may use these entry points as well, David Assembler with the labels ROM give ways to locate 'where does such calls point to'. As I see, there are so many possibilities that we may disassemble the same ROM with different tools and see what we get. As you added, one can either choose the best mnemonic set for each listing.

I guess we can generate many good documentation this way. I'll try some myself and post as I get results. Meanwhile, I'd like also to try some emulators and see what we can get from them. Which others are available that might generate such VASM listings?

I guess HP would never believe that the HP41 structure and related knowledge base would be in such deep studies as it is today with use here. Although we may be a small group of people, I think that each one of us may find new ways to use and understand such stucture. I saw some PDF's generated from original HP41 documantation that are dated 1978. Almost 28 years ago! What were those guys doing at that time? Go figure ...

Cheers.

Luiz (Brazil)

Re: MLDL2000 Conversation

*Message #12 Posted by **Howard Owen** on 21 Dec 2005, 4:15 p.m.,*
in response to message #11 by Vieira, Luiz C. (Brazil)

> Quote:

> As you added, one can either choose the best mnemonic set for each listing.

I think we should stick with the mnemonic set the VASM listings are in - HP's. We should be able to automatically translate between the three types once we have an editable document.

> Quote:
>
> I guess we can generate many good documentation this way. I'll try some myself and post as I get results. Meanwhile, I'd like also to try some emulators and see what we can get from them. Which others are available that might generate such VASM listings?

Warren Furlow has SDK41 over on TOS. It's a set of DOS programs including an emulator, an assembler/linker and a disassembler that work on the PC. One could take the system ROMS from one of the emulators and run them through the disassembler. There are two nice things about this approach. First, the toolkit supports three different mnemonic schemes. The oldest publically known one by Jim De Arras, producd without help from HP through reverse engineering, HP's set, used with the NOMAS VASM listings, and the set used by the Zenrom. The second advantage is the most important. The disassembler runs on the PC and roduces PC compatible text file. So no HP-IL or serial or infrared connection is needed.

> Quote:
>
> I guess HP would never believe that the HP41 structure and related knowledge base would be in such deep studies as it is today with use here. Although we may be a small group of people, I think that each one of us may find new ways to use and understand such stucture. I saw some PDF's generated from original HP41 documantation that are dated 1978. Almost 28 years ago! What were those guys doing at that time? Go figure ...

I was thinking similar thoughts recently. The 41C suprised HP with its popularity. It had a ten year run on HP's price list, which was twice as long as they predicted. Those who worked for the calculator division then must pinch themselves when looking at the current level of interest in the HP-41C. As we have seen, the interest has continued, sustained by a few of the old timers, some of whom post here frequently, and by others that joined in later. It kept the art and science of the 41C alive. As we WWII baby boomers near retirement (I'm a "late boomer" and still have a way to go.) I suspect we will see a continuing upsurge of interest in early computing systems, particlarly ones of such high quality as the HP-41C. We all have those torch-bearers to thank for the fact that so much has been preserved, so that we have this marvelous menu of stuff to play and work with.

Here's my "thank you" and best wishes for the holiday season to all of them, to today's innovators on the old technologies, and to everyone else here. You've made my world a nicer place.

Regards.
Howard

HP41CX OS Sources online at retrocalculator.com

*Message #13 Posted by **Howard Owen** on 22 Dec 2005, 2:46 a.m.,*
in response to message #11 by Vieira, Luiz C. (Brazil)

It's trivially easy to do with SDK41. The file HP41ROM.TXT gives a roadmap of the ROMs, and the file MANUAL.TXT describes how to run D41.EXE. For the 41-CX ROMs I did the following:

```
D41/P0 XNUT0
D41/P1 XNUT1
D41/P2 XNUT2
D41/P3 CXFUNS0
D41/P5 CXFUNS1
```

This disassembled each of the files, with base page numbers determined by the /P switch. The disassembly was done with the default HP mnemonics. SDK41 contains a map of system entry points, so these have been substituted into the listing automatically. Otherwise the code contains no comments. That gives us *something* to do, anyway. 8)

The five source files are zipped up and available here.

I'm not sure which version of the OS is documented in the VASM listings. The 41C ROMS are also included with SDK41, so I could easily produce that source code too. I'm done for the evening, but I'll take a look at the VASM listings tomorrow to see if I can match up this code with what's there.

Regards,
Howard

Re: HP41CX OS Sources online at retrocalculator.com

*Message #14 Posted by **Vieira, Luiz C. (Brazil)** on 22 Dec 2005, 12:51 p.m.,*
in response to message #13 by Howard Owen

Hi, Howard;

thanks for your updated information. I downloaded the .ZIP file now and I'm going to open it later. I agree with you that the task is in the very beginning, and a lot is yet to be done (adding comments and the like). And think of the possibilities we have when considering the even more data we can disassemble. I see Angél's listings (41Z documentation and others) and I think that this is the sort of infomation we should have available... or, in the lack of such information, generate it. Someone has to do that, why not us?

I'll report any news as soon as it happens.

XMas greetings for all.

Luiz (Brazil)

Re: MLDL2000 Conversation

*Message #15 Posted by **chic thomson** on 21 Dec 2005, 6:54 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

I have done initial tests on my MLDL2000 but i am hoping to get some time with it over the holidays. On the vasm listings thing i have a vaque recollection of a HP41 only printer with a stripboard breakout in the cable and a tap going to a PC. The PC (it may have been a 8 bitter like a BBC/B) then decoded the hp41 serial to ascii. By listing the assembler (with ZENROM) to the printer the PC could capture a copy. I guess it could be done nowadays with a PIC chip.
hmm. that might be another little project for 06!

happy merry and a good new to all from bonnie scotland

Re: MLDL2000 Conversation: Meindert is back!

*Message #16 Posted by **Meindert Kuipers** on 25 Dec 2005, 8:18 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Merry Christmas to all friends in the forum.

I am currently with family to celebrate Christmas and now have internet access for 2 days. In the past two months I have been in temporary housing without Internet access, and did all my HP related communications from my work. Since December 15th I am on vacation to get my new house ready to move into, and we now have less then one week of hard work to do before we actually move. We should then have a 6 mbit ADSL line (if my provider does what they have promised), and my computers should be working again. This is the reason why you have not heard from me for some time.

I have been going through this thread, and ask for a little bit of patience. I plan to improve the software so communication between the MLDL2000 and the PC is much easier. I have compiled a list of things that I plan to do on www.kuipers.to/hp41. Of course my new house also needs attention ...

All the best wishes for 2006!

Meindert

Re: MLDL2000 Conversation: Meindert is back!

*Message #17 Posted by **PeterP** on 25 Dec 2005, 5:52 p.m.,*
in response to message #16 by Meindert Kuipers

Merry Christmas to you Meindert and good luck with your new house, it must be very "interesting" to move over christmas!

All the best and me (and I'm quite certain a lot of other here) are very happy that "you are back" and will ad more goodies to your already fabulous device!

Cheers

Peter

PS: got your email, will try things out and let you know.

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Calculator Precision

*Message #1 Posted by **John Limpert** on 20 Dec 2005, 11:09 a.m.*

Most calculators support 8..12 decimal digits of precision. What is the highest precision supported by a desktop or handheld calculator? Some computers support quad precision (128 bit) floating point, which provides about 34 decimal digits for the mantissa.

What's the record for the lowest precision in a desktop or handheld calculator?

Re: Calculator Precision

*Message #2 Posted by **Bill (Smithville, NJ)** on 20 Dec 2005, 11:45 a.m.,*
in response to message #1 by John Limpert

The Sinclair Scientific must come close to being the lowest precision. It displayed only in scientific notation - 5 digit mantissa, 2 digit exponent and was very inaccurate on many of its calculations.

But it was RPN (sort of) and did look good. I had one many years ago - put it together from a kit. Now that I've thinking of it, I think the one I put together was the programable version.

Bill

Re: Calculator Precision

*Message #3 Posted by **Thomas Okken** on 20 Dec 2005, 12:21 p.m.,*
in response to message #2 by Bill (Smithville, NJ)

The Sinclair Scientific actually had a 6-digit mantissa; it just didn't display that 6th digit, but it was there. Of course, since the transcendental functions weren't very accurate, it didn't matter much!

It was still better than a slide rule. I got one in 1976, the ready-to-use version, for about $30, IIRC.

Re: Calculator Precision

*Message #4 Posted by **hugh steers** on 20 Dec 2005, 11:48 a.m.,*
in response to message #1 by John Limpert

how about babbage's difference engine. i think it had 31 decimal digits.

:-)

Re: Calculator Precision

*Message #5 Posted by **Howard Owen** on 20 Dec 2005, 12:00 p.m.,*
in response to message #4 by hugh steers

Babbage produced a handheld? Sensational!

8)

Re: Calculator Precision

*Message #6 Posted by **Eric Smith** on 20 Dec 2005, 2:28 p.m.,*
in response to message #5 by Howard Owen

No, it was a desktop. Sorry.

Re: Calculator Precision

*Message #7 Posted by **Howard Owen** on 20 Dec 2005, 3:05 p.m.,*
in response to message #6 by Eric Smith

I saw a difference engine model at IBM's Pallisades hotel in New York. It was the size of a small desk, so "desktop" could be accurate, given a well constructed desk. 8)

What I want to know is, did it do HP-IL?

Edited: 20 Dec 2005, 3:06 p.m.

Re: Calculator Precision

*Message #8 Posted by **Eric Smith** on 20 Dec 2005, 5:19 p.m.,*
in response to message #7 by Howard Owen

No, it didn't have a general purpose interface. Just a dedicated printer, not entirely unlike the 82143A.

Re: Calculator Precision

*Message #9 Posted by **Howard Owen** on 20 Dec 2005, 6:22 p.m.,*
in response to message #8 by Eric Smith

That sheds new light on HP's decision to not include a general purpose I/O interface in the 42S! If a printer alone was good enough for Babbage, why then, who at HP could argue with that?

One of my favorite science fiction stories of all time has Babbage perfecting the Analytic Engine in 1812 or so. By 1870, Britain rules the world, having sustained the south in the American Civil War, so that American power is divided and Yankee influence is held in check. France isn't out of the running for world power either, and both powers are engaged in a high-stakes technology race seeing who can develop the fastest steam-powered mechanical computers. And an aged, down and out Lady Ada nearly destroys the French supercomputer with an accidental secret weapon that ..

The title is "The Difference Engine" and William Gibson is one co-author. I think they mention calculators in there somewhere. 8)

Re: Calculator Precision

*Message #10 Posted by **Valentin Albillo** on 20 Dec 2005, 2:43 p.m.,*
in response to message #1 by John Limpert

Hi, John:

John asked:

"What is the highest precision supported by a desktop or handheld calculator?"

> There are a number of SHARP models that do support double precision, i.e., up to 20 decimal digits for all computations, including transcendental functions and variable definition (DEFDBL) in programs.
>
> For instance, both my SHARP PC-1475 and my SHARP PC-E500 do support this precision.

"What's the record for the lowest precision in a desktop or handheld calculator?"

> In my own experience, Sinclair scientific models did have abysmal precision, comparable to slide rules if not worse.

Best regards from V.

Re: Calculator Precision

*Message #11 Posted by **db (martinez, ca.)** on 20 Dec 2005, 4:32 p.m.,*
in response to message #1 by John Limpert

This will answer part of your question. It's a way of looking at it anyway. http://forensics.calcinfo.com/

This is an example of a bad ic. They blew pi by 0.00433. http://www.msdsite.com/photopost/showphoto.php?photo=290&cat=534

Some of those old ones were inaccurate but remember that compared to 5" slide rule; they were pretty good.

Re: Calculator Precision

*Message #12 Posted by **Garth Wilson** on 20 Dec 2005, 6:41 p.m.,*
in response to message #11 by db (martinez, ca.)

If they hadn't left out a "1" digit, they would have gotten it right. (Then the last digit, which was incorrect, would have dropped off the end.)

It's easy for math enthusiasts to get carried away with precision if they don't have a feel for what it means in the physical world. Although a few functions will make unacceptable error levels accumulate, most calculators have far, far more precision than most real-life situations have any use for. Audio quality much better than that of the finest cassettes can be had with only three digits to the samples. (999 is close to 1023 which is the maximum that 10 bits can represent.) A lot of digital signal processing is even done in 16-bit fixed-point arithmetic. There is no limit to what can be done with numbers, but their relevance to what they measure, control, etc. is another matter. It is difficult or impossible to measure or control pressure, weight, fluid flow, temperature, light intensity, position/displacement, field strength, etc. to precisions anywhere near what common calculators handle. When I need A/D or D/A converters for experiments or development on the workbench, 8-bit is normally enough with the appropriate scaling. Although I'm glad to have some guard digits, I usually use my HP-41 in ENG3 display mode.

Edited: 20 Dec 2005, 6:44 p.m.

Re: Calculator Precision: Sure ?

*Message #13 Posted by **Valentin Albillo** on 21 Dec 2005, 8:02 a.m.,*
in response to message #12 by Garth Wilson

Hi, Garth:

Garth posted:

"It's easy for math enthusiasts to get carried away with precision if they don't have a feel for what it means in the physical world. Although a few functions will make unacceptable error levels accumulate, most calculators have far, far more precision than most real-life situations have any use for."

> I beg to dissent. Your arguments apply only to entering measurements of physical magnitudes as inputs to some computing process, and even then there are plenty of exceptions where high-precision measurements are both possible and required, specially in nuclear physics, astronomy, etc.
>
> But your arguments do not apply at all (and are in fact *misleading*) to the computational processes applied to said inputs, where each and every digit counts, and counts a lot if the resulting outputs are to be meaningful and relevant. There, when subjecting your physical measurements to some complex algorithm, you can't afford to limit the intermediate accuracy to be the same as that of the physical inputs, lest your results will be pure *garbage*. On the contrary, you need *much higher precision*, which usually increases with the size of the problem, notwithstanding the initial accuracy of the physical inputs.
>
> For instance, many architectural and electrical engineering real-world applications require solving large systems of linear equations so in real professional life you'll frequently find yourself working with large matrices which tend to be numerically ill-conditioned more often than not. In these cases, you'll need as much precision to process them as you can get, even if your inputs are measured to just one decimal, that is if you want your results to be accurate to at least one decimal, as the inputs.
>
> Perhaps this will require internally using 10 digits for medium matrices, or 20 digits for large matrices. Your results will still be accurate to one decimal, as the inputs, but *unless you use that much higher internal accuracy throughout the whole solving process, you'll get no usable results*, at all. That's why high accuracy is needed and that's why your arguments are "shortsighted", so to speak.
>
> If in doubt, you may want to consider this example I've set up, where the solution of some engineering problem requires solving this small 7x7 system of linear equations, where the coefficients are the result of some measurement, say Volts, with just one decimal of precision:
>
> $$
> \begin{aligned}
> 1.3\,x_1 + 7.2\,x_2 + 5.7\,x_3 + 9.4\,x_4 + 9.0\,x_5 + 9.2\,x_6 + 3.5\,x_7 &= 45.3\\
> 4.0\,x_1 + 9.3\,x_2 + 9.0\,x_3 + 9.9\,x_4 + 0.1\,x_5 + 9.5\,x_6 + 6.6\,x_7 &= 48.4\\
> 4.8\,x_1 + 9.1\,x_2 + 7.1\,x_3 + 4.8\,x_4 + 9.3\,x_5 + 3.2\,x_6 + 6.7\,x_7 &= 45.0\\
> 0.7\,x_1 + 9.3\,x_2 + 2.9\,x_3 + 0.2\,x_4 + 2.4\,x_5 + 2.4\,x_6 + 0.7\,x_7 &= 18.6\\
> 4.1\,x_1 + 8.4\,x_2 + 4.4\,x_3 + 4.0\,x_4 + 8.2\,x_5 + 2.7\,x_6 + 4.9\,x_7 &= 36.7\\
> 0.3\,x_1 + 7.2\,x_2 + 0.6\,x_3 + 3.3\,x_4 + 9.7\,x_5 + 3.4\,x_6 + 0.4\,x_7 &= 24.9\\
> 4.3\,x_1 + 8.2\,x_2 + 6.6\,x_3 + 4.3\,x_4 + 8.3\,x_5 + 2.9\,x_6 + 6.1\,x_7 &= 40.7
> \end{aligned}
> $$
>
> which has the quite obvious, unique solution:
>
> $$x_1 = x_2 = x_3 = x_4 = x_5 = x_6 = x_7 = 1.0 \text{ (Volts)}$$
>
> Now, get your preferred HP calc or computer software and try and solve it using *limited* accuracy, say just one decimal, then four decimals, then eight decimals. See what results you get and how do they compare with the actual, unique solution, and among themselves as the limited accuracy increases.

Paraphrasing your own opening statement, I'd say that it's easy for physical world 'enthusiasts' to underestimate precision if they don't have a feel for what it means in the computational world.

Best regards from V.

Re: Calculator Precision: Sure ?

*Message #14 Posted by **bill platt** on 21 Dec 2005, 11:16 a.m.,*
in response to message #13 by Valentin Albillo

In my field, it is Finite Element Analysis where this issue of low *input* precision but high *computational* precision is an outstanding example. In fact FEA is essentially merely a gargantuan matrix problem...and low computational presicion can lead to absolutely wrong results. Of course poor choices in the boundary conditions and boundary geometry also causes outstanding failures.

Any recursive or even step-wise function or procedure can lead to unacceptable loss of precision. Even a "simple" weight-moment computation can lead astray if you do not pay attention to magnitudes vis-a-vis precision.

So low input precision is one thing--computational precision is another.

The example of the slide rule needs to be proerly examined. There was a lot of good engineering carried out on slide rules. This does not mean that the men and women using the slide rules were happy with the low precision! They were astute and often had to find ways to preserve precision--to deal with the limitations of the computational device.

When digital computing became a reality for academics and corporate scientists--on mainframes in the 1960's--there was a lot of excitement: "wow, I can finally tackle that problem--I can get acceptable precision--let's see where it goes!"

Now that we all have computers on our desktops, it is easy to forget, or overlook, the amazing excitement and boost to imagination that the digital computer provided for our predecessors.

Re: Calculator Precision: Sure ?

*Message #15 Posted by **Garth Wilson** on 22 Dec 2005, 2:49 a.m.,*
in response to message #13 by Valentin Albillo

I did say, "a few functions will make unacceptable error levels accumulate." An example I had in mind at the time is that for a bank making amortization calculations, ten digits is nowhere near enough, even if the interest rate is expressed with far fewer digits.

> Quote:
>
> Your arguments apply only to entering measurements of physical magnitudes as inputs.

I did say "outputs" too. I know what you mean; but omitting the outputs-- whether controlling a milling machine's position, a temperature, a motor's torque, or selecting circuit values, etc.-- makes math an end in itself, which it is not. That's part of my point.

2K-point FFTs work fine on 7-bit input data on an 8-bit computer using only 16-bit (less than 5 digits) non-floating-point intermediate and final results. I've often wondered why the HP-71's FFT function went to the overkill of using only full precision when few of us did even 8K-point FFTs (and had to wait 45 minutes for it) and most people who used the function at all had nowhere near enough memory to do that, and the samples usually came from an 8-bit converter.

> Quote:

> many architectural and electrical engineering real-world applications require solving large systems of linear equations so in real professional life you'll frequently find yourself working with large matrices which tend to be numerically ill-conditioned more often than not.

I think that's like saying, "Many people prefer..." when you mean thousands out of the 300,000,000 in the U.S.. Sure there's a significant, valid number, but it's a very small part of the overall set. As an electronics circuit designer, I use matrices so seldom that I have to get the books out every time. But the hardware part of our high-end aircraft communications designs could have been designed entirely with a slide rule if that's all I had to work with. I think I could count on the fingers of one knee the number of times I've needed all the precision the HP-71 offers.

Dave Bernazzani below had a good point about using scaled integers. Contrary to popular belief, there really is life outside the realm of floating-point, and a lot of very useful computing that includes things like trig & log functions. I use scaled-integer quite a bit on the workbench-- mostly 16-bit, often with 32-bit intermediate results. High-precision floating-point is not what I'm against. What I am against is giving the computer the huge overhead of handling everything this way when it's only needed for a small percentage of computing jobs. Although calculators because of their typical usage have a greater need of floating point and high precision, the fact that most of them force *everything* to be handled this way makes them take another hit in speed, an area they're weak in to begin with.

Edited: 22 Dec 2005, 2:58 p.m.

Re: Calculator Precision: Sure ?

*Message #16 Posted by **brian healy** on 22 Dec 2005, 7:42 a.m.,*
in response to message #13 by Valentin Albillo

High precision in a handheld calculator is not a requirement in the field of architecture and structural engineering for buildings. Computers are used to run FEA software and to perform frame analysis. These things are not done with a calculator. For the overwhelming percentage of calculations, 3 digits after the decimal are more than enough. In the 10 years that I have been a structural engineer, I have never once needed to do a matrix, and none of the many other structural engineers that I have worked with have done one either. It is a common failing of new engineers fresh out of college that they get caught up in carrying way too many decimal places.

I am only debating what you have said about architecture. I do not doubt that other fields do require a high degree of computational precision. Architecture, and the related field of structural engineerng do not require this in a hand held calculator.

Re: Calculator Precision: Sure ?

*Message #17 Posted by **Werner** on 22 Dec 2005, 8:44 a.m.,*
in response to message #13 by Valentin Albillo

```
Hello Valentin.


I'm sorry to say, this is not true at all.
The system you proposed (a variant of your 'Albillo Matrices'?) is
simply badly conditioned. It will lose about 13 digits of precision
in the process of computing a solution. This means that, unless
your inputs carry 14 digits of precision, you can't expect a
meaningful result. Since they have been measured to 2 digits only,
your problem cannot be solved.
If you perturb your matrix elements by 1e-10 (a negligible error,
```

```
right? and as far as our Volt measurements go, the same original
problem), your result will become 100% different.


It is useless to perform calculations with higher precision than
the precision of your input, period. If you do, you implicitly
enhance the precision of your input.


The accuracy of the result of a numerical calculation depends on
three things:
- the precision of the input
- the condition of the problem (condition is a measure of how badly
the output changes as the result of small input changes)
- the stability of the algorithm - a stable algorithm keeps the
errors in the same relative magnitude. If your input precision is
not high enough to overcome the loss of precision due to condition
and stability, you get meaningless answers.


Best Regards,
Werner Huysegoms
```

Re: Calculator Precision: Sure ?

*Message #18 Posted by **James M. Prange (Michigan)** on 23 Dec 2005, 9:49 p.m.,*
in response to message #13 by Valentin Albillo

Well, I agree with Garth to the extent that I often see results with more significant digits than can be justified by the accuracy of the inputs.

But I also agree with Valentin that often more digits are required during the computational process for the results to have any validity.

Consider, for example, calculators that find the standard deviation by accumulating "running totals" of n, sum(x), and sum(x^2), then find the standard deviation by formulas like squareroot((sum(x^2)-sum(X)^2)/n)/n) for the population and squareroot((sum(x^2)-sum(X)^2)/n)/(n-1)) for the sample. It's all too easy to cause a round-off error in the sum(x^2) value in particular. Other common formulas are squareroot((n*sum(x^2)-sum(x)^2)/n^2) and squareroot((n*sum(x^2)-sum(x)^2)/(n*(n-1))), making a round-off error in n*sum(x^2) even more likely.

Regards,
James

Re: Calculator Precision

*Message #19 Posted by **Katie Wasserman** on 20 Dec 2005, 11:52 p.m.,*
in response to message #1 by John Limpert

There were several fixed decimal point 6-digit precision calculators. Some of the more popular models were: Commodore MM6, Novus Mathbox, Corvus Checkmate (it only had + and -, but with continuous memory!) I don't know of any 5 or less digit calculators though.

My candidate for the worst accuracy scientific is the Monroe 99. Its precision is 8 digits, but it's accuracy is far less. It returns 6.58003 for ASIN(ACOS(ATAN(TAN(COS(SIN(9)))))) but worse it "thinks" 8^8 = 16777200. Probably because it has a value of 2.7182800 for e.

Re: Calculator Precision

*Message #20 Posted by **Palmer O. Hanson, Jr.** on 21 Dec 2005, 11:12 a.m.,*
in response to message #19 by Katie Wasserman

My nominations for the least capable calculators are the NSC Model 600 and the Novus Mathbox 650 where those devices not only carried few digits but also only handled integers. I discussed that feature in more detail in Article No. 437 "Primitive RPN Calculators". At times the editors of the Journal of the Oughtred Society have proposed a calculating contest between slide rules and calculators. I responded that the only calculators that I knew of which would not totally overwhelm th slide rules were those two devices.

Another six digit calculator

*Message #21 Posted by **Palmer O. Hanson, Jr.** on 21 Dec 2005, 11:28 p.m.,*
in response to message #20 by Palmer O. Hanson, Jr.

The Miida 606 has a six digit display and limits input values to six digits. It does yield answers of more than six digits in some cases:

If you enter 987659 + 987659 = you get 197531 which are the six most significant digits in the display. If you then press C (clear) you get 8 which is the least significant digit in the display. Only the 8 is used in subsequent calculations.

If you enter 98765 x 98765 = you get 975452 which are the six most significant digits in the display. If you then press C you get 5225 which are the four least significant digits in the display. If you enter a problem which has a result exceeding ten digits then some of the more significant results will be correct but some of the less significant digits may be incorrect.

No such luck with divides.

Re: Calculator Precision

*Message #22 Posted by **Dave Bernazzani** on 21 Dec 2005, 11:43 a.m.,*
in response to message #1 by John Limpert

As an aside, there is an important difference between precision vs. accuracy. In the world of desktop computers, the standard single and double precision IEEE floating point representation has made life easier and is very common but at a cost of accuracy. I suspect most calculators use a BCD or other internal representation of a number - meaning that numbers such as 4, .4, 40, etc. can all be represented exactly. The standard 8 byte IEEE floating point representation (approx 15 digits of precision) on a computer does not lend itself to such perfect representations of all numbers as the floating point must be represented by an approximation of binary fractions. For example, with IEEE floats, all numbers are converted to a normalized value plus an exponent. For the mantissa, there is a bit to represent 1/2, one for 1/4, one for 1/8, etc... the more bits you have the more accurately you can represent any given number with this approximation. But it's tricky. For example, the number 4 (or .4, or 40, or 400) cannot be accurately represented in IEEE floating point. The best you can do is 3.99999999999998 (or some variation thereof) and although you can get _very_ close, it does not quite get there with a series of binary fractions. For this reason, you may experience some loss of precision in calculations due to the accuracy of the representation, and some floating point operations may produce unexpected results in chain calculations involving IEEE floats (I haven't looked at the 16 byte floats to see how they are represented - maybe they are better or maybe it just gives larger precision using the same representation scheme). Calculators are generally better in this respect as they seem to have a better internal representation of the numbers. IEEE, however, is extremely convenient since most standard math libraries will work with it and is often optimized in hardware for fast results. There are some PC-based calculators or math algorithms that go out of their way to avoid IEEE floats - using either fixed-point math or BCD math (the GNU bc utility is one such program). Those take longer to code, require user-built trig libraries but are more accurate.

Re: Calculator Precision

*Message #23 Posted by **Thomas Okken** on 21 Dec 2005, 1:23 p.m.,*
in response to message #22 by Dave Bernazzani

In IEEE-754 double precision floating point, which is what most computers use nowadays, the mantissa has 52 bits -- 53 if you count the implied "1" bit at the start. This means you have a relative representational error of about 1e-16.

In the BCD representation used on all the Saturn-based HPs, the mantissa is 12 decimal digits, which leads to a relative representational error of 5e-12.

Both formats use 8 bytes, but the binary format has a relative error that is 50,000 times better than the BCD format (but an exponent with a smaller range: -308..308 instead of -499..499).

From those numbers, I don't think you can call BCD "better"... It just happens to be able to represent certain numbers exactly that binary formats can't, but for numerical computation, that is a useless feature. If you want to keep round-off error in large matrix computations at a minimum, using BCD is just a waste of CPU time (and memory).

Re: Calculator Precision

*Message #24 Posted by **Dave Bernazzani** on 21 Dec 2005, 2:07 p.m.,*
in response to message #23 by Thomas Okken

The problem of IEEE manifests itself in some common ways. First, because some numbers can't be represented properly there is a comparision issue. That is, if you take a value such as 1.2 and divide it by 3 and try to compare that to 0.4 you won't get a match. In one case you get:

0.40000000000000002

In the other:

0.39999999999999997

Exact native compares fail. This is the main reason why in medical embedded software engineering we almost always avoid IEEE floating point in favor of fixed point with a scale factor.

The second problem is with simple chain calculations that should accurately get a value close to a non-representable number but end up a shade too high due to representation issue. In this case, your chain calculation (for example) should be a value just less than 4 but instead gets represented with a value a shade over 4. Using FLOOR/CEIL type functions (often found on better computational devices) will yield the wrong result.

Maybe calling BCD "better" was the wrong term. Certianly there are BCD representations that are better than the representations that are used on the HP calculators (again, bc uses an arbitrary precision BCD for highly accurate results). Maybe I should have said that both have limitations that should be understood before use.

In order to mimimize the above problems, one has to play tricks with the numbers to put them on equal footing (i.e. find ways to compare them within a bracketed range, or convert both of them to a format that can be compared with a certian limit of precision, etc). Again, for most computations it doesn't matter, and with a bit of care you can minimize problems... but all programmers should be extremely cautious when using IEEE floats.

Here is a weak code-snippet for those interested:

```
#include <stdio.h>
```

```
main()
{
   double f1, f2;


   f1 = (double)0.4;
   f2 = (double)1.2 / (double)3.0;  /* This should yield 0.4 */


   printf("f1 = %.17f\n", f1);
   printf("f2 = %.17f\n", f2);


   if (f1 == f2)
   {
       printf("The values match.\n");
   }
   else
   {
       printf("The values do not match.\n");
   }


}
```

Re: Calculator Precision

*Message #25 Posted by **htom** on 21 Dec 2005, 3:39 p.m.,*
in response to message #24 by Dave Bernazzani

This is really a problem with floating point in general (and fixed + scale doesn't always help.)

You should never compare floating point values for equality, IEEE or not, unless you are explictitly looking for these problems.

To safely do the test a =? b where a and b are floats, use something like

abs (abs(a) - abs(b)) < bound

using whatever value is acceptable as the bound, 1.0e-10 being a starting point.

Re: Calculator Precision

*Message #26 Posted by **Marcus von Cube, Germany** on 22 Dec 2005, 2:52 a.m.,*
in response to message #25 by htom

htom,

> Quote:
>
> To safely do the test a =? b where a and b are floats, use something like
>
> abs (abs(a) - abs(b)) < bound

That's a little to much of abs() because it renders -1 equal to +1.

```
abs( a - b ) < bound
```

does the trick better.

Marcus

Re: Calculator Precision

*Message #27 Posted by **htom** on 23 Dec 2005, 2:19 a.m.,*
in response to message #26 by Marcus von Cube, Germany

This is what comes of posting before thinking twice. You're correct.

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49G+

*Message #1 Posted by **Chan Tran (USA)** on 20 Dec 2005, 9:30 a.m.*

I think it's time for me to add the 49G+ to my collection. I am wondering how do I find the best version of the 49G+. I understand there are several version of this calculator out there.

Re: 49G+

*Message #2 Posted by **Ron Ross** on 20 Dec 2005, 9:38 a.m.,*
in response to message #1 by Chan Tran (USA)

I bought one from Eric at Hpcalc.org . I have always been happy in my dealings with him. And he is knowledgable.

Or you can sometimes find good deals via web searches or online auctions.

Re: 49G+

*Message #3 Posted by **Stephen Eastering** on 20 Dec 2005, 4:49 p.m.,*
in response to message #1 by Chan Tran (USA)

I think that HPShopper has the most recent, but if not, it's not hard at all to download the latest ROM version onto an SD card and upload it into the 49G+. (No more hardwire connections from calc to computer unless you want to!)

Re: 49G+

*Message #4 Posted by **Chan Tran (USA)** on 21 Dec 2005, 8:20 a.m.,*
in response to message #3 by Stephen Eastering

I heard that some early version of the 49G+ has bad keyboard. I would like to avoid this problem. I know many of the retailers would have very old stock as this particular model does not sell very well I think.

Re: 49G+

*Message #5 Posted by **Stephen Easterling** on 21 Dec 2005, 2:26 p.m.,*
in response to message #4 by Chan Tran (USA)

I had one (two actually) with a keypad that was very insensitive to entries. I had to push pretty hard. After the ROM 2.00 upgrade, the problem was solved.

Re: 49G+

*Message #6 Posted by **Eddie Shore** on 21 Dec 2005, 9:07 p.m.,*
in response to message #1 by Chan Tran (USA)

1. Good choice. 2. Get the newest keyboard possible. Does Joe Horn have any left?

Re: 49G+

*Message #7 Posted by **Dave** on 22 Dec 2005, 9:59 a.m.,*
in response to message #6 by Eddie Shore

Actually it's a little more hit and miss. I've had an older one (2004 from Joe Horn) and a newer one (2005 from Amazon). The older one is actually better quality (print quality on the painted keys, etc.) and less stiff. I think Kinpo initially tried to fix missed keys by making the keyboard stiffer. Later it turned out the most of the keyboard problem was in software. So the stiffer keyboard was unnecessary in the end. With the latest ROM, either should perform fine.

Joe has recently stated he doesn't have any more calculators for sale.

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HP48 I/O card

*Message #1 Posted by **Matti Övermark** on 20 Dec 2005, 9:17 a.m.*

Hi I recall that there was an I/O card for the 48 series some time ago. Anyone having a clue of where to find such an item?

/Matti

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Hp48GX

*Message #1 Posted by **Beast** on 20 Dec 2005, 8:09 a.m.*

Hi, guys. i just was wondering about developments made on 48GX since it was launched in the begining 90Â´s. I know that the last units made have a slightly faster saturn processor and a black screen but i do not know if other things changed during its long production...

thanks..

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HP 67 keyboard problem

*Message #1 Posted by **Jan** on 20 Dec 2005, 7:45 a.m.*

Hi

I just got a HP-67 from my dad who used it throughout his career at university. The calculator is in working condition except that some keys lost their pleasant, typical "HP-touch" whereas the "A" and the "E" keys do not work at all. Does anybody of you know how to repair this or what the main cause of these problems could be (I can imagine, since the old "classic" has been used quite frequently (also by myself back in the old days when I was still in highschool) that some wear of the contact strips under the keys may be the cause or that the protective plastic sheet between the keys and these strips may have suffered throughout the years. If anyone of you has an idea, please let me know. Furthermore, the card reader is not working properly. The motor is still OK, when a card is inserted the motor starts running but somehow the card is not pulled through, the motor then stops and an error message appears in the display. I think it could be the rubber wheel that normally rolls the card forward. These parts seem to be sensitive to degrading over the years, making it slippy or even brittle. Does anybody of you know about this?

Thanks in advance for your comments and reactions

Re: HP 67 keyboard problem

*Message #2 Posted by **Tony Duell** on 20 Dec 2005, 7:58 a.m.,*
in response to message #1 by Jan

The normal cause of this is that the metal contact strips under the keys crack at one side of the bump. These strips were originally spot-welded to the PCB, and even if you can get spares (e.g. from another old machine), it's difficult to solder them in place and maintain the 'feel'

You can try soldering over the crack. This will make it feel a little better, but it certainly won't be 'right'

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HP-71B and PC

*Message #1 Posted by **Fabio Albonico** on 20 Dec 2005, 6:26 a.m.*

Who can help me to connect HP71B with Pentium PC?

Thank you

Re: HP-71B and PC

*Message #2 Posted by **Tony Duell** on 20 Dec 2005, 8:00 a.m.,*
in response to message #1 by Fabio Albonico

What hardware do you have, other than the HP71 and the PC? And what OS do you run on the PC?

One way to do it is to use the HP82164 HPIL-RS232 interface, along with the HPIL module in the HP71. I've written programs for linux to transfer files between a PC and an HP71 with that interface.

Re: HP-71B and PC

*Message #3 Posted by **Christoph Klug** on 20 Dec 2005, 2:29 p.m.,*
in response to message #2 by Tony Duell

A second solution would be using EMU71 in combination with the HP-IL/PC Interface Card. This solution needs a PC motherboard which includes a ISA-Bus...

Regards - Christoph Klug

Re: HP-71B and PC

*Message #4 Posted by **Howard Owen** on 20 Dec 2005, 3:45 p.m.,*
in response to message #3 by Christoph Klug

I actually find EMU41 to be more useful in talking to my 71Bs. EMU71 can't operate as a non-controller. You can still use a real 71B with EMU71, but you have to drive from EMU71. EMU41 on the other hand will stop emulating a 41C on the loop and get out of the way when it sees another controller. That lets you use the 32-column wide EMU41 display as a DISPLAY IS device on the real 71, while accessing all the emulated devices, such as disks and printers.

A better solution if you want a remote terminal on the PC is HPILLINK, available on the museum FTP site. It will talk to your card, Cristoph, or to HP's, and provides both DISPLAY IS and KEYBOARD IS devices. (The latter requires the KEYBOARD lex file, or one of either the Forth/Assembler ROM or the 41C Translator ROM). It also lets you upload and download text files. I use it extensively when doing BASIC development on the 71. It lets you single step BASIC code from the emulated terminal, which is pretty cool. It's useful too because having several lines visible gives single-stepping better context. One annoyance is that the text files it uploads are given a ".TEX" externsion, which xemacs thinks is TeX source. So it highlights the BASIC text in weird ways, trying to interpret it as such. I just rename the file before loading it into the editor to get around that.

My ideal emulation environment for speaking to a real 71 would be EMU71, running as a non-controller, providing keyboard and display emulation as well as the other essential pieces all in one place. I imagine that might be hard to do in DOS, however.

My actual ideal would have all that running natively on Linux. But I shelved my Linux HP-IL device driver months ago when it started getting sticky. But as long as I'm wishing, I wish you could produce a PCI version of the card so the driver would be easier and my choice of systems to run it on less limited. Unfortunately, commodity PC hardware just doesn't have the longevity that these fine old HP machines do. At some point, getting a machine with an ISA slot may become as difficult as getting a rare calculator. 8)

Re: RS232 cabel

*Message #5 Posted by **Christoph Klug** on 20 Dec 2005, 2:33 p.m.,*
in response to message #2 by Tony Duell

Dear Tony,

please give me the wiring details for creating a own RS232 interface cable connection bwetween PC = 9 pin and HP-IL/RS232 interface = 25 pin.

With best regards from Germany - Christoph Klug

Re: RS232 cabel

*Message #6 Posted by **Tony Duell** on 24 Dec 2005, 5:17 a.m.,*
in response to message #5 by Christoph Klug

Ooops, I missed this...

Download the LIF Utilities for Linux from the HPCC web site. The cable wirelists are in there, along with some other hardware stuff. It's in the hardware/ directory of that .tar.gz file, I think.

You might also want to look at some of the comments in the source code. There's a bit of non-obvious HP calculator info there.

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1980s Vintage computing - new HP-9915 page and disassembler

*Message #1 Posted by **John** on 19 Dec 2005, 9:00 p.m.*

Hi,

I have added a short page on the HP 9915 to my web page:

http://www.vintagecomputers.btinternet.co.uk/hp85/hp9915.htm

plus I've uploaded Olivier De Smet's assembler / disassebler in Python:
http://www.vintagecomputers.btinternet.co.uk/hp85/capricorn.zip

Apologies if some these links are broken, the pages are split between two severs and need some tidying up!

Enjoy, John

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Sticky keys HP 11C

*Message #1 Posted by **R McBeth** on 19 Dec 2005, 8:18 p.m.*

Does anyone have an easy solution for a sticky "2" key on my HP 11C?

If not, is there anywhere one can buy a replacement 11C?

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Changed batteries of my 28C without loss of memory

*Message #1 Posted by **marais** on 19 Dec 2005, 4:55 p.m.*

Gentlemen, I proudly announce that I just changed batteries of my 28C without loss of memory, nor breaking the battery case. A little wonder, but then again, it's christmas time. Just wanted to share my joy.

Andreas

Re: Changed batteries of my 28C without loss of memory

*Message #2 Posted by **Paul Marin** on 19 Dec 2005, 5:03 p.m.,*
in response to message #1 by marais

Once you have mastered the act of pushing down on the batteries before sliding the door across, it's a piece of cake, don't you agree ;)

Paul

Changed batteries of my 28C without loss of memory

*Message #3 Posted by **marais** on 20 Dec 2005, 4:50 p.m.,*
in response to message #2 by Paul Marin

...yes, that's all there is to it. I wasn't aware of the battery door issue before reading about it on this forum, and now i am extra extra careful. I ran the 28c on the low battery indicator for 6 months before daring to change (when the first "System Object" error appeared)

Andreas

Re: Changed batteries of my 28C without loss of memory

*Message #4 Posted by **Thomas Radtke** on 20 Dec 2005, 3:09 a.m.,*
in response to message #1 by marais

I did this successfully with my 18C, not even knowing there could be a problem with breaking the door:).

Thomas

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don't let me get this HP-55

*Message #1 Posted by **cobubba** on 19 Dec 2005, 3:37 p.m.*

Someone please bid on this hp-55!

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=5843322508

Re: don't let me get this HP-55

*Message #2 Posted by **Chan Tran** on 19 Dec 2005, 4:16 p.m.,*
in response to message #1 by cobubba

Thanks. You can have it.

Re: don't let me get this HP-55

*Message #3 Posted by **Paul Marin** on 19 Dec 2005, 4:57 p.m.,*
in response to message #1 by cobubba

Why? Lost your touch?

Re: don't let me get this HP-55

*Message #4 Posted by **cobubba** on 19 Dec 2005, 5:28 p.m.,*
in response to message #3 by Paul Marin

if i get it cheap then you will complain that i buy low and sell high. Here is your chance to prevent me from doing so.

Re: don't let me get this HP-55

*Message #5 Posted by **Howard Owen** on 19 Dec 2005, 5:40 p.m.,*
in response to message #4 by cobubba

That has *got* to be Coburlin's good twin. 8)

Re: don't let me get this HP-55

*Message #6 Posted by **Namir** on 19 Dec 2005, 5:41 p.m.,*
in response to message #5 by Howard Owen

or Cobubba from the evil parallel universe (where eerything is opposite)!

Namir

Re: don't let me get this HP-55

*Message #7 Posted by **Paul Marin** on 19 Dec 2005, 8:42 p.m.,*
in response to message #4 by cobubba

Why would I prevent you from doing what you ae famous for Cobubba. Please don't let me stop you doing your christmas shopping (lol)

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HP 65 Card Reader

*Message #1 Posted by **jbssm** on 19 Dec 2005, 10:21 a.m.*

Hi again,

sorry for making so many questions, but I don't find a solution for them anywhere else.

I tried to repair the card reader of an HP-65

I replaced the gummy well, and now the card passes (more or less well) trough the calculator. But as it's passing by it makes a very loud high pitch sound. I tried to re-assemble the reader several times and putting more or less pressure in the screws that hold it together, but it still makes this annoying sound (and the speed is erratic).

Can anybody point me to a solution?

Best regards, Jorge

Re: HP 65 Card Reader

*Message #2 Posted by **David Smith** on 19 Dec 2005, 11:53 a.m.,*
in response to message #1 by jbssm

The bearings in the motor and/or at the tip of the work gear shaft need to be lubricated. I use a gun oil called Break Free CLP. It takes about 30 minutes after applying for it to work. I use a small disposable paint brush to apply the lube to the motor shaft. Be careful not to get it up into the motor/gear coupling or it will slip.

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Repairing HP-85's.

*Message #1 Posted by **Barrie Carruthers** on 18 Dec 2005, 10:24 p.m.*

Beleive it or not we are still using some eight odd HP-85's in our work place. One gets pretty slick at trouble shooting and refurbishing these neat little machines after a time but I am reaching the point where I have several otherwise perfectly good units except they requires an I/O ROM or the Video ROM, CPU perhaps and my spares box is starting to look pretty bleak. Any body have any ideas where these can be picked up or has anybody worked out a work around using a standard PROMs and adapters perhaps?

Re: Repairing HP-85's.

*Message #2 Posted by **Vassilis Prevelakis** on 18 Dec 2005, 11:40 p.m.,*
in response to message #1 by Barrie Carruthers

This board allows normal EPROMs to be connected to the HP Series 80 computers. It comes with a number of ROMs already stored in its EPROM, and you can add your own.

http://www.vintagecomputers.btinternet.co.uk/hp85/prm-85_mk1.jpg

It is available from http://www.vintagecomputers.freeserve.co.uk/hp85/prm85user.htm

(and a small plug for my site) a lot of information on the Series80 computers may be found at http://www.series80.org

**vp

Re: Repairing HP-85's.

*Message #3 Posted by **Sunny** on 19 Dec 2005, 4:36 p.m.,*
in response to message #2 by Vassilis Prevelakis

What I make out of your response is that its a board that goes into the exapansion slot which is at the back of the machine. If the I/O rom is at fault, will this work?

In another words, does it automatically bypass all the bits viz, the video rom and the CPU? Thanks Sunny

Re: Repairing HP-85's.

*Message #4 Posted by **Barrie Carruthers** on 19 Dec 2005, 11:17 p.m.,*
in response to message #2 by Vassilis Prevelakis

Thanks for your helpful information and referral to your site Vassilis.

Re: Repairing HP-85's.

*Message #5 Posted by **Howard Owen** on 18 Dec 2005, 11:50 p.m.,*
in response to message #1 by Barrie Carruthers

85As amd 85Bs show up on eBay pretty frequently. They go anywhere from $35 to $125 depending on conditions and luck of the draw.

As far as PROMs go, there's a new hobbyist board called the PRM-85 that is an implementation of the EPROM ROM drawer. Only this updated version lets you have up to 8 ROM images in a single EPROM, all online at once. The card ships with a "SuperROM" containing the following:

```
Advanced Programming
Assembler
Service-85
Program Development
Mass Storage
Matrix
Input/Output
Extended Mass Storage
```

These are all the 85 versioms, but an equivilant EPROM for the 86/87 has just been developed.

I can confirm that the device works great. I have it plugged in to my 85B, but I'm checking my mail for the 86/87 SuperROM, which John has sent me from England free of charge! (I am deeply impressed by that. 8)

It's a hobbyist device, which doesn't mean that it's of poor quality, quite the contrary. But there is one guy, the designer, building the boards. So I don't kmow what kind of volume he can handle.

Hope this was helpful
Howard

Re: Repairing HP-85's.

*Message #6 Posted by **john** on 19 Dec 2005, 7:38 p.m.,*
in response to message #5 by Howard Owen

Hi,

The PRM-85 boards are designed and made by Bill Koteska. Volume of boards made so far is around the 10 mark, we have hardly been overwhelmed with enquires so I suspect volume will stay in the 10s for some while yet.

There was a waiting list, but I understand everyone on it has now been supplied with or offered boards. One person on the list has pulled out, so I have one board and am looking for a buyer. The price is $100/€100 or £60 plus postage.

Please e-mail me if you are interested, and I will send further details or if there are more than one reply I'll start a new waiting list!

Regards, John

Re: Repairing HP-85's.

*Message #7 Posted by **Barrie Carruthers** on 19 Dec 2005, 10:47 p.m.,*
in response to message #5 by Howard Owen

Well thanks for this information Howard. Sounds a great concept. Will certainly follow it up. The ROM/Controllers I really need are the Video Controller, the Printer Controller and the I/O Controller - as distinct from the Input/Outout ROM These are the HP IC's Part no's:- 1MA5-0101,1MA9-0101,1MA8-0101.

Yes I do have the option to aquire additional 85's and I may have to do that. Unfiortunately that much harder being out in the sticks down here in New Zealand.

Thanks for your response

Barrie

Re: Repairing HP-85's.

*Message #8 Posted by **Howard Owen** on 18 Dec 2005, 11:54 p.m.,*
in response to message #1 by Barrie Carruthers

I see Vassilis beat me to the punch on the PRM-85. 8) Let me second the plug for his website. It's a great resource for HP-85 tips, software and documentation.

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Best Simulaton for 41

*Message #1 Posted by **PeterP** on 18 Dec 2005, 5:44 p.m.*

Hi, what kind of simulation program do you use and why? I've been looking around and it seems that EMU and V41 look both pretty good. For EMU I have trouble locating the bin files (and don't want to go through the trouble of producing them myself for all the fine mods out there. Any tips?), For V41 it seems that one can only program using the mouse with no re-mapping of the 41-keyboard (like XEQ, x^2, sin, etc) to the PC keyboard, so I don't see a real benefit to using it as compared to using the 41 directly.

Thoughts, advice, suggestions?

Cheers

Peter

Re: Best Simulaton for 41

*Message #2 Posted by **Eric Smith** on 18 Dec 2005, 5:55 p.m.,*
in response to message #1 by PeterP

Well, I like Nonpareil, but I might be just the slightest bit biased. :-)

I haven't used "EMU"; in fact I haven't even heard of it. But V41 seems quite nice, and is currently more usable than Nonpareil. In my experience V41 uses the keyboard just fine; in fact I've had requests to change the Nonpareil keyboard mapping to match that of V41.

Re: Best Simulaton for 41

*Message #3 Posted by **Howard Owen** on 18 Dec 2005, 6:16 p.m.,*
in response to message #1 by PeterP

The benefit of an emulator in general is that you can use most of the rare ROM modules without having to pay a fortune for them.

Personally, I use four HP41 emulators in different contexts. I use EMU41 to drive two HPIL boards. One is a real 82973A, and the other is one of Christoph Klug's clones. EMU41 works great with both. I run it under DOSEmu and Linux, so the limitations of DOS aren't bothersome. It's my primary way of exchanging data with my 41s, 75s and 71s. It also is helpful with my 85 and 87, and my 9816. These last three will all write to a 9121 floppy, and a 9114B floppy can read and write the single sided disks, as long as they've been formatted natively. Basic EMU41 is free. A version that speaks to an HPIL card is €20. No source code is available for either version.

The second emulator I use is HP-41X by Hrastprogrammer, on my HP-48GX. In many ways, this is the most successful of all the simulations, because it's implemented on a calculator, not a computer. That means the interface needs less adaptation, and is truer to the original. Add to that the fact that the emulation is good enough to run HEPAX and other advanced 41C modules, and you have a real winner. HP-41X is commercial software, with no source code available.

The third emulator I use is Nonpareil. This is the only one that runs on Linux natively. This is important to me because I like to minimize my use of Microsoft software. The source code is available under the GPL, which means that most questions I have can be answered by looking at the actual implementation in the source. Nonpareil is also unique in its ability to simulate dozens of early HP machines, in addition to the 41C/V/X. It runs on Windows too.

Finally, I have V41 installed on my primary Calc/Windows gateway machine. It's simulation is also very good. I don't use it much because the others fill in most places I want a emulator. But I've been looking at SDK41, which is also by Warren Furlow. It's a suite of mcode development software that runs on DOS. It includes a 41C emulator that is probably a predecessor to V41. The interesting thing about that is it claims to be able to use the HPIL ISA card to communicate with a real 41. It's got me wondering if V41 will do that too. The source code is available under the GPL, so I can find out, whenever my idle curiosity turns into action. 8)

Hope this helps,
Howard

Re: Best Simulaton for 41

*Message #4 Posted by **Thomas Okken** on 18 Dec 2005, 6:42 p.m.,*
in response to message #1 by PeterP

There's also P41CX for PalmOS. It simulates the 41CX, ROMs, and printer.

- Thomas

Re: Best Simulaton for 41

*Message #5 Posted by **Eric Smith** on 18 Dec 2005, 9:29 p.m.,*
in response to message #4 by Thomas Okken

Based on nsim 0.5 (prececessor of Nonpareil) by... me! :-)

The base application is GPL'd, so you can get it for free. It's only the add-ons that you have to pay for. (And I don't receive any of the proceeds.)

Edited: 18 Dec 2005, 9:31 p.m.

Re: Best Simulaton for 41

*Message #6 Posted by **Mike T.** on 20 Dec 2005, 5:04 a.m.,*
in response to message #1 by PeterP

When running Linux I usually have a copy of Nonpareil running somewhere in the background...

Mike T.

Re: Best Simulaton for 41

*Message #7 Posted by **J-F Garnier** on 20 Dec 2005, 8:26 a.m.,*
in response to message #1 by PeterP

For EMU I have trouble locating the bin files (and don't want to go through the trouble of producing them myself for all the fine mods out there. Any tips?),

I guess that by EMU you mean Emu41.

You could have a look at this thread where I gave some tips for using ROM with Emu41.

I wouldn't say Emu41 is the best, but it suits my needs (I made it for that) and some people seem to like it, too...

J-F

Re: Best Simulaton for 41

*Message #8 Posted by **PeterP** on 20 Dec 2005, 9:38 a.m.,*
in response to message #7 by J-F Garnier

Thanks a lot guys, that is very helpful!

Cheers

Peter

Re: Best Simulaton for 41

*Message #9 Posted by **Gerson W. Barbosa** on 20 Dec 2005, 9:20 p.m.,*
in response to message #7 by J-F Garnier

Thank you very much, J-F, that's exactly what I wanted to know but was ashamed to ask! Thanks for Emu41LX too.

Now I have a 41CX with the Advantage ROM up and running on the 200LX. It's going to be be nice to play with while I wait for the real things to arrive (my first 41 ever!).

Best regards,

Gerson.

Re: Best Simulaton for 41

*Message #10 Posted by **PeterP** on 20 Dec 2005, 11:20 p.m.,*
in response to message #9 by Gerson W. Barbosa

not knowing and asking is the prerogative of me, the newbie ;-) What 41 are you getting?

Re: Best Simulaton for 41

*Message #11 Posted by **Gerson W. Barbosa** on 21 Dec 2005, 8:02 a.m.,*
in response to message #10 by PeterP

Hi Peter,

Answering your question, a very nice 41CX and an Advantage PAC. The latter is important because I want it to have the advanced functions the 15C (my first HP calc) has.

Now, my time to ask: what accessories do you think I should get? I don't want to key in long programs and I want to have a back-up of my programs. A card reader and a wand? Or a device to link it to the PC?

Regards,

Gerson.

Re: Best Simulaton for 41

*Message #12 Posted by **PeterP** on 21 Dec 2005, 12:46 p.m.,*
in response to message #11 by Gerson W. Barbosa

In terms of accessories, here is what I use and love:

1) CCD, as it offers lots of matrix functions (albeit some say inferior to the Advantage), alpha functions as well as direct entry of Synthetic instructions. The latter I use a lot for the synthetic registers M, N, O, a as they work faster than normal storage registers like 00, 01 etc. Raymond Del Todo produced a special soft-mod version called OS/X which is halve the size and offers only the direct entry of synthetic indstructions. It is a perfect complement to the Advantage module I'd say, that you have already. However you will need one of the goodies I mention in section 3) to take advantage of that great piece of work.

2) Storage of programs: Here I'm a bit of a snob and use a CMT 512k ramDrive. It is really small, really fast, really portable, really big capacity. And as they are Hp-IL compatible, you could use it for your 71 as well... They are a bit hard to get though, you might want to try the Classified section here. CardReaders are relativly cheap (just make sure you get a repaired one, the non-repaired ones just produce gluey cards... The Classified section as well as eBay might be a good source here), yet they use lots of battery and it might be a lot of cards to store a long program (they store only 16 register per card per side). The upshot is that I like the feel of the 41 with the attached cardreader in the hand a lot, it's much more solid and balanced than without. But that's just me.

3) There are certain modules out there which only exist in software form, that I think are outstanding and really helpful in programming the 41. For normal purposes and math, the Sandbox (generally usefull functions), SandMath (higher math) and the 41Z (complex number module) from Angel Martin come to mind. For MCODE (which might you might want to tackle later on), David Assembler comes to mind (and naturally HEPAX and to a lesser extend IMHO Zenrom, which are available as hard modules as well as soft-roms). To use all this wonderful things (and the CCD I mentioned earlier), one can use either a Clonix/NoVram module from Diego Diaz (160 Euro I think) or the MLDL from Meindert Kuipers (260 Euro), both of which offer lots of great features to load in all those modules as well as connection to the PC (albeit in a bit of an indirect way).

4) For entering programs that others have written, the best way is to get a Wand, as one can produce barcodes. However, I don't do that a lot. I either program myself (that's why we have them in the first place, right?) or just type in the programs. You should be able to buy on either here or on eBay for about 75 USD.

5) Link to PC is as of yet not particularily straight forward IMHO. Christoph Klug has build a great PC board (160 Euro I think), which howerver is only ISA, so you'll need an old PC and the HP-IL module. The connection from the MLDL is via USB, so quite easy, yet by no means offers the same functionality as Christophs board (it basically allows you to use the PC as a RamDisk. it also provides the connectivity to the simulaters around. So you can program on your PC in a simulater, test out your programs using their programming environment and then load them onto your 41 for on the go.

6) There is a great amount of literature out there that is fantastic in learning about your 41. Here are my favorites a) Extend your HP 41, from Mier-Jedrejowicz. It is also called the "the red bible". When you are through with this book and its exercises, you've propelled yourself to the

top quintile of HP 41 users around the world I'd say. b) Keith Jarrets "Synthetic Programming Made Easy", the best introduction into the Synthetic Programming world, which - as a great side-benefit - will teach you a great deal on how the 41 works internally c) MCODE for Beginners, from Ken Emery, the only book I know that was written on MCODE for the 41, for if and when you want to go into MCODE programming.

So what's the bottom line? if you were to get only one thing to your current outfit, I'd get the NoVram from Diego. It will give you access to virtually all available modules, including all the ones I mentioned to use on your HP on a daily basis. And a cardreader for storing programs. The total cost of this is about 200-225 Euro. The other option would be to try to get a MLDL from Meindert (260 Euro if you solder it together, 360 if he does), which will give you far more storage space and a fast connection to the PC to store your PGMS as well (with a little, easy trick), however at a bigger form-factor (it has the size of the CardReader vs NoVram is just a plug in Module. And then get the red bible from Mier-Jedrejowicz and you're set for quite a while...

But that's just me, and close to what I did to get me started on the HP 41. Lets hear the suggestions from others!

Cheers

Peter

Edited: 21 Dec 2005, 5:42 p.m.

Re: Best Simulaton for 41

*Message #13 Posted by **Gerson W. Barbosa** on 21 Dec 2005, 7:01 p.m.,*
in response to message #12 by PeterP

Thanks for your comprehensive suggestions. I had already been advised to get Diego Diaz's CLONIX, but since I was just interested in only one PAC I chose to get that first. I may go for this and other peripherals later, as I need them.

Thanks also for the book recommendations. They'll be needed when I finish reading all manuals. Anyway, I don't want to be any 41 guru. I missed that boat 25 years ago... :-)

Cheers,

Gerson.

Re: Best Simulaton for 41

*Message #14 Posted by **Marcus von Cube, Germany** on 22 Dec 2005, 2:41 a.m.,*
in response to message #12 by PeterP

Peter,

> Quote:
>
> The other option would be to try to get a MLDL from Meindert [...], which will give you far more storage space and a fast connection to the PC to store your PGMS as well (with a little, easy trick), [...]

Can explain the trick in some more detail? Are you talking about the Hepax file system?

Re: Best Simulaton for 41

*Message #15 Posted by **PeterP** on 22 Dec 2005, 10:39 a.m.,*
in response to message #14 by Marcus von Cube, Germany

I did it using the WW Rambox OS (comes with the V41 emulator in the /mod subdirectory. Just use the extraction tool from Warren to get it in rom form).

Enable a page in the MLDL, without write protection. "INITPG" it with something like "-My41PGMS" (I think it needs 6+ chars to show up in Cat 2). Then save your programs to that page. After you are done, you can "download" that rom in the MLDL Gui on the PC and save it for later use.

Same stuff can be done with a 4k MCODE block. You either program in the MLDL directly (not sure if that works, have not tried yet) or do a "COPYBLCK" operation from the place where you have it into the MLDL (I've transfered my WW Zenprom programing OS that way from a RAMBOX to my PC). Clearly, if you have already a full block in say a Clonix or Rambox filled with programs, the above "COPYROM" procedure works just as fine to save your whole block of user-programs to the MLDL and from there to the PC.

Hope that helps.

Cheers

Peter

Re: Best Simulaton for 41

*Message #16 Posted by **Marcus von Cube, Germany** on 23 Dec 2005, 4:57 a.m.,*
in response to message #15 by PeterP

Thanks for the info. I'll check the WW module when I've time.

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RPNglish

*Message #1 Posted by **db (martinez, ca.)** on 18 Dec 2005, 3:21 p.m.*

Y'all seen this? It is a description of a theoretical Last-In-First-Out stack based spoken language. As they would say in Fith; "site interesting the URL the on is" http://www.langmaker.com/lifointro.htm or click RPNglish
The first 2/3 is just an RPN primer. The last third of the page is about the language and there are links for more on Fith grammer. It sounds like a logical and straightforward way to think, till you read that they have a base 144 number system. 12 i could see, but that number is just gross.

Re: RPNglish

*Message #2 Posted by **Ed Look** on 18 Dec 2005, 6:05 p.m.,*
in response to message #1 by db (martinez, ca.)

Ha ha ha: "gross"

But I will get around to checking the site.

Re: RPNglish

*Message #3 Posted by **John Ioannidis** on 18 Dec 2005, 8:46 p.m.,*
in response to message #1 by db (martinez, ca.)

sounds like German to me :)

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HP11C commas & period swapped

*Message #1 Posted by **PJ** on 18 Dec 2005, 2:09 p.m.*

I have had my HP11C for years! It has been the best calculator I have ever owned. Just recently I turned it on and noticed that the comma and the period are swapped. Example, 1111.1111 will display as 1.111,110 - operations perform without errors...it is just the display. I have run the self test (the "ON" and "x" key) and there are no errors. I have also run the keyboard/display test ("ON" and divide key) pressing all keys as stated in the user manual and get the proper display "11" at the end. Does anyone have any experience with this? Is there a cure? Sure hope so! :-) Would love to keep using it, but the display is annoying. Thanks. PJ.

Re: HP11C commas & period swapped

*Message #2 Posted by **Donald** on 18 Dec 2005, 2:20 p.m.,*
in response to message #1 by PJ

Try <ON> <.> at the same time

Re: HP11C commas & period swapped

*Message #3 Posted by **PJ** on 18 Dec 2005, 2:28 p.m.,*
in response to message #2 by Donald

Thanks for the suggestion. Although I had searched the forums here I missed one from "Message #2 Posted by Vieira, Luiz C. (Brazil) on 2 Jan 2005, 4:48 p.m." who responded to another issue but mentioned using the (ON and "-"). He stated this clears the memory. And it worked! If this happens again I'll try the "ON" and "." but the the "ON" and "-" worked!

Thanks Luiz! I would sure have hated to lose the use of this calculator...I've told my friends who kid me about using it that it was the only really useful thing my ex-husband left me with!

PJ

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HP-75 IL error

*Message #1 Posted by **Michel Beaulieu** on 17 Dec 2005, 10:11 p.m.*

Hi all. I tried to print a program with my thinkjet printer and my HP-75c. I use PRINTER IS ':PR' and after that PLIST and all i get is just a couple of line print on the printer and the display and printer write "TRANSMISSION ERROR"

So i tried my HP-75C on my HP41-IL "brown" printer and this time no problem (but i would like to print WIDER with the thinkjet)

After, i try to print with my HP-41 on my Thinkjet and everything is ok...

Hummm... the printer is ok, the HP-75 is ok but they don't like each other. Is it normal that it just print a couple of line and jump with an Error? Sometime i can get 15 lines, sometime no line at all...

Any idea?

Thanks Michel Canada.

Re: HP-75 IL error

*Message #2 Posted by **Vassilis Prevelakis** on 18 Dec 2005, 11:50 p.m.,*
in response to message #1 by Michel Beaulieu

This looks like a battery problem, are you sure your ThinkJet battery is in good condition. Can you check its voltage during the print operation to see if the voltage level changes?

Another test would be to try to test the ThinkJet electronics to verify that you do not have a memory problem in the IL interface. Try sending data at a very low data rate (e.g. one line every 10 sec) to see if the printer managrs to print more lines. If this works, it may indicate that there is a problem with the printer's buffer (which slowly fills up as the printer mechanism cannot keep up with the incoming data).

**vp

Re: HP-75 IL error

*Message #3 Posted by **Michel Beaulieu** on 20 Dec 2005, 8:50 a.m.,*
in response to message #2 by Vassilis Prevelakis

I tried my HP-75C on my disk drive and on cassette drive and i also get a "bad transmission error after a few seconds. I think that my HP-75c is defective; how can it be possible?!

Michel

Re: HP-75 IL error

*Message #4 Posted by **Vassilis Prevelakis** on 1 Jan 2006, 8:15 a.m.,*

in response to message #3 by Michel Beaulieu

check the cables, they may be damaged and make contact intermitently

you can also use a single cable to connect the HP-IL output port to the HP-IL input port on you HP-75 and see if the loop works.

If you get timeouts replace the cable. If you still get timeouts then it is very likely that the HP-75 interface has a problem.

**vp

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HP 82161A - digital cassette drive

*Message #1 Posted by **Artur - Brasil** on 17 Dec 2005, 8:42 p.m.*

Hi, Does anybody have the electronic schematic of HP82161A or any material about how to service it? Best regards Artur

Re: HP 82161A - digital cassette drive

*Message #2 Posted by **Tony Duell** on 18 Dec 2005, 6:33 a.m.,*
in response to message #1 by Artur - Brasil

I have the HP service manual for the 82161, which includes a schematic.

Unfortunately I have no easy way to get a copy to you, but I can answer any questions about repairing it..

Re: HP 82161A - digital cassette drive

*Message #3 Posted by **Artur - Brasil** on 18 Dec 2005, 5:12 p.m.,*
in response to message #2 by Tony Duell

Hi, Tony

What a pit... is this manual too big?

Well, I would like to know if is there any adjustments like gain, speed, bias, etc. I could see some trimpots inside the drive, but no indication what they are for. Also, how I can measure the signal sent and readen from magnetic head. I believe as the tapes are getting old now, they may are loosing their capacity of recording. So, increasing in some way the signal this could help in improving the reading. Any way to get a simple photocopy and posting it in USPS? Best regards Artur

Re: HP 82161A - digital cassette drive

*Message #4 Posted by **Garth Wilson** on 19 Dec 2005, 1:04 a.m.,*
in response to message #3 by Artur - Brasil

I don't have a service manual for the 82161A, but hopefully this will interest you anyway.

Age alone will not deteriorate the tapes' ability to take new data or hold old data. The characteristics of a head will change somewhat as it wears, possibly requiring an adjustment of the trimmers. I doubt that you've used it that much though. The settings don't change much even for high-end audio equipment until the head is near the end of its life. After the machine is initially aligned correctly, being dirty (especially for the head) is the only real enemy to performance before actual wear-out or damage. Even head demagnetization is a myth. I've done very little tape-recorder design work, but I did service nearly a thousand high-end audio tape recorders in a prior life, over 20 years ago. Bringing a tape recorder back up to new-machine spec.s never involved demagnetizing.

The 82161A records digitally and does not use bias. Its record circuit gives the head about 150% of the

DC current needed to saturate the tape (according to the May 1983 Hewlett-Packard Journal), so even an erase head is not needed.

Re: HP 82161A - digital cassette drive

*Message #5 Posted by **David Smith** on 19 Dec 2005, 11:58 a.m.,*
in response to message #4 by Garth Wilson

The number one cause of tape failures is the backing to the pressure pad rots out. You can replace the pressure pad with either sticky back felt disks used on the bottom of pottery or sticky back nose pads used on eyeglasses. Walgreens sells a brand that is just the right thickness. The pottery felt is a bit coarser than the original stuff, but it seems to work just fine.

Re: HP 82161A - digital cassette drive

*Message #6 Posted by **Artur - Brasil** on 19 Dec 2005, 12:36 p.m.,*
in response to message #5 by David Smith

Thanks to everybody who is helping me. I've already replaced the felts that makes the pressure. I'm still getting or Drive ERR or Midia Invalid (I don't remember the exact message) after initializing them with HP41 command. If the head, even used for a few times, is bad, there would be a replacement? I have worked with tape recorderes only once or twice before. Also, there would be neccessity for cleaning and lubricating the internal motors? Best regards, Artur

Re: HP 82161A - digital cassette drive

*Message #7 Posted by **Diego Diaz** on 20 Dec 2005, 4:17 a.m.,*
in response to message #6 by Artur - Brasil

Hi Artur,

It's a long while since I tried this:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv009.cgi?read=24244#24244

but the tape is still working fine. You may want to give it a go... not much to lose since you can't have the current tape working.

Best wishes.

Re: HP 82161A - digital cassette drive

*Message #8 Posted by **Tony Duell** on 20 Dec 2005, 6:17 a.m.,*
in response to message #7 by Diego Diaz

Incidentally, my offer to make that DataFile (HPCC Journal) article available still stands (I am sure I have it somewhere).

Unfortunately (for most of you), I use LaTeX, and can't produce pdfs, proprietary word processor files, etc. But then LaTeX is a text file with readable commands, so you should be able to understand it. And if you are able to translate it into other formats, that's fine too, just give me credit for the original.

Re: HP 82161A - digital cassette drive

*Message #9 Posted by **Etienne Victoria** on 20 Dec 2005, 7:49 a.m.,*
in response to message #8 by Tony Duell

Hello Tony,

I run TexShop on OS X.

If you email me your LaTex file, I'll try send you back a secured pdf.

Just let me know.

Etienne

Re: HP 82161A - digital cassette drive

*Message #10 Posted by **Tony Duell** on 20 Dec 2005, 7:53 a.m.,*
in response to message #9 by Etienne Victoria

Remind me to send you the LaTeX file... But there's no point in sending me a pdf (secured or otherwise) because it's a lot easier for me to read the original LaTeX. You are welcome to make the pdf available on a suitable web site, though.

Re: HP 82161A - digital cassette drive

*Message #11 Posted by **Etienne Victoria** on 3 Jan 2006, 7:31 a.m.,*
in response to message #8 by Tony Duell

Hello Tony et al,

As promised, I have Pdf-ed Tony's Tex document on the tape restoration: 49 Kb pdf. You'll need Acrobat Reader 5.0 or later.

I've put it online on the support section of my site: Tony's document

Thank you Tony and best wishes for 2006 to all!

Etienne

Re: HP 82161A - rewind using normal tapes

*Message #12 Posted by **Artur - Brasil** on 20 Dec 2005, 1:45 p.m.,*
in response to message #7 by Diego Diaz

Hi, Diego You are always helping us!

Well, last year I tryied to replace the tape using normal midia (but CrO2) found in market. I was surprised, because the 60min tapes are ticker than HP tapes and 90 min seens to work. Any way, I didn't make a precise cutting in the length. I'll try to use your time - 8min 44sec - to get a precise length. I'll let all of you to know the results! I really hope it works!

Best regards,

Artur

Re: HP 82161A - digital cassette drive service manual

*Message #13 Posted by **Etienne Victoria** on 20 Dec 2005, 8:27 a.m.,*
in response to message #3 by Artur - Brasil

Hello Artur,

You can get the 82161A service manual here.

Best regards

Etienne

Edited: 20 Dec 2005, 7:56 p.m.

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2225B Thinkjet battery pack

*Message #1 Posted by **Bill Lafferty** on 17 Dec 2005, 7:25 p.m.*

I have been unable to get my non functioning 2225B battery pack rebuilt here in Australia. Is there a workshop manual for this, or can anyone give me some information regarding the makeup of the battery. The batteries in my pack are dead, badly corroded, and the motherboard in the pack appears to be damaged.

Re: 2225B Thinkjet battery pack

*Message #2 Posted by **Michel Beaulieu** on 17 Dec 2005, 10:19 p.m.,*
in response to message #1 by Bill Lafferty

Hi. It's fresh in my memory because i just rebuilt my thinkjet! Well, you only need 6 sub-c batteries to rebuilt the pack. For the board, mine was dead too. It is simple to make if the coil is still usable. others parts on the board are commons: 4 rectifiers diodes and a simple resistor. I'm not a EE, can someone tell me the use of that coil in the rectifing circuit - these are very populating in computer switching power supply; is it a "kind" of primitive switching concept in that battery pack?

Michel

Re: 2225B Thinkjet battery pack

*Message #3 Posted by **Tony Duell** on 18 Dec 2005, 6:35 a.m.,*
in response to message #2 by Michel Beaulieu

The coil is simply there to prevent interference (from the Thinkjet's logic circuits) getting out via the charger cable (which could act as an aerial).

I have never had that part fail, though.

Re: 2225B Thinkjet battery pack

*Message #4 Posted by **Etienne Victoria** on 18 Dec 2005, 10:47 a.m.,*
in response to message #1 by Bill Lafferty

Hello Bill,

I've put pictures of the pack on my website to show you my version of the board.

The picofuse is wired between any of the Sub Cs Ni-Cad (polarity is unimportant):

http://homepage.mac.com/etienne.victoria/.Pictures/Photo%20Album%20Pictures/2005-12-18%2007.33.20%20-0800/Image-47207A606FDB11DA.jpg

It is a 5A 25V fuse.

You'll also find detailed pictures of the other components:

http://homepage.mac.com/etienne.victoria/.Pictures/Photo%20Album%20Pictures/2005-12-18%2007.33.20%20-0800/Image-472041276FDB11DA.jpg

There were at least 3 different versions of the motherboard and no component of mine matches exactly the reference you stated in your mail.

I do not know of any paperwork or reference on this battery pack but would be glad to help further if you recognize your broken components on my pics.

Kind regards from Fourqueux (France)

Etienne

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Test an HP-97 Card Reader

*Message #1 Posted by **jbssm** on 17 Dec 2005, 2:23 p.m.*

Hello all,

can anybody give me a simple key press to test the card reader of an HP-97 ?

The motor is working great, but every-time I put a card in it (just some random card probably without anything written in it) it just says "ERROR"

I don't know if this means the card has nothing in it, or if the card reader is giving problem, so I need a bit of help.

I don't have manual, so I don't know how to write and read even a very small program for testing, can anybody give me an hand?

Best wishes, Jorge

Re: Test an HP-97 Card Reader

*Message #2 Posted by **Tony Duell** on 18 Dec 2005, 7:44 a.m.,*
in response to message #1 by jbssm

To save a program to card :

Switch to Program Mode (I forget exactly what it's called). Type in the program as usual. While still in program mode, feed a card into the reader. If the program is too long to fit on one track of the card, the machine will prompt with Crd (IIRC), then feed the card in the other end first to record the second track. An HP97 program will always be short enough to fit on one card (2 tracks).

To read the program back in again:

Switch to run mode and feed the card in. Again, if there's a second track, the machine will prompt for it.

To save numeric data to a card:

In run mode type in the data and STOre in the registers. Then press WDATA (I forget the exact name, it's almost certainly a shifted function) and feed in a card. If you have non-zero values in the secondary storage registers, it'll prompt for a second track as above

To read the numeric data back in :

Just pass the card through the reader in run mode.

The user and service manuals for the 97 are on the MoHPC CD-ROM set, BTW.

Re: Test an HP-97 Card Reader

*Message #3 Posted by **David Smith** on 18 Dec 2005, 11:45 a.m.,*
in response to message #2 by Tony Duell

After entering the program, switch to RUN and then enter "GOTO . 0 0 0" then switch back to PRGM mode and insert the card to write it out. This makes sure the program gets written starting at the first instruction.

Then turn the machine OFF than back ON. Insert the card to read the program. This makes sure the program actually got read from the card is not a remnant of the original program.

If you get the message CRD, the program is too long for one card edge. You will need to rotate the card use the other edge.

Re: Test an HP-97 Card Reader

*Message #4 Posted by **Howard Owen** on 18 Dec 2005, 12:20 p.m.,*
in response to message #3 by David Smith

> Quote:
>
> Then turn the machine OFF than back ON. Insert the card to read the program. This makes sure the program actually got read from the card is not a remnant of the original program.

Before inserting the card in this step, switch back to RUN mode. You'll overwrite your card with a blank program, otherwise.

This bit me a couple of times because I'm used to the later models in which cycling power resets the machine to run mode. With the physical mode switch, that's not the case with the 97. 8)

Regards,
Howard.

Re: Test an HP-97 Card Reader

*Message #5 Posted by **Vassilis Prevelakis** on 19 Dec 2005, 12:08 a.m.,*
in response to message #3 by David Smith

> Quote:
>
> After entering the program, switch to RUN and then enter "GOTO . 0 0 0" then switch back to PRGM mode and insert the card to write it out. This makes sure the program gets written starting at the first instruction.

No. You are thinking of another calculator. The HP-67 and HP-97 **always** record the first 112 steps on the first side of the card and if there are more then 112 steps in the program, prompt for the second side.

The GTO . nnn trick is used when merging programs (so that the beginning of the merged program is loaded starting at address nnn of the already loaded program.

**vp

Re: Test an HP-97 Card Reader

*Message #6 Posted by **David Smith** on 19 Dec 2005, 12:01 p.m.,*
in response to message #5 by Vassilis Prevelakis

There is a very early version of the HP-97 firmware that needs the GOTO . 0 0 0 I doubt that you will ever see it, but better safe than sorry.

Re: Test an HP-97 Card Reader

*Message #7 Posted by **jbssm** on 19 Dec 2005, 10:17 a.m.,*
in response to message #1 by jbssm

Thank you all very much for the help given. :)

I will eventually buy the DVD from HP Museum, but as I needed this information fast I couldn't wait for them to arrive.

Thank you once more, Jorge

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HP 86A/86B/87A/87XM ROM query

*Message #1 Posted by **john** on 16 Dec 2005, 5:43 p.m.*

Hi,

Can someone clarify please which ROMs are built into which of the following machines?

86A

86B

87A - none (only one of these I have)

87XM

I recall (probably incorrectly!) that some of these have the EDISK ROM built in, not sure of any other ROMs.

Thanks, John

Re: HP 86A/86B/87A/87XM ROM query

*Message #2 Posted by **Etienne Victoria** on 17 Dec 2005, 2:36 a.m.,*
in response to message #1 by john

Hi John,

I can answer for mine!

Hp-86B: EDISK ROM, Mass storage ROM, Printer ROM

And that's all!!!

Cheers and thanks!

Etienne

Re: HP 86A/86B/87A/87XM ROM query

*Message #3 Posted by **Vassilis Prevelakis** on 18 Dec 2005, 11:53 p.m.,*
in response to message #1 by john

Hp-87A and 87XM: Mass storage ROM, Printer ROM

IMHO the only difference between the 87A and the 87XM is that the XM has more memory built in.

**vp

Re: HP 86A/86B/87A/87XM ROM query

*Message #4 Posted by **john** on 19 Dec 2005, 7:47 p.m.,*
in response to message #3 by Vassilis Prevelakis

Hi, Thanks for the responses. Can you clarify please about the HP86/87 Printer ROM? As you know, the 86/87 has a system ROM (address 0) plus an additional ROM (address 1) and I thought this incuded the Printer commands such as

PRINTER IS 10,132

As per your series 80 there is a separate plotter ROM (address 360 octal), but this is not pre-fitted to my HP-87A.

Regards, John

Re: HP 86A/86B/87A/87XM ROM query

*Message #5 Posted by **Etienne Victoria** on 20 Dec 2005, 2:41 a.m.,*
in response to message #4 by john

Hi John,

Sorry but my answer to your post was not accurate enough.

IMHO there is no separate, identified product tagged "Printer Rom" for the 86/87 series.

Printer commands are indeed included in the 86/87 mainframe and by "PRINTER ROM", I was just referring to these included commands.

That's why we just have a separate "Plotter Rom".

Regards

Etienne

Re: HP 86A/86B/87A/87XM ROM query

*Message #6 Posted by **john** on 21 Dec 2005, 5:07 a.m.,*
in response to message #5 by Etienne Victoria

Thanks,

I am updating the PRM-85 userguide for HP-86/87 users, and would like to give some accurate advice on setting the board up. It would cause a clash if the machine had one ROM built in that was the same as one enabled on the PRM-85, so I am trying to avoid this occuring.

Regards,
John

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MoHPC *The Museum of HP Calculators*

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12c: Anyone have a good way to program this? :-)

*Message #1 Posted by **Gene Wright** on 16 Dec 2005, 3:17 p.m.*

http://www.xycoon.com/dispersion.htm

It is the "coefficient of dispersion".

Given that it needs the median, this appears problematic for the HP12c.

I would think it requires:

1) keeping all individual data values, 2) sorting them, 3) finding the median 4) then going through all the data values to compute the C o D.

That seems like a real pain. Any suggestions?

Re: 12c: Anyone have a good way to program this? :-)

*Message #2 Posted by **hugh steers** on 16 Dec 2005, 4:16 p.m.,*
in response to message #1 by Gene Wright

if it must be the median, you have to store (at least) half of the input values. otherwise you can't be sure to have the n/2'th largest.

Re: 12c: Anyone have a good way to program this? :-)

*Message #3 Posted by **Gene Wright** on 16 Dec 2005, 4:46 p.m.,*
in response to message #2 by hugh steers

Yep. That's the problem!

I'm pretty sure that the cash flow registers could be used, but to get the median, some sorting would have to occur, and on the HP12c, that's just painful.

And, the number of data points would be variable, so you can't hard code for 10 of them each time.

Just wondering if anyone saw a way to do this without this much pain/suffering. Gene

Re: 12c: Anyone have a good way to program this? :-)

*Message #4 Posted by **Vieira, L. C. (Brazil)** on 16 Dec 2005, 6:41 p.m.,*
in response to message #1 by Gene Wright

Hi Gene, folks;

maybe I'm wrong, I have once seen it and don´t remember where, but isn´t it numerically equivalent to

```
1/r
```

(inverse of the correlation coefficient)? If so, it is easier to compute through summations and linear regression.

As I said, maybe I'm wrong.

Cheers.

Luiz (Brazil)

Re: 12c: Anyone have a good way to program this? :-)

*Message #5 Posted by **Namir** on 16 Dec 2005, 11:19 p.m.,*
in response to message #1 by Gene Wright

Why not use the ratio between the standard deviation and the mean? That should give you a good feel for the dispersion of data.

As the other posts indicated, getting the median requires the storage and sorting of data. Maybe that's why statisticians use the mean more than the median, since you can accumulate data using a sequence of single observations (storage of ALL the data is not mandatory).

Namir

Re: 12c: Anyone have a good way to program this? :-)

*Message #6 Posted by **Gene Wright** on 17 Dec 2005, 12:34 a.m.,*
in response to message #5 by Namir

Luiz: I'll check on 1/r.

Namir: I know there are plenty of measures of dispersion, but in this case, the individual wants this specific one, the formula for which requires the median.

I just wanted to make sure I wasn't overlooking something. :-)

It's not too bad if you determine the median outside of the 12c and input it separately. But storing individual values and sorting them and then evaluating each of them for a variable number of data points? Yuck!

Re: 12c: Anyone have a good way to program this? :-)

*Message #7 Posted by **Namir** on 17 Dec 2005, 1:25 a.m.,*
in response to message #6 by Gene Wright

Gene,

I suggest using Excel to enter sample data (one or more sets) and then do the following:

1) Sort the column of data 2) Determine the mean value 3) Calculate CD 4) Use Excel built-in functions to calculate the ratio of the standard deviation and the mean. 5) Compare the values of the CD with sd/mean

You can test the above with several sets and see how the two statistics compare with each other.

Re: 12c: Anyone have a good way to program this? :-)

*Message #8 Posted by **Joao** on 17 Dec 2005, 7:00 p.m.,*
in response to message #7 by Namir

Gene,

I guess with a 12c you are in big trouble... You can't escape the median, and doing it on the 12c is not practical at all.

About the previous suggestions:

a) the coefficient of dispersion is not 1/r (sorry Luiz).

b) ratio between the standard deviation and the mean measures the same thing (actually, that is what is generally termed coefficient of dispersion), but it is not robust to outliers in the data. That is the advantage of using the median.

I guess you either have to compute the median outside the machine or upgrade to a 15c!

Sorry for the bad news.

Joao

Re: 12c: Anyone have a good way to program this? :-)

*Message #9 Posted by **tony(nz)** on 20 Dec 2005, 1:12 a.m.,*
in response to message #1 by Gene Wright

Gene, Darn, I missed this. You can use Katie's bubble sort (published here in Oct 2003) for the 12C. Only 21 lines. Adding another 20 or less will give you the median. Maybe 15 more for the average of the absolute deviations - but it's more fun, and more "robust" (when we suspect outliers in an otherwise "normal" data set - see www.rsc.org - they have a technical bulletin on this - a google on "robust mad rsc" brings it up) to actually overwrite the data with their absolute deviations then re-run the bubble sort to find the median (rather than use the average). Should be possible in 57 lines total - leaving room to store 14 data points! Almost useful, but I'm too late, but as always it was a very interesting question. Cheers, Tony

Re: 12c: Anyone have a good way to program this? :-)

*Message #10 Posted by **Valentin Albillo** on 20 Dec 2005, 5:39 a.m.,*
in response to message #1 by Gene Wright

Hi, Gene:

Gene posted:

"I would think it requires: 1) keeping all individual data values, 2) sorting them, 3) finding the median 4) then going through all the data values to compute the C o D. That seems like a real pain.

Any suggestions?"

Yes, two:

1. Sorting provides much more information than is required to find the median, i.e.: there are ways of finding the median without doing a full sort first.

2. Anyway, if you opt for sorting, you don't need to perform a sort on the stored values as a separate process. Matter of fact, you also need to input the values themselves when running this program,

so the best strategy is to mix input and sort, i.e., *to sort the values on the fly* as you're inputting them: after requesting each next element, just simply insert it at its proper place at once. This way, as soon as the last element is entered, they're all already sorted out and finding the median is immediate. A simple final loop finishes the computation.

All of this is perfectly implementable in a few steps, and as the time required for the sort is distributed among the time required to input each element, it would feel faster to the user.

Best regards from V.

Re: 12c: Anyone have a good way to program this? :-)

*Message #11 Posted by **Gene Wright** on 21 Dec 2005, 8:34 a.m.,*
in response to message #10 by Valentin Albillo

Hi Valentin!

I'm certain that I'm not the only one who would really love to see what you can come up with (I already know Tony would too).

You always have a way of finding unique, amazing solutions to problems like this and it would be very helpful/instructive to me (and others I'm sure) to see what you'd do with this problem.

I have seen Tony's approach and it does about what I'd expect (but certainly more optimized than I'd come up with)...it sorts, it uses the CF registers, etc.

But, I have no doubt a non-sorting approach would be very amazing. Please share? :-)

Re: 12c: Anyone have a good way to program this? :-)

*Message #12 Posted by **Katie Wasserman** on 21 Dec 2005, 7:09 p.m.,*
in response to message #11 by Gene Wright

If we're talking about the good old basic 12C, I'm going to go out on a limb and suggest that it's going to be nearly impossible to do better than the bubble sort program that I wrote with picking the middle element after the sort completes.

Insertion sort during input as Valentin suggest is no better than bubble sort as far as overall time is concerned and it might be more annoying to the user to have to wait an increasingly long time between entries.

There are linear-time median algorithms but all require at least O(log(n)) additional memory and a good amount of programming complexity in that you'd have to simulate recursion.

Re: 12c: Anyone have a good way to program this? :-)

*Message #13 Posted by **tony(nz)** on 23 Dec 2005, 5:10 a.m.,*
in response to message #12 by Katie Wasserman

Katie,

For fun, I took your 12C 21 liner below and changed it to do an insertion sort, appended below.

I needed 5 extra lines and 1 extra register. One could say this requires 33/21 (approx pi/2) extra resources :-)

Insertion sorting does seem more efficient, even on the 12C. For example sorting 12 numbers takes about a minute via bubble sort, whether the numbers are already pre-sorted in ascending or descending order. The insertion sort is assymetric in that it takes 12 seconds if the numbers are pre-sorted in ascending order, and the full minute if they are pre-sorted in descending order. It appears that the speed/resource trade-off works in favour of the insertion, even on the 12C.

Personally I still really like your Bubble sort - for me it is a classic 12C program, and really made me see a whole new dimension hidden in the 12C.

Bubble Sort on HP12C

Posted by Katie on 26 Oct 2003, 11:11 p.m.

It's easy to use, just fill up registers 0 - n with your data
and call the program with n in the x register.

Keystrokes	Display	Comments
[f][P/R]		
[f]CLEAR[PRGM]	00-	
[STO][i]	01- 44 12	i = maximum register
1	02- 1	
[STO][n]	03- 44 11	A: n = 1
[RCL][g][CFj]	04- 45,43 14	B: y = A(n)
[RCL][g][CFj]	05- 45,43 14	x = A(n-1)
[g][x<=y]	06- 43 34	if (x <= y)
[x<>y]	07- 34	swap x,y
[g][CFj]	08- 43 14	A(n-1) = x
[RDN]	09- 33	
[g][CFj]	10- 43 14	A(n) = y
[RCL][i]	11- 45 12	
[RCL][n]	12- 45 11	
1	13- 1	
[+]	14- 40	n = n+1
[g][x<=y]	15- 43 34	if (n <= i)
[g][GTO]03	16- 43,33 03	goto B
2	17- 2	
[-]	18- 30	i = i-1
[g][x=0]	19- 43 35	if (i = 0)
[g][GTO]00	20- 43,33 00	return
[g][GTO]01	21- 43,33 01	else goto A
[f][P/R]		

Insertion sort. 26 lines plus 1 extra register (PMT)

Keystrokes	Display	Comments
[f][P/R]		
[f]CLEAR[PRGM]	00-	
[STO][PMT]	01- 44 14	PMT = maximum register
[CLx]	02- 35	
[i]	03- 12	
[RCL][i]	04- 45 12	
1	05- 1	
[+]	06- 40	
[STO][i]	07- 44 12	1+i=sublist length
[STO][n]	08- 44 11	
[RCL][g][CFj]	09- 45,43 14	B: y = A(n)
[RCL][g][CFj]	10- 45,43 14	x = A(n-1)
[g][x<=y]	11- 43 34	if (x <= y)
[g][GTO]22	12- 43,33 22	
[x<>y]	13- 34	swap x,y
[g][CFj]	14- 43 14	A(n-1) = x
[RDN]	15- 33	
[g][CFj]	16- 43 14	A(n) = y
[RCL][g][CFj]	17- 45,43 14	decrement n
[RCL][n]	18- 45 11	
[g][x=0]	19- 43 35	finished?
[g][GTO]22	20- 43,33 22	do next sublist

12c: Anyone have a good way to program this? :-)

```
[g][GTO]09       |21- 43,33  09 | continue
[RCL][i]         |22-    45  12 | test sublist length
[RCL][PMT]       |23-    45  14 |
[g][x<=y]        |24-    43  34 |
[g][GTO]00       |25- 43,33  00 | finished.
[g][GTO]04       |26- 43,33  04 | sort next sublist
[f][P/R]         |                |
```

Cheers, Tony

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hp11c calculator

*Message #1 Posted by **F Sievenpiper** on 16 Dec 2005, 2:29 p.m.*

Lost manual,installed new batteries, now I get a user with a 0 above it and 2 zero's on right side. How do I get the calc to work?

Re: hp11c calculator

*Message #2 Posted by **Vieira, L.C. (Brazil)** on 16 Dec 2005, 2:43 p.m.,*
in response to message #1 by F Sievenpiper

Hi, F. Sievenpiper.

It seems to me that your HP11C is displaying number with SCIentific mode, one digit mantissa. To change this, have a look at your calculator and, please:

- locate the [f] (orange, golden) prefix key;
- verify that over the [7], [8] and [9] keys you have [FIX], [SCI] and [ENG] printed in gold, in the keyboard faceplate;
- choose one of these modes (your 11C is already in SCI) and the number of significant digits (from 0 to 9) you want in the mantissa;
- press [f], ([FIX], [SCI] or [ENG]) and the number key corresponding to the number of significant digits you've chosen.

As an example, the default display for the HP11C (and the HP10C and the HP15C) is a fixed, 4-digit, that can be restored with:

```
[f] [FIX] 4
```

To toggle to and from the USER mode, simply press:

```
[f][USER]
```

(please, check the golden inscription over the [RCL] key, in the keyboard faceplate).

Hope this helps for now.

Best regards.

Luiz (Brazil)

Edited: 16 Dec 2005, 2:45 p.m.

Re: hp11c calculator

*Message #3 Posted by **bill platt** on 16 Dec 2005, 2:47 p.m.,*
in response to message #2 by Vieira, L.C. (Brazil)

Hi Luiz :-)

Re: hp11c calculator

*Message #4 Posted by **Vieira, L.C. (Brazil)** on 16 Dec 2005, 4:07 p.m.,*
in response to message #3 by bill platt

Hey, Bill;

thanks for your complementation! (we´re almost even...)

Best regards.

Luiz

Re: hp11c calculator

*Message #5 Posted by **bill platt** on 16 Dec 2005, 2:45 p.m.,*
in response to message #1 by F Sievenpiper

http://www.hpmuseum.org/faq.htm#dsp

The "user" is removed by pressing {f} {user} (on the {RCL} key).

"user" reverses the functionality of buttons A,B,C,D,E so that the {f} shifts are primary, and pressing {f} gets you the main function. (Useful if you have *user* programs stored).

Note that the museum CD/DVD sets have the 11c manual available.

Regards,

Bill

Edited: 16 Dec 2005, 2:46 p.m.

Re: hp11c calculator

*Message #6 Posted by **Randy** on 16 Dec 2005, 5:33 p.m.,*
in response to message #1 by F Sievenpiper

It is always a *very good* idea to reset a Voyager after a battery exchange, all of the problems you mention should disappear without further fuss. This of course assumes you have no programs installed that need to be held in memory.

1. Turn the unit off
2. Press and hold the "-" key
3. Press and release the ON button
4. Release the "-"
5. You should see "Pr Error"
6. Turn it off and then on again and all the weirdness you've experienced should be gone

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Christmas wish for HP 33S

*Message #1 Posted by **brian healy** on 16 Dec 2005, 12:30 p.m.*

Hp, if you are watching this forum, how about giving us an HP33S Bronze edition, where the 33S would have the traditional bronze base with orange and blue secondary functions? I can live with the angled keyboard and small enter key. Just wishing.

Re: Christmas wish for HP 33S

*Message #2 Posted by **ECL** on 16 Dec 2005, 11:48 p.m.,*
in response to message #1 by brian healy

Don't expect that wish filled by x-mas :)

This is a nice way to improve the calc w/o any hardware/OS changes. I like it, and I'd get one. I am currently sweeping through my first half of senior engineering finals with my 33s.

During the pressure of exams (constrained desk space) I have come to miss the stealthy feet of the 32sii. The 33s feet jut out a bit too much for my taste, but functionally, it is a solid calculator.

ECL

Re: Christmas wish for HP 33S

*Message #3 Posted by **hugh Evans** on 19 Dec 2005, 11:31 a.m.,*
in response to message #1 by brian healy

The blue-purple color selection is wretched to begin with (someone didn't study colors). Putting them on a light color background is catastrophic. HP is more than welcome to use my optimized color scheme if they wish to do so.

As for christmas... That's pushing things a bit. I wouldn't expect anything in under 3 months, possibly 6.

Would it be a big improvement? Yep.

Re: Christmas wish for HP 33S

*Message #4 Posted by **brian healy** on 19 Dec 2005, 2:42 p.m.,*
in response to message #3 by hugh Evans

Agreed, the current color scheme is very bad, but I think that ball was dropped back in the days of the 32SII. In my opinion, the color scheme is worse than the angled keyboard and small enter key. I can live with the green, but the purple is a disaster. I would like to know, why did the color scheme have to change? If I wanted something that looked like a toy I would have bought one of the offerings from TI.

Re: Christmas wish for HP 33S

*Message #5 Posted by **John Smitherman** on 19 Dec 2005, 2:19 p.m.,*
in response to message #1 by brian healy

> Quote:
>
> Hp, if you are watching this forum, how about giving us an HP33S Bronze edition, where the 33S would have the traditional bronze base with orange and blue secondary functions? I can live with the angled keyboard and small enter key. Just wishing.

Hi Brian. At this late date a new set of batteries is probably the best they can offer.

Regards,

John

Re: Christmas wish for HP 33S

*Message #6 Posted by **Brian Healy** on 19 Dec 2005, 2:37 p.m.,*
in response to message #5 by John Smitherman

I was taking poetic license guys. It will probably never happen, and having it done for Christmas is an obviously no possible.

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HP Calculator Featured in EDN Magazine

*Message #1 Posted by **Tony** on 16 Dec 2005, 8:58 a.m.*

A nice "shout out" to Dave.

EDN Magazine

Re: HP Calculator Featured in EDN Magazine

*Message #2 Posted by **Garth Wilson** on 16 Dec 2005, 2:41 p.m.,*
in response to message #1 by Tony

Yeah, I tore that one out and filed it. I suppose it will attract some more engineers and maybe a few technicians to this website and forum. It's not a magazine that mere hobbyists get.

Re: HP Calculator Featured in EDN Magazine

*Message #3 Posted by **Tim WEssman** on 16 Dec 2005, 6:06 p.m.,*
in response to message #2 by Garth Wilson

Any links/scans? I'd be curious to see be don't exactly have one sitting on my desk.

TW

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Sticky Keys on HP48GX

*Message #1 Posted by **Stephen Crumley** on 15 Dec 2005, 9:44 p.m.*

Spilled some soda on my HP48. Luckily there was not much left in the can, but enough spilled to make the right 3 keys on the lower 2 rows sticky (everything functions fine, just kind of annoying). Is there a way to clean the keys without resorting to the extreme distilled water submersion method discussed in another post?

Thanks.

Stephen

Re: Sticky Keys on HP48GX

*Message #2 Posted by **Randy** on 16 Dec 2005, 12:15 p.m.,*
in response to message #1 by Stephen Crumley

So long as the batteries are not in the calc, washing them is hardly extreme. It is IMO the only way to get goo out of a keyboard. The only precaution is to allow it to *completely* dry before re-inserting batteries. Twenty four hours in a warm place with a small fan directed at the keyboard is usually enough.

Thanks: Re: Sticky Keys on HP48GX

*Message #3 Posted by **Stephen Crumley** on 16 Dec 2005, 12:43 p.m.,*
in response to message #2 by Randy

Thanks Randy,

Well I'm about to take some time off, so now is the time to try it. I'll have plenty of time to let it dry out before needing it again.

Cheers,

Stephen

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Think Jet Paper

*Message #1 Posted by **Larry** on 15 Dec 2005, 9:39 p.m.*

Greetings,

Does anyone know where to purchase (for a reasonable price) Z Fold Paper for a Think Jet Printer? HP part number 92261N? Any help would be greatly appreciated.

Thanks,

Larry

Re: Think Jet Paper

*Message #2 Posted by **Howard Owen** on 15 Dec 2005, 11:13 p.m.,*
in response to message #1 by Larry

I was able to buy fan-fold paper at my local OfficeMart. The print heads they sell for the Thinkjets nowadays dont require specially coated paper to give a good result.

Re: Think Jet Paper

*Message #3 Posted by **Larry Leroux** on 17 Dec 2005, 5:29 p.m.,*
in response to message #2 by Howard Owen

Thanks Howard. I'll try the local office supplies.

Larry

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Stuck Printer in HP-97

*Message #1 Posted by **Jorge** on 15 Dec 2005, 8:05 p.m.*

Hello all,

I have an HP-97 and in overall is working great, but the printer doesn't work correctly.

The printing head seems to be working cause it moves, but the problem seems that the paper does not advance, that is, the paper is always in the same place.

Can anybody give me a solution to fix this?

Also, I already checked the middle (white) dented well and the problem is not in there since it's in good shape. (This was the only tip I saw about repairing the HP-97 printer)

Regards for all, Jorge

Re: Stuck Printer in HP-97

*Message #2 Posted by **Tony Duell** on 16 Dec 2005, 2:22 p.m.,*
in response to message #1 by Jorge

If the printhead is moving back and forth correctly, then the electronics, the motor, and the gear train on the side of the printer are most likely fine.

The paper advance is operated by the head carriage. The paper feed roller has an internal ratchet mechanism operated by a ridge on part of the roller assembly engaging with the head carriage. As the head moves back and forth, it rocks one part of the ratchet and thus advances the paper.

I would look in the service manual (on the MoHPC CD-ROM set), there's an exploded view of the printer there. I would then strip the printer down (it's not that hard, but then again I have done it a few times) and examine the parts. Most likely the problem is the actual rubber rollers, in which case roughening them up with very fine wet-n-dry paper helps.

Re: Stuck Printer in HP-97

*Message #3 Posted by **jbssm** on 17 Dec 2005, 2:26 p.m.,*
in response to message #2 by Tony Duell

Hi Tony,

thank you for your help.

Well, the rubber rollers seem to be strange, if I press them with my nail, they just seem to be breaking in little pieces.

Perhaps I should replace them for something, do you have any experience in this matter?

Best regards, Jorge

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HP 41CV

*Message #1 Posted by **Philip DePasquale** on 15 Dec 2005, 10:35 a.m.*

I have 2 HP 41cv units. I have not used either in a few years and the will not turn on. They worked fine when I last used them. I installed brand new batteries and checked for corosion on the contacts, but neither will power on. Any suggestions?????????

Re: HP 41CV

*Message #2 Posted by **Jeff O.** on 15 Dec 2005, 12:30 p.m.,*
in response to message #1 by Philip DePasquale

Perhaps one of the techniques to attempt to revive such units found here would do the trick.

Re: HP 41CV

*Message #3 Posted by **Artur - Brasil** on 15 Dec 2005, 1:06 p.m.,*
in response to message #2 by Jeff O.

If none of the steps listed before didn't work, you may have a trouble in the screws bases, on calculator's back. Press the calculator (in the line of upper foot) against a table and try to turn it on.

As these calculators are old, the plastic under screws breaks and the back part can't press the battery/modules contact against the main board.

To really check this, remove the back foot and screws and open very carefully the calculator. Look at the plastic where the screws pass thru.

Good luck! Artur

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Stuck HP 28

*Message #1 Posted by **dl** on 15 Dec 2005, 6:21 a.m.*

Hi,

My HP 28S calculator is stuck in an ON state (probably doing an endless loop) for many hours.

How can I stop it?

Thanks.

Re: Stuck HP 28

*Message #2 Posted by **Raymond Del Tondo** on 15 Dec 2005, 10:13 a.m.,*
in response to message #1 by dl

Hi,

you could try resetting it:
Press and hold ON,
then press the 3rd menu key from the left,
then release both.
This should help.
If it doesn't, remove the batteries for a few minutes.

HTH

Raymond

Re: Stuck HP 28

*Message #3 Posted by **dl** on 15 Dec 2005, 11:08 a.m.,*
in response to message #2 by Raymond Del Tondo

What do you mean "3rd menu key"? Which are the menu keys?

Edited: 15 Dec 2005, 11:08 a.m.

Re: Stuck HP 28

*Message #4 Posted by **Thomas Falk** on 15 Dec 2005, 3:56 p.m.,*
in response to message #3 by dl

Hi,

the menu keys are the keys directly below the display.

I wish you success,

Thomas

Re: Stuck HP 28

*Message #5 Posted by **dl** on 18 Dec 2005, 2:19 a.m.,*
in response to message #4 by Thomas Falk

Hi,

Well, I've done it, but unfortunately, it has also reset the memory ("*Memory Lost*"), which is what I was trying to avoid. After all, I could achieve the same result by simply opening the batteries cover.

Meanwhile, I got to see the manual, and this operation you recommended (ON + ^) should really do only a "System Halt", not a "Memory Reset" (i.e. stop the running program, without resetting the memory). So I really don't understand what has happened.

Thanks anyway for your kind help.

Edited: 18 Dec 2005, 2:30 a.m.

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HP 32E on auction

*Message #1 Posted by **Leszek** on 15 Dec 2005, 4:55 a.m.*

Hello,

To all eventually interested collectors; I put a HP 32E calculator on sale at Ebay : hp32e.a-acheter.org

I put an objective description but if you have any questions, you can send me a mail at helinskil@yahoo.fr

Regards,

Leszek (Belgium)

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HP 97 Printer Advance Switch Color Scheme

*Message #1 Posted by **Marcus von Cube, Germany** on 15 Dec 2005, 3:13 a.m.*

Hi,

my HP 97's paper advance switch doesn't work. No wonder, because it has been totally disconnected: All three wires broke off the switch. Someone must have opened the poor machine before me!

Can someone tell me the color coding of the switch and the wires? Black should be common (middle) but where do red and white go?

Marcus

I found out myself: the red wire is closest to the keyboard, the white one is in the middle and the black one is closest to the back of the calculator. Now I have to make the card reader work again...

Edited: 15 Dec 2005, 8:23 a.m.

Re: HP 97 Printer Advance Switch Color Scheme

*Message #2 Posted by **David Smith** on 15 Dec 2005, 11:43 a.m.,*
in response to message #1 by Marcus von Cube, Germany

On many machines, the colors are noted on the circuit board next to the pins for the switch wires.

Re: HP 97 Printer Advance Switch Color Scheme

*Message #3 Posted by **Marcus von Cube, Germany** on 15 Dec 2005, 12:12 p.m.,*
in response to message #2 by David Smith

David,

> Quote:
>
> On many machines, the colors are noted on the circuit board next to the pins for the switch wires.

On mine, too, but they broke off on the switch side, not on the board.

Marcus

Re: HP 97 Printer Advance Switch Color Scheme

*Message #4 Posted by **Tony Duell** on 16 Dec 2005, 2:18 p.m.,*
in response to message #3 by Marcus von Cube, Germany

I am sure I explained this a couple of months back -- it should be in the archives...

I can't remember the colours (and don't have any of the appropriate schematics in front of me), but I can explain where the 3 switch contacts should be connected :

Common : Ground (this is electrically the -ve terminal of the battery pack)

Normally-closed : To one of the pins going to the printer PCB, and thence to one of the wires to the Out-Of-Paper-Switch (OOPS) contacts.

Normally-open : To one of the flag inputs on the ACT chip (22 pin DIL on the logic board). I think it's either pin 3 or pin 4.

Here's the explanation :

When the switch is not pressed, it grounds one of the OOPS contacts via its normally-closed contact. If there's no paper in the printer, the OOPS contacts are closed, this grounds the forward-drive line to the printer motor driver. If the machine tries to print anything, the motor can't run (because the forward-drive line is held to ground), so the head never moves from the home position. The CPU detects this, and gives an Error.

When the switch is pressed, the flag input to the ACT is grounded. This sets an internal flag, which is detected by the firmware. This then starts the printer motor to advance the paper. Because the normally-closed contact is then open, the OOPS contacts do nothing (one of them is electrically unconnected), so you can use the Advance button to feed paper into an empty printer.

There is one very minor bug (which cost me an hour of tracing a fault that wasn't there). If there is no paper in the printer, the brake circuit can't operate correctly when you release the Advance button. The head 'coasts' to a halt, it doesn't stop dead. This is not a real problem, unless you don't realise it and start trying to figure out why the brake doesn't work.

Re: HP 97 Printer Advance Switch Color Scheme

*Message #5 Posted by **Marcus von Cube, Germany** on 16 Dec 2005, 4:54 p.m.,*
in response to message #4 by Tony Duell

Tony,

thanks for the detailed explanation, worth being put into an article here in the museum!

I did a Google search with "site:www.hpmuseum.org 97 paper advance" which didn't find the proper post. I had something in the back of my mind about a posting here but I couldn't find it that way. Meanwhile I found out by trial and error.

Marcus

Re: HP 97 Printer Advance Switch Color Scheme

*Message #6 Posted by **David Smith** on 17 Dec 2005, 11:40 a.m.,*
in response to message #4 by Tony Duell

HP cheaped out on some later HP-97 machines and did not install the out-of-paper switch.

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Need 71B Play Testers

*Message #1 Posted by **Howard Owen** on 15 Dec 2005, 1:15 a.m.*

I have written an implementation of "High Rollers" in BASIC for the 71B, and I need play testers. It works fine for the way I play the game, but I'd like others to pound on it a little before I release it generally. Please respond here or by email (click on my name above to get the address) if you'd like to test it out. The game uses graphics for the dice images, so you'll need either a real 71B or else HP-71X from Hrastprogrammer. As far as I know, that's the only 71B simulation that includes the simulated LCD.

Thanks!

Re: Need 71B Play Testers

*Message #2 Posted by **HrastProgrammer** on 15 Dec 2005, 2:30 a.m.,*
in response to message #1 by Howard Owen

I would like to test it but I don't have much of free time for this :-(

But you can send it to me, just in case (save a program with COPY TO :CARD from HP-71X and send a "card" by mail).

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TI forum

*Message #1 Posted by **Michel Beaulieu** on 14 Dec 2005, 7:38 p.m.*

I know it's not officially the good place to make some publicity, but i take a chance because i'm sure some of you secretely (...) have some TI vintage calculators to talk about like on this HP forum.

So i just create a brand new forum about the "dark side" in calculators : a vintage TI forum. I know that i don't have any members yet except me that's why i'm writing here; in order to have nice, mature and experienced users...

The forum is at this adress :

http://vintageti.forumsplace.com/

So if you have an interest in vintage TI like me, you are welcome! comments are welcome too.

Thanks Michel

Edited: 14 Dec 2005, 8:18 p.m.

Re: TI forum

*Message #2 Posted by **Marcus von Cube, Germany** on 15 Dec 2005, 5:33 a.m.,*
in response to message #1 by Michel Beaulieu

You have a new member!

Marcus

Re: TI forum

*Message #3 Posted by **Etienne Victoria** on 15 Dec 2005, 12:34 p.m.,*
in response to message #1 by Michel Beaulieu

And another one!

Merci Michel!

Etienne

Re: TI forum

*Message #4 Posted by **Geir Isene** on 16 Dec 2005, 7:42 a.m.,*
in response to message #3 by Etienne Victoria

And me :)

Re: TI forum

*Message #5 Posted by **GE** on 16 Dec 2005, 10:12 a.m.,*
in response to message #4 by Geir Isene

And me, but is there really a reason to create yet another forum ?
I wish you success, however (and will put some messages as "needed"). Thks.

Re: TI forum

*Message #6 Posted by **Gene Wright** on 16 Dec 2005, 10:24 a.m.,*
in response to message #5 by GE

What forum exists for TI machines?

Unless Dave goes "bi" brand, discussion of TI issues here (while tolerated to some degree) won't have any real interest.

I think there's an uphill struggle to get people to GO to the TI forum being started, but I'm not sure THIS forum is the proper place for that interest.

?

Re: TI forum

*Message #7 Posted by **Marcus von Cube, Germany** on 16 Dec 2005, 10:47 a.m.,*
in response to message #6 by Gene Wright

Gene,

there is a TI99er forum on the Net discussing to some degree the CC-40 and TI-74 machines, but I'm not aware of a TI calculator forum. ticalc.org is focused solely on the graphics machines. Most sites which have some info about the older machines or almost dead and most don't have a forum.

But I must admit, while the new forum looks much fancier than this one, this place has a better usability (much less clutter.)

Marcus

Re: TI forum

*Message #8 Posted by **Michel Beaulieu** on 16 Dec 2005, 11:26 a.m.,*
in response to message #7 by Marcus von Cube, Germany

You are right about the non existence of VINTAGE TI forum on the net. That's why i create this on that i hope will have quality members as this one.

You are also right about the presentation of the TI forum, but it's the only one i can find without having to create my own website on my own server like this one. Perhaps i will do it if the TI forum is a good experience.

Michel

Re: TI forum

*Message #9 Posted by **John Cadick** on 16 Dec 2005, 2:10 p.m.,*
in response to message #8 by Michel Beaulieu

I've joined. The vintage TI calculators are very interesting. I have more HPs than TIs, but I find the 58/59 family to be a lot of fun. I love the printer attachment for them.

John

Sorry, wrong place to say nice things about TI. <G>

Re: TI forum

*Message #10 Posted by **hugh steers** on 16 Dec 2005, 2:30 p.m.,*
in response to message #1 by Michel Beaulieu

hi michel,

though your intentions are commendable, i feel i should pass on some warnings.

it looks like your forum is (free) hosted for you. scarily, it also looks like its quite an old version of phpBB2 (the bottom page has copyright is 2002). the latest version is 2.0.18 (www.phpbb.com). pretty soon you will be getting spam posted on your forum – in large quantities and also in a few weeks it could be hacked. badly! furthermore they don't let you take away SQL backups which means you cant make a personal backup or re-host it somewhere else should you need to do so.

i run phpbb2 over at voidware. even though my forum is obscure, i've been getting an alarming increasing amount of spam. i got 3 today. to fix it i deleted the spam and applied a mod to insist that guest posters enter human-readable verification. i also have such a thing on registration. quite often now i am hacking the code directly – and i have the latest version with the old loopholes supposedly plugged! when i get a moment, i'm going to physically remove the mass mail feature so that if it gets compromised (again) it wont spam my members.

phpBB2 is so popular that there are robots to hack it. and robots to log in as a new user and post spam. you must enable the human readable verification to register ASAP or you are in trouble.

up until last month i was lazy and not rigorous about keeping up the the latest version. i simply thought that i didn't desperately need any new features. my forum (and many others at the same time out there) was hacked by a turk who changed the front page into a picture of a turk with their national anthem blaring out of the speakers. i had to edit the SQL tables directly to fix it. this came about by exploiting a known loophole in an old version.

my cynical mind wonders if these "free" hosters deliberately court such problems once your site has momentum then require payment to fix it. so watch out!

i do think it's a good idea though!

Re: TI forum

*Message #11 Posted by **Michel Beaulieu** on 17 Dec 2005, 10:12 p.m.,*
in response to message #10 by hugh steers

Thanks you for tips; i jut put Human verification on account creation.

Re: TI forum

*Message #12 Posted by **Hans Brueggemann [GER]** on 18 Dec 2005, 4:43 a.m.,*
in response to message #1 by Michel Beaulieu

michel, excellent idea, and the forum really puts smoke in my eyes. however, not because of all these faint memories stirred up again, but reading white on black... ;o)

cheers, hans

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How valuable are upgraded HP48G's?

*Message #1 Posted by **Han** on 14 Dec 2005, 7:12 a.m.*

I have several HP48G calculators which I've upgraded to 256kB memory (and am thinking of adding in port2 in the near future). I did the upgrades without drilling, faceplate removal, or any cuts -- so they look as if they were never tampered with. No PCB was used either (I just stacked two SMD RAM chips on top of each other and placed them where the old 32kB chip used to be). Are the values of these calcs even less than that of a used HP48G because they've been opened up? Or would they be more valuable since they currently have 256kB of memory?

Re: How valuable are upgraded HP48G's?

*Message #2 Posted by **Namir** on 14 Dec 2005, 12:28 p.m.,*
in response to message #1 by Han

Sell it on eBay and see what the demand is!!!

Namir

Re: How valuable are upgraded HP48G's?

*Message #3 Posted by **tomc** on 14 Dec 2005, 11:08 p.m.,*
in response to message #2 by Namir

Han:

I agree; see what the demand is on ebay. I too intend to upgrade a 48 or two, but don't intend to sell them.

I would be curious if you would like to share some of the details of your opening process (is it the method we've seen on the web?).

Not to digress too much, but you might be interested to know that a HP38G has several unique features of interest to us 48 'hacks': 1. It appears to be able to accept a 128k RAM like the 48G. 2. It looks as if it will accept a DIP package 128k RAM. 3. There is another curious 16pin DIP pcb pattern - I intend to figure out what it is someday.

I believe one could drop a 48G ROM in this thing and get it to 'be' a 48G(+). Haven't tried it yet...

Perhaps others have already noticed these things, but I haven't seen it documented very well anywhere.

Regards, TomC

Re: How valuable are upgraded HP48G's?

*Message #4 Posted by **Han** on 15 Dec 2005, 8:36 p.m.,*
in response to message #3 by tomc

Hi Tom,

Well, the suggestion of placing the calculator on eBay sounds like the perfect way to find out. Though, I would rather not sell any of my HP48s =). I am merely curious what collectors think of modified calculators.

As for the method I used to open the HPs, I used a method that I figured out myself -- though it turns out someone else has also done it before. By using just a flat edge, you can open the HP without doing any cosmetic or even structural damage. And it's quite easy. Even when you put everything back together, the calculator feels just as solid as before because the rivets will still pop back into place.

I took many photos which I hope to put together to explain the entire process. I will have some time in January to make further upgrades (adding in port 2), and will put together a zip file containing all the photos and explanations. I've already designed a PCB board that will make use of SMD RAM chips as oppposed to the bulky DIP chips. I learned quite a bit about the HP48, and hope to share what I've found out. If you have any questions, I'd be more than happy to answer them to the best of my ability.

Han

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What can I do with an 82937A? (HP-IB interface for series 80)

*Message #1 Posted by **John Ioannidis** on 13 Dec 2005, 3:44 p.m.*

I got an 82937 on ebay thinking I was getting the HP-IB/HP-IL box. Well, obviously I wasn't thinking! Is there anything exciting I can do with it? For that matter, does anyone want it?

/ji

Re: What can I do with an 82937A? (HP-IB interface for series 80)

*Message #2 Posted by **Etienne Victoria** on 13 Dec 2005, 4:12 p.m.,*
in response to message #1 by John Ioannidis

Jack Rubin is looking for one to use the case for his PRM-85 , see this thread..

Best regards.

Etienne

Edited: 13 Dec 2005, 4:15 p.m.

Re: What can I do with an 82937A? (HP-IB interface for series 80)

*Message #3 Posted by **Howard Owen** on 13 Dec 2005, 5:42 p.m.,*
in response to message #1 by John Ioannidis

I believe Jack already got one. (But I'll let him speak for himself.)

Those interfaces are pretty common, since just about every HP85A sold added one to get at instruments, storage and/or printers.

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Approximating Integrals on the graphing calculator

*Message #1 Posted by **John Bower** on 13 Dec 2005, 3:07 p.m.*

In my Calculus book today I was taught about approximating integrals with the Ti-83. But I don't have a TI-83; I have an HP 49g+. I know that the hp is better but I don't know how to perform the same functions. On the TI they want me to use the 'fnInt(' option. Is there a corrosponding function on the HP? Thanks

John

Re: Approximating Integrals on the graphing calculator

*Message #2 Posted by **Gene Wright** on 13 Dec 2005, 4:51 p.m.,*
in response to message #1 by John Bower

On the TI, the fnInt function is just a "function integrator".

All (or at least, almost all?) numeric integration on a calculator is an approximation.

You can perform a numeric integration on the hp49g+ by:

1) using the equationwriter (EQW) and then pressing shift and the integral sign. Then fill in the lower and upper limits of the integration followed by the expression to be integrated, then enter the variable of integration in the "d" location (usually dX).

2) using the INTVX function (found in the CALC menu)

and others.

Other resources to help you:

1) The calculator's manual that came with your hp49g+ :-) 2) The extended guide for the calculator that is on the CD that came with your calculator.

3) HP's website has a good number of "learning modules", small PDFs, that show how to do quite a few things with the 49g+. They are found here:

http://www.hp.com/calculators/graphing/49gplus/technical.html

4) The specific learning module that shows how to do numeric integration is found here:

http://www.hp.com/calculators/docs/learning_modules/49gplus/49gPlusNumeric.pdf

Good luck. If you still can't figure it out, post another question here.

Gene

Re: Approximating Integrals on the graphing calculator

*Message #3 Posted by **John Bower** on 14 Dec 2005, 12:45 p.m.,*
in response to message #2 by Gene Wright

That is completely different than the TI. Thank you very much.

John

Re: Approximating Integrals on the graphing calculator

*Message #4 Posted by **James M. Prange (Michigan)** on 18 Dec 2005, 7:43 a.m.,*
in response to message #2 by Gene Wright

Let's not forget the *hp 49g+/ hp 48gII graphing calculator advanced user's reference manual*, found here. The Integrate function is described on pages 3-211 and 3-212.

Regards,
James

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something growing inside 48SX bezel

*Message #1 Posted by **Jim Rudnick** on 13 Dec 2005, 10:08 a.m.*

I can't seem to find any threads about opening the calculator. Very faint 'threadlike' impurities on underside of bezel. Hope this is an open and shut case.(after cleaning of course). Help please.

Re: something growing inside 48SX bezel

*Message #2 Posted by **Randy** on 13 Dec 2005, 6:57 p.m.,*
in response to message #1 by Jim Rudnick

If it's on the brown painted area, it's a non-cleanable failure of the finish, nothing you can do as cleaning will only remove the affected paint and leave you with bare aluminum. Voyagers (10/11/12/15/16C) develop this worm tracking as well. Perhaps aluminum oxides reacting with the finish?

Re: something growing inside 48SX bezel

*Message #3 Posted by **Jim Rudnick** on 14 Dec 2005, 10:10 a.m.,*
in response to message #2 by Randy

Thank you for your response. I have something similar on the screen of my Vectra CS portable(clamshell). It looks biological like mold and fans out.

Re: something growing inside 48SX bezel

*Message #4 Posted by **Jeff O.** on 14 Dec 2005, 7:19 a.m.,*
in response to message #1 by Jim Rudnick

Opening an hp48 S/G is challenging but apparently possible. Various instructions can be found here.

Re: something growing inside 48SX bezel

*Message #5 Posted by **Jim Rudnick** on 14 Dec 2005, 10:13 a.m.,*
in response to message #4 by Jeff O.

Thanks for your response. I was hoping for something less destructive. I don't have the dexterity or eyesight I once had.

Re: something growing inside 48SX bezel

*Message #6 Posted by **Han** on 14 Dec 2005, 12:09 p.m.,*
in response to message #5 by Jim Rudnick

There is a way to open the HP48 without causing any cosmetic damage. This allows access to the PCB. However, if you wish to get underneath the bezel, then the only method is to pry it up, causing much bending and whatnot to the faceplate. In my opinion, I would just leave it be -- cleaning with something like "klear screen" (an LCD, laptop, computer cleaner solution to be applied to a cleaning

cloth) is probably the best bet. A few hairlines caused by the worming effect is better than a bent faceplate.

Re: something growing inside 48SX bezel

*Message #7 Posted by **Jim Rudnick** on 18 Dec 2005, 5:08 p.m.,*
in response to message #6 by Han

Thanks and I am leaving it alone. Just so you know the 'worming' effect is on the underside of the LCD screen.

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MoHPC *The Museum of HP Calculators*

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Integration Times "Old" 33s vs "New" 33s

*Message #1 Posted by **John Smitherman** on 12 Dec 2005, 11:26 p.m.*

It appears that HP has improved the speed of the integration function on the latest version of the 33s. Working through a couple of the integration torture tests found at http://www.voidware.com/calcs/torture_integration.htm I recorded the following times for my "old" vs "new" 33s:

1. integral cos(ln(x)) from 0 to 1 radians, fixed at 5 places

Old 33s (s/n 417): 4 min 58 sec

New 33s (s/n 524): 2 min 27 sec

2. integral sqrt(abs(x-1)) from 0 to 2, fixed at 5 places

Old 33s (s/n 417): 10 min 02 sec

New 33s (s/n 524): 5 min 00 sec

Has anyone else seen this type of improvement?

Couple this with an improved display, improved keypad and bug fixes and I am pleased with the 33s.

Thank you HP,

John

Re: Integration Times "Old" 33s vs "New" 33s

*Message #2 Posted by **ECL** on 12 Dec 2005, 11:38 p.m.,*
in response to message #1 by John Smitherman

I have three 33s' (one is the newer revision). The display is significantly improved. I can't speak for old vs. new 33s, but I am very satisfied with the speed over the 32sii.

Yes, thanks, HP, for the 33s!

ECL

Re: Integration Times "Old" 33s vs "New" 33s

*Message #3 Posted by **Marcus von Cube, Germany** on 13 Dec 2005, 3:36 a.m.,*
in response to message #1 by John Smitherman

John,

if you look at the execution times, they seem to be exactly halved, as if the clock speed had been doubled.

Can you check with a simple loop, if the hardware has been made faster?

Marcus

Re: Integration Times "Old" 33s vs "New" 33s

*Message #4 Posted by **John Smitherman** on 13 Dec 2005, 9:39 a.m.,*
in response to message #3 by Marcus von Cube, Germany

> Quote:
>
> John,
>
> if you look at the execution times, they seem to be exactly halved, as if the clock speed had been doubled.
>
> Can you check with a simple loop, if the hardware has been made faster?
>
> Marcus

Hi Marcus. I wrote a quick program to loop 1000 times and recorded the execution times as follows:

"Old" 33s: 21 seconds

"New" 33s: 10 seconds

So, it appears that the hardware/software is faster for these functions.

Regards,

John

Re: Integration Times "Old" 33s vs "New" 33s

*Message #5 Posted by **Valentin Albillo** on 13 Dec 2005, 4:28 a.m.,*
in response to message #1 by John Smitherman

Hi, John:

If you want a real "integration torture-test", try and compute this simple integral:

```
Integral between 0 and 1 of f(x) = Cos(Ln(x)/x)/x

        =  0.3233674316 7777876139 9370087952 1704466510+
```

(Ln(x) is the natural, base-e logarithm, of course)

and see how many correct digits do you get, in whatever machine, using whatever method. Marcus von Cube passed on this one when I proposed it to him, seems he couldn't make a dent ! :-)

Best regards from V.

Re: Integration Times "Old" 33s vs "New" 33s

*Message #6 Posted by **Marcus von Cube, Germany** on 14 Dec 2005, 2:41 a.m.,*
in response to message #5 by Valentin Albillo

Valentin,

> Quote:
>
> Marcus von Cube passed on this one when I proposed it to him, seems he couldn't make a dent ! :-)

This function isn't made to be numerically integrated!

My TI-84 stops early (less than a minute) with a "Tolerance no met" error (tolerance set to 1E-4).

My Voyage 200 is still trying. Early in the process, a "Questionable accuracy" warning from the trig functions appeared on the status line. I guess it will drain the batteries before it gives up.

The HP 49g+ is still trying (SCI 4). I think it is in the same leage as my Voyage 200.

A newly acquired Sharp EL-5120 quits early with an "ERROR 02", trying to evaluate ln(0).

None of my symbolic calcs was able to find a symbolic solution for the indefinite integral. Does one exist?

Marcus

Re: Integration Times "Old" 33s vs "New" 33s

*Message #7 Posted by **Valentin Albillo** on 14 Dec 2005, 7:05 a.m.,*
in response to message #6 by Marcus von Cube, Germany

Hi, Marcus:

Marcus posted:

"This function isn't made to be numerically integrated!"

Don't blame this innocent function. I've seen worse.

"My TI-84 stops early (less than a minute) with a "Tolerance no met" error (tolerance set to 1E-4)."

What would you expect from a Texas Instruments ?

"My Voyage 200 is still trying. Early in the process, a "Questionable accuracy" warning from the trig functions appeared on the status line. I guess it will drain the batteries before it gives up."

They might, indeed. But what would you expect from a Voyage 200 ?

"The HP 49g+ is still trying (SCI 4). I think it is in the same leage as my Voyage 200."

Now you've gone too far. Please don't insult poor Voyage 200.

"A newly acquired Sharp EL-5120 quits early with an "ERROR 02", trying to evaluate ln(0)."

What would you expect from a SHARP? Naw, *this* time I'm joking.

"None of my symbolic calcs was able to find a symbolic solution for the indefinite integral. Does one exist?"

As far as I know, no symbolic solution or closed form does exist. For the record, the HP-71B in "naive" mode produces:

```
>INTEGRAL(0,1,1E-2,COS(LN(IVAR)/IVAR)/IVAR)
 .167473677804

>INTEGRAL(0,1,1E-5,COS(LN(IVAR)/IVAR)/IVAR)
 .169114784125

>INTEGRAL(0,1,1E-12,COS(LN(IVAR)/IVAR)/IVAR)
 .169114784125
```

all of them utterly wrong.

However, thou shalt not give up. Try and conquer this integral by whatever means (variable substitution, expansions, interval subdivision, whatever) or recognize shameful defeat for you and your puny machines ! :-)

(Not for me: using one of several appropriate, "non-naive" approaches, I can get 12 correct digits with an HP-71B very fast, and even an HP-15C can do it relatively fast as well)

Best regards from V.

Edited: 14 Dec 2005, 9:18 a.m.

Re: Integration Times "Old" 33s vs "New" 33s

*Message #8 Posted by **bill platt** on 14 Dec 2005, 9:24 a.m.,*
in response to message #7 by Valentin Albillo

Or in other words,

Real maths has nothing to do with calculators per se, but with the *brain*

Re: Integration Times "Old" 33s vs "New" 33s

*Message #9 Posted by **Valentin Albillo** on 14 Dec 2005, 10:15 a.m.,*
in response to message #8 by bill platt

Hi, Bill:

Bill posted: *"Or in other words, real maths has nothing to do with calculators per se, but with the *brain* "*

Yes, that's more or less correct. Oftentimes, a savvy individual will do with an HP-15C what a less knowledgeable one couldn't, even with a 49G+ or three. This simple integral is probably such a case (and I'm not talking about Marcus von Cube, who undoubtely will soon find the proper way to deal with it).

Best regards from V.

Re: Integration Times "Old" 33s vs "New" 33s

*Message #10 Posted by **Marcus von Cube, Germany** on 14 Dec 2005, 12:04 p.m.,*
in response to message #7 by Valentin Albillo

Hi Valentin,

I've already spent some time on the integral, dusting off areas of my brain which had been in deep sleep over decades!

A simple aproach is to replace the lower boundary by something above zero, e.g. 10^-2 (result: 0.325). Smaller boundaries make things worse!

Variable substitution doesn't seem to get rid of the oscillations and I get an infinite boundary instead. I just had a look into taylor series expansion. That might do the trick.

There are ways to tackle such problems by integrating in the complex plane but that's beyond my powers, at least for now...

Marcus

"Torture" integral solved

*Message #11 Posted by **Valentin Albillo** on 15 Dec 2005, 9:16 a.m.,*
in response to message #10 by Marcus von Cube, Germany

Hi, Marcus:

Marcus posted:

"A simple aproach is to replace the lower boundary by something above zero [...] Smaller boundaries make things worse!"

> Yes, they do. That the result you get with your lower boundary somewhat resembles the correct value is just a coincidence.

"Variable substitution doesn't seem to get rid of the oscillations and I get an infinite boundary instead."

> True, but this is one possible way to deal with this integral. The change:
>
> $t = -\log(x)$
>
> results in:
>
> $$\text{Integral} = \text{Integral}(0,\ \text{Inf},\ \cos(t.e^t)) = \text{Integral}(0,\ \text{Inf},\ \cos(W^{-1}(t)))$$
>
> where W(x) is Lambert's W function. You can then find the integral by subdividing the (0,Inf) original interval in subintervals and thus integrating between the zeros of $\cos(W^{-1}(t))$, thus getting an slowly convergent alternating series that can be accelerated by a number of methods (see my HP-11C Datafile article, for example). This results in an accurate value for the integral but, as you correctly guessed, there's a faster, simpler way:

"There are ways to tackle such problems by integrating in the complex plane"

> That's right. You just need to remember that
>
> $e^{ix} = \cos(x) + i*\sin(x)$
>
> and the original integral becomes:
>
> $$\text{Integral} = \text{Integral}(0,\ 1,\ \text{RealPart}(e^{(i*\log(x)/x)}/x)) = \text{Integral}(0,\ 1,\ \text{RealPart}(x^{i/x-1}))$$

which can readily be integrated by considering it a line integral in the complex plane along some integration path. A simple parabolic path will do:

```
z = t + t*(1-t)*i
```

which takes us far from the oscillations of the real line. Using this path, your faithful HP-71B can compute the integral to full 12-digit precision in a few minutes, as follows:

```
10 DESTROY ALL @ COMPLEX Z @ SFLAG -1 @ DISP INTEGRAL(0,1,1E-
9,FNY(IVAR))
20 DEF FNY(T) @ Z=(T,T-T*T) @ FNY=REPT(Z^((0,1)/Z-1)*(1,1-2*T))

>RUN

   .323367431678
```

which, as stated, is the correct result rounded to the 12 decimal digits shown. The HP-15C solution is a mere verbatim translation of this 2-line 'program'.

This technique of computing difficult real-line integrals by taking them to the complex plane is actually very useful in many situations, and is discussed at length, *with an example*, in the marvelous **HP-15C Advanced Functions Handbook.**

Thanks for your interest and best regards from V.

Edited: 15 Dec 2005, 9:19 a.m.

Re: "Torture" integral solved

*Message #12 Posted by **Marcus von Cube, Germany** on 15 Dec 2005, 9:35 a.m.,*
in response to message #11 by Valentin Albillo

Thanks Valentin,

I've just sent your post to my printer. Maybe the complex trick can be ported to other calculators with complex number functions, too. But don't hold your breath!

Marcus

BTW, A printout of the HP 15C Adv. Functions Handbook lies on my desk. It just waits to be read...

Marcus

Re: "Torture" integral solved

*Message #13 Posted by **Valentin Albillo** on 15 Dec 2005, 9:57 a.m.,*
in response to message #12 by Marcus von Cube, Germany

Hi again, Marcus:

Marcus posted:

"Maybe the complex trick can be ported to other calculators with complex number functions, too. But don't hold your breath!"

I'm sure it'll port easily, at least to the HP42S. Perhaps you'd like to try and create

an RPL version.

"A printout of the HP 15C Adv. Functions Handbook lies on my desk. It just waits to be read..."

It should be a compulsory read for **any** HP-calc math-oriented programmer, regardless of the particular HP model, as it includes such a wealth of truly advanced material (well, ignoring their pathetic 'create a unit matrix' attempt, of course) :-)

Best regards from V.

Re: "Torture" integral *NOT* solved in RPL

*Message #14 Posted by **Marcus von Cube, Germany** on 16 Dec 2005, 4:46 p.m., in response to message #13 by Valentin Albillo*

Hi Valentin,

bad news!

I tried two versions of the complex path solution in RPL on my 49g+ and both failed miserably. The results obtained after several hours of battery draining computation were disastrous: -1.7*10^495 & -1.3*10^495, respectively. I guess, someone else has to have a close look at what I've done:

Defining the complex path

```
'Z(T)=T+(SQ(T)-T)*i'
DEFINE
```

This creates a program P wich takes a parameter T from the stack and outputs a complex result, a point on a parabola in the complex plane. SQ(T) is T^2. *i* can be entered as (0,1) or "left shift"+"TOOL". DEFINE is executed by pressing "left shift"+"2".

Z(0)=0 and Z(1)=1, both on the real axis.

Defining the function to integrate

Version 1:

```
'BAD(Z)=COS(LN(Z)/Z)/Z'
DEFINE
```

Version 2:

```
'BAD2(Z)=Z^(i/Z-1)'
DEFINE
```

Integrate

Note: *INTEG* is the integral symbol "right shift" "TAN". I had to set complex mode by setting flag -103.

```
INTEG(0,1,RE(BAD(Z(X)),X)
```

repectively

```
INTEG(0,1,RE(BAD2(Z(X)),X)
```

Both integrals yield the above mentioned "results."

Can you comment on this?

Marcus

Edited: 16 Dec 2005, 5:06 p.m.

Re: "Torture" integral *NOT* solved in RPL

*Message #15 Posted by **Valentin Albillo** on 16 Dec 2005, 7:36 p.m.,*
in response to message #14 by Marcus von Cube, Germany

Hi, Marcus:

Marcus posted:

"Can you comment on this ?"

> Yes. I have no 48/49, of course, but here are two comments for you:

*"Defining the complex path: 'Z(T)=T+(SQ(T)-T)*i'"*

> You've got the wrong sign for the imaginary component, it should be:
>
> ```
> 'Z(T)=T+(T-SQ(T))*i'
> ```

"Defining the function to integrate 'BAD2(Z)=Z^(i/Z-1)'"

> Wrong again. You're missing the necessary multiplication times the derivative of "Z(t)" with respect to "t", i.e.:
>
> ```
> Z^(i/Z-1)*(1+(1-2*T)*i)
> ```

Both can be seen in the HP-71B code I posted. Make the above changes and see if that helps.

Best regards from V.

Re: "Torture" integral *NOT* solved in RPL

*Message #16 Posted by **Marcus von Cube, Germany** on 17 Dec 2005, 7:47 a.m.,*
in response to message #15 by Valentin Albillo

Valentin,

> Quote:
>
> ---
>
> You're missing the necessary multiplication times the derivative of "Z(t)" with respect to "t"
>
> ---

You're right, I didn't read your post thorougly enough! I've added the term to the integral expression inside the RE() part. My calc is still working on it...

I din't change the sign of the complex path because that shouldn't make a difference (hopefully.)

Marcus

P.S.: I'll be back with the results later.

P.P.S.: Last night, my 49g+ failed, while computing, with "low battery" and lost the stack and command history. I've just changed batteries but didn't reenter the integral, yet.

Edited: 18 Dec 2005, 4:38 a.m.

Re: "Torture" integral now solved (not only in RPL)

*Message #17 Posted by **Marcus von Cube, Germany** on 19 Dec 2005, 7:27 a.m.,*
in response to message #15 by Valentin Albillo

Hi Valentin,

to make clear what happens in the complex plane, I played around with the graphing functions of Derive 6 in the PC. Now I know better!

The real part of the original function COS(LN(x)/x)/x oscillates along the real axis as well as along the i-Axis. So no matter what path the integration takes, the numerical results are useless.

The "corrected" function x^(i/x-1) is asymetric with respect to the i-axis: its real part oscillates heavily on the negative i-side (below the real axis) and is smooth above. Therefore, the results depend heavily upon the path taken through the complex plane. I could easily reproduce your results with Derive and on my 49g+ after I had corrected the sign of the imaginary part of the path function.

That was an interesting matter!

Re: "Torture" integral now solved (not only in RPL)

*Message #18 Posted by **Valentin Albillo** on 19 Dec 2005, 8:32 a.m.,*
in response to message #17 by Marcus von Cube, Germany

Hi, Marcus:

Marcus posted:

"Therefore, the results depend heavily upon the path taken through the complex plane. I could easily reproduce your results with Derive and on my 49g+ after I had corrected the sign of the imaginary part of the path function."

See ? I told you ... :-)

"That was an interesting matter! "

I'm glad you enjoyed it, and thanks for trying it out.

Best regards from V.

Re: Integration Times "Old" 33s vs "New" 33s

*Message #19 Posted by **Ed Look** on 13 Dec 2005, 1:37 p.m.,*
in response to message #1 by John Smitherman

I also wonder what cutoff serial number value constitutes the boundary between new model and old model.

Re: Integration Times "Old" 33s vs "New" 33s

*Message #20 Posted by **Greg Whitfield** on 13 Dec 2005, 3:34 p.m.,*
in response to message #19 by Ed Look

All three of my HP 33s calculators:

(1) s/n 428 (from amazon.com with old display and flakey 1 key that HP didn't want back) (2) s/n 442 (marketing sample HP sent me as replacement with new display) (3) s/n 532 (from Wal-Mart with new display)

execute the integral of cos(ln(x)) in around 2 min 25 sec.

-Greg

Re: Integration Times "Old" 33s vs "New" 33s

*Message #21 Posted by **John Smitherman** on 14 Dec 2005, 6:37 p.m.,*
in response to message #20 by Greg Whitfield

> Quote:
>
> All three of my HP 33s calculators:
>
> (1) s/n 428 (from amazon.com with old display and flakey 1 key that HP didn't want back) (2) s/n 442 (marketing sample HP sent me as replacement with new display) (3) s/n 532 (from Wal-Mart with new display)
>
> execute the integral of cos(ln(x)) in around 2 min 25 sec.
>
> -Greg

Hi Greg. I believe that I've solved the mystery... I replaced the batteries on my old 33s with new batteries and the integral execute times are the same on my old and new 33s.

I tried to execute Valentin's torture test of cos(ln(x)/x)/x and the battery symbol popped up on the display. After 2 or 3 hours the calculator locked up blinking the "memory cleared" message.

I measured the voltages on the old batteries as 2.7 and 2.4 volts. The new replacement batteries measured 3.3 and 3.3 volts.

Strange but true!

Regards,

John

33S vs. 32S/32SII integ times (improvement ??)

*Message #22 Posted by **Karl Schneider** on 14 Dec 2005, 12:04 a.m.,*
in response to message #1 by John Smitherman

> Quote:
>
> integral cos(ln(x)) from 0 to 1 radians, fixed at 5 places
>
> Old 33s (s/n 417): 4 min 58 sec
>
> New 33s (s/n 524): 2 min 27 sec

John --

First, a nitpick. The limits are simply 0 to 1, not 0 to 1 *radians*. Angular measures apply only for trigonometric fucntions, and cosine is taken here on the *output* of the natural logarithm.

Hmm, this is progress? I programmed cos(ln x) as an RPN program on the 32SII and 32S today, using 5 and 6 decimal places. The 32S is a little faster, I've found, and SOLVE/INTEG with RPN functions is faster than SOLVE/INTEG using equations on the 32SII (equations are not available on the 32S).

The correct answer is 0.5 exactly, which can be determined by two applications of integration by parts.

The 32S and 32SII gave the same answers:

```
                  FIX 5         FIX 6

Answer         0.50000696243  0.49999965858
Est. Error     0.00000500000  0.00000050000
Time (32S)     1:06 minutes   4:22 minutes
```

Note that the answer provided under FIX 5 is not within the estimated error of the correct answer. However, FIX 6 does give an answer "within bounds". I had found the same thing with the difficult function integrated between 0 and 1, which is described in the 1980 HP Journal article on the HP-34 SOLVE, repeated in the HP-15C Advanced Functions Handbook and the HP-71B Math ROM manual:

```
        sqrt(x)       1
f(x) =  -------   -   -----
         (x-1)       ln(x)
```

-- KS

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Nonpareil news

*Message #1 Posted by **Eric Smith** on 12 Dec 2005, 8:59 p.m.*

For those of you that are interested in Nonpareil, but don't read my blog, I thought I'd mention some of the recent progress.

I've added additional models to the simulation, including the 22, 27, 29C, and 67 (sans card reader). The 29C and 67 (as well as the 19C and 97) use a highly optimized label search loop for performance, and it depends on some very subtle and undocumented behavior of the ACT chip. I still don't really know exactly how the ACT behaves under these circumstances, but based on analysis of the code, I was able to come up with a hack that makes it work.

The 67 seems fully function with the exception of the card reader and the PSE function. PSE seems to complete immediately rather than delaying, and I'm guessing that this is due to a test for a magnetic card being inserted.

Note that Nonpareil provides continuous storage for all models, and it is possible to keep multiple state save files, so one can effectively save 67 programs and data despite the lack of card reader simulation.

I've fixed a subtle bug in my sound code, so now the 41C TONEs and BEEP work reasonably well on both Linux and Windows.

The KML syntax for specifying keyboard mapping has been improved considerably. Now the GDK Keysms used to name the host keyboard keys can be specified by name rather than obscure numeric values.

Maciej Bartosiak has made a lot of improvements to the rendered images used for the Voyager calculators, as well as developing new ones for the Spice series. I'll be incorporating those, and I'm working on better visual effects for button highlight (when the cursor is over a button but not pressed) and the actual button press.

These improvements will be in the next official release of Nonpareil, which I hope to complete in January.

Eric

Re: Nonpareil news

*Message #2 Posted by **Gene Wright** on 12 Dec 2005, 9:57 p.m.,*
in response to message #1 by Eric Smith

Great news!

Any word on the "housing" to put these into? :-)

Re: Nonpareil news

*Message #3 Posted by **Eric Smith** on 12 Dec 2005, 10:19 p.m.,*
in response to message #2 by Gene Wright

Not much to report on that. Richard Ottosen has acquired some ABS stock and is going to try assembling a case out of that. The one I showed at the conference was acrylic.

It seems to be difficult if not impossible to buy sheets of ABS that are smooth on both sides. Normal ABS sheet stock has a texture on one side. But Richard thinks that this may work OK for his assembly technique.

I hope to make a lot of progress on the firmware over the holidays.

Re: Nonpareil news

*Message #4 Posted by **Randy** on 12 Dec 2005, 10:46 p.m.,*
in response to message #3 by Eric Smith

ABS sheet smooth on both sides should not be too hard to source as textured sheet is more costly to produce. What's the desired thickness and color?

Edited: 12 Dec 2005, 10:47 p.m.

Re: Nonpareil news

*Message #5 Posted by **Eric Smith** on 13 Dec 2005, 1:21 a.m.,*
in response to message #4 by Randy

0.63 inch, in 12x24 inch sheets or multiples thereof. (One 12x24 inch sheet is laser cut to make one calculator.) Color isn't important for prototypes, but we expect the most desirable color will be black.

I just did a Google search for "abs sheet", and the very first listing has it in either smooth or one side textured, so I'm not sure why Richard had so much trouble finding it. Maybe it just isn't carried by the retail establishments.

Re: Nonpareil news

*Message #6 Posted by **Arnaud Amiel** on 13 Dec 2005, 3:18 a.m.,*
in response to message #1 by Eric Smith

Any progress in getting a 10C ROM to work on nonpareil?

Arnaud

Re: Nonpareil news

*Message #7 Posted by **Eric Smith** on 13 Dec 2005, 4:40 p.m.,*
in response to message #6 by Arnaud Amiel

I haven't yet got a 10C ROM dump. But I expect to have one soon.

Out of curiousity, why are you interested in the 10C? The only reason I plan to add it is for general completeness.

Re: Nonpareil news

*Message #8 Posted by **Howard Owen** on 13 Dec 2005, 5:44 p.m.,*
in response to message #7 by Eric Smith

It would be great for those of us that lack a 10C in our collections, just to know exactly how badly they sucked. 8)

Re: Nonpareil news

*Message #9 Posted by **Valentin Albillo** on 13 Dec 2005, 6:42 p.m.,*
in response to message #8 by Howard Owen

Hi, Howard:

Howard posted:

"It would be great for those of us that lack a 10C in our collections, just to know exactly how badly they sucked. 8)"

> They didn't suck at all, the HP-10C has all the physical quality, ergonomy and durability of all other Voyager-series models, plus all the elegance of a well-thought, non-cluttered keyboard.
>
> You'd be hard-pressed to get 10% of such quality and elegance in newer or contemporary HP models, let alone other brands.

Best regards from V.

10c...

*Message #10 Posted by **Gene Wright** on 13 Dec 2005, 7:27 p.m.,*
in response to message #9 by Valentin Albillo

I agree with Valentin about the 10c not really stinking all that badly :-)

but it was a shame that HP "crippled" its abilities so much. I think that's probably what people mean by complaints about the 10c.

There are many programs that would not fit on the 10c that ran just find on the old HP25, for example, because of the scarcity of memory on the 10c.

I would really like to know what crazy business case someone at HP made to introduce the 10c anyway.

There just wasn't enough price differential between the 10c and 11c to convince many people to buy it over the slightly more expensive 11c. Hence the relative scarcity of the 10c.

That said, Valentin is quite correct...don't go talking bad about my 10c! :-) Gene

Re: 10c...

*Message #11 Posted by **Namir** on 13 Dec 2005, 8:51 p.m.,*
in response to message #10 by Gene Wright

Gene,

I remember buying an HP10C and HP11C whn they came out. I quickly realized that the programming features of the HP10C were ver similar to those of the HP-55 -- that is ... no subroutines, no labels for program branching. That was a let down in the era of King HP41CV.

I found a buyer for the HP10C at the company I was working for and kept the HP11C.

In the last few years I bought two HP10C from eBay to complete the Voyager set.

Namir

Re: Nonpareil news

*Message #12 Posted by **Howard Owen** on 13 Dec 2005, 7:36 p.m.,*
in response to message #9 by Valentin Albillo

Ahem, sorry, Valentin, I should have said "..sucked as programmables compared with the 11C and 15C." After all, we won't get to experience the physical quality via a simulation, no matter how faithful.

I know you've written articles on how to overcome the limitations of the 12C, which is similarly crippled as a programmable, but the fact remains, the limitations are there to be overcome.

Now that I look, I don't see a "Long Live the HP-10C" on your site. How does the 10C stack up? (So to speak. 8)

Re: Nonpareil news

*Message #13 Posted by **Valentin Albillo** on 14 Dec 2005, 7:14 a.m.,*
in response to message #12 by Howard Owen

Hi, Howen:

Howen posted:

" I don't see a "Long Live the HP-10C" on your site. How does the 10C stack up? (So to speak. 8) "

> Pretty well, asuming it's still boxed.
>
> There's also no "Long Live the HP-16C" there, though it will be in the very next issue of Datafile, due in a few days.

Best regards from V.

Re: Nonpareil news EDITED

*Message #14 Posted by **Arnaud Amiel** on 14 Dec 2005, 3:31 a.m.,*
in response to message #7 by Eric Smith

My only interest is for completeness. I have the real stuff if I want it but it won't last for ever... Anyway, I wouldn't use it :-)

And if you need it, I have a slightly battered 10C that I could send you for surgury if you don't have any other

Arnaud

I still have to send you a postcard :-(

Edited: 15 Dec 2005, 3:11 a.m.

Re: Nonpareil news

*Message #15 Posted by **John Ioannidis** on 13 Dec 2005, 7:02 p.m.,*
in response to message #1 by Eric Smith

Questions (maybe the answers to those should be in the README file?)

1. When emulating an HP41, if I have a rom image, how do I turn it into a .mod file?

2. Is it possible to change the default behavior of "save" so that it doesn't actually create a new image of "nonpareil.exe"?

Thanks

/ji

Re: Nonpareil news

*Message #16 Posted by **Howard Owen** on 13 Dec 2005, 8:01 p.m.,*
in response to message #15 by John Ioannidis

Apologies if this is old ground. I just recently looked at this myself, so it was new to me.

The V41 source includes a utility to go the other way,.mod->.rom, but as far as I know, there's no utility to create a MOD file from one or more roms. It's not a completely automatic process in that direction. If it's your own module, you need to write an info file for it. Here's an excerpt from the info file for the CCD module in the V41 distribution:

```
FILE NAME: C:\Program Files\V41\MOD\Ccd.mod
FILE FORMAT: MOD1
TITLE: CCD Module
VERSION: B
PART NUMBER:
AUTHOR: W&W Software Products GmbH
COPYRIGHT (c) W&W Software Products GmbH
LICENSE: GNU General Public License
COMMENTS:
CATEGORY: Custom peripherals
HARDWARE: None
MEMORY MODULES: 0
EXENDED MEMORY MODULES: 0
ORIGINAL: Yes - unaltered
APPLICATION AUTO UPDATE: No - do not update this file
NUMBER OF PAGES: 2


ROM NAME: CCDL-1B
ROM ID: WW1B
PAGE: May be in more than one location
POSITION: In lower relative to upper page
PAGE GROUP: 1
BANK: 1
BANK GROUP: 0 - not grouped
RAM: No
Write Protected: No or Not Applicable
FAT: Yes
XROM: 9
FCNS: 64
XROM  Addr Function    Type
09,00 754B -W&W CCD B  4K MCODE Programmable
09,01 7764 B?          4K MCODE Programmable
```

And so forth. That file contains a second ROM section for the upper 4K page. Both end up with something like this (taken from the second one in the CCD file.)

```
11,41 169C5             8K MCODE (Not decoded)
INTERRUPT VECTORS:
Pause loop:                      000
```

```
Main running loop:                 000
Deep sleep wake up, no key down:  000
Off:                               000
I/O service:                       3C3
Deep sleep wake up:                2D3
Cold start:                        000
CHECKSUM: 37F (CORRECT)
```

All of that corresponds to how HP-41 roms are organized, which could be generated from the rom itself. But the metadata at the front needs to be filled in by a human being, I think.

Exactly how the info and rom files are glued together in the .MOD is a matter for the source code to tell.

If it isn't your own ROM, the V41 package will likely have what you need. Otherwise the other TOS resources will probably cover it.

Edited: 13 Dec 2005, 8:25 p.m.

Re: Nonpareil news

*Message #17 Posted by **Eric Smith** on 14 Dec 2005, 2:08 a.m.,*
in response to message #15 by John Ioannidis

> Quote:
>
> Is it possible to change the default behavior of "save" so that it doesn't actually create a new image of "nonpareil.exe"?

I've never seen it do any such thing, nor do I have any idea how it could. The save commands writes a state save file with a ".nst" extension.

Re: Nonpareil news

*Message #18 Posted by **Eric Smith** on 14 Dec 2005, 2:10 a.m.,*
in response to message #15 by John Ioannidis

> Quote:
>
> When emulating an HP41, if I have a rom image, how do I turn it into a .mod file?

Currently Nonpareil only supports hard-addressed ROMs. If you create a .mod file that forces the address (e.g., 8000, A000, C000, or E000 for the base of an 8K ROM), it should work.

Better .mod file support is on my TODO list.

Re: Nonpareil news

*Message #19 Posted by **Mike T.** on 14 Dec 2005, 8:05 p.m.,*
in response to message #1 by Eric Smith

I can't wait - the (potential) new artwork looks stunning, keep up the good work...

Mike T.

Re: Nonpareil news

*Message #20 Posted by **Eric Smith** on 14 Dec 2005, 8:31 p.m.,*

in response to message #19 by Mike T.

Thanks! But all credit for the artwork goes to:

- Maciej Bartosiak - for 41C, Voyager series, and Spice series
- Xavier Théry - 67
- Dave Hicks, MoHPC - for photographs used for other models

My own graphics skills are feeble at best, so it's a good thing that I know how to program. :-)

I'm trying to replace the horrible white box key highlighting that's been used up until now in Nonpareil (which is a side effect of the GTK+ button widget) with a better looking effect.

Christoph Gießelink has sent me his updated NSIS script for Nonpareil, so the next release will have a real installer and uninstaller.

Re: Nonpareil news

*Message #21 Posted by **Howard Owen** on 14 Dec 2005, 11:13 p.m.,*
in response to message #20 by Eric Smith

Speaking of installers, It may be a matter of me using the SVN sources, but 'scons install' seems to miss rom/67.obj.

Other than that, I think the 67 support is "PDC" - Pretty Darned Cool, like the rest of Nonpareil. Thanks!

Re: Nonpareil news

*Message #22 Posted by **Eric Smith** on 14 Dec 2005, 11:23 p.m.,*
in response to message #21 by Howard Owen

Thanks, I just added it to rom/SConscript.

Looks like the cyclic dependency problem with images has come back with the latest release of SCons. Sigh. I suppose I should try to reduce it to as small a test case as possible, and ask about it on the SCons mailing list.

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41CV display

*Message #1 Posted by **Stephen Easterling** on 12 Dec 2005, 7:05 p.m.*

I just bought a NOS 41CV (NIB). How long does it take to get used to its display. I was thinking that the 41CV (or CX) was going to be the model that I use the most, you know, my very favorite out of all other calcs I have. BUT, I just opened the box and started doing a few calcs and I'm having a hard time adjusting to the way the numbers are displayed. It's not a contrast issue but rather the way the segments are put together. How long does it take to get used to this? I'd prefer the display of the 20S (large, easy to read segments).

Re: 41CV display

*Message #2 Posted by **Samuel Heddle** on 12 Dec 2005, 7:11 p.m.,*
in response to message #1 by Stephen Easterling

I got used to it after using a 28S display. Personally, I enjoy the contrast of the 41CV display. (Halfnut) The display, IMO, is my favorite of all the HPs, it takes a little getting used to, though.

Re: 41CV display

*Message #3 Posted by **Massimo Gnerucci (Italy)** on 12 Dec 2005, 7:11 p.m.,*
in response to message #1 by Stephen Easterling

Is it a fullnut or an halfnut?
I find the fullnut easier to look at: halfnut segments are too apart, sort of broken digits.
But I must confess that I started with a fullnut 41C... maybe it's just a matter of taste.

Greetings,
Massimo

Re: 41CV display

*Message #4 Posted by **Stephen Easterling** on 12 Dec 2005, 7:21 p.m.,*
in response to message #3 by Massimo Gnerucci (Italy)

How can I tell if it is a full or half nut? My 28S doesn't look anything like this display.

Re: 41CV display

*Message #5 Posted by **Massimo Gnerucci (Italy)** on 12 Dec 2005, 7:32 p.m.,*
in response to message #4 by Stephen Easterling

This is a fullnut: square display corners. If you have round corners then that's an halfnut.
Your 28 uses a dot matrix display, the 41 uses a 14 segment display (plus dot & dot/comma indicators, flags, status, etc.).
When I first got a 28S as a (momentary) substitute for my first, aging, 41C I didn't like that faint display at all.

I'll write it again: matter of taste. :-)

Re: 41CV display

*Message #6 Posted by **Stephen Easterling** on 12 Dec 2005, 7:39 p.m.,*
in response to message #5 by Massimo Gnerucci (Italy)

Well, I just looked it up in my HP Calculator Collector's handbook and according to it, (which agrees with what you stated), I have a Halfnut. I just bought a mint 41CX, though, and when I receive it in a few days, I expect it to be the full nut, so to speak. Maybe its display will be easier to read.

Re: 41CV display

*Message #7 Posted by **Eric Smith** on 12 Dec 2005, 8:40 p.m.,*
in response to message #6 by Stephen Easterling

It's more likely a halfnut, since all product from 1986 through discontinuation in 1991 were halfnuts.

Re: 41CV display

*Message #8 Posted by **Samuel Heddle** on 12 Dec 2005, 8:43 p.m.,*
in response to message #7 by Eric Smith

41CX Fullnuts do exist, though they're not common.

Re: 41CV display

*Message #9 Posted by **Howard Owen** on 12 Dec 2005, 10:39 p.m.,*
in response to message #8 by Samuel Heddle

Roger that. I've got one.

Re: 41CV display

*Message #10 Posted by **David Smith** on 13 Dec 2005, 1:14 a.m.,*
in response to message #8 by Samuel Heddle

Actually, I have found CX fullnuts to be more common than the halfnuts. I seem to have seen 2-3 CX fullnuts for every halfnut... and I've seen a bunch of them.

Re: 41CV display

*Message #11 Posted by **Howard Owen** on 13 Dec 2005, 1:21 a.m.,*
in response to message #10 by David Smith

Dang, shatter a guy's illusions, why don't you Dave? 8)

Well, I've got a halfnut CX too, and *it's* fully functional. (The back arrow key doesn't work on the fullnut CX.)

Re: 41CV display

*Message #12 Posted by **David Smith** on 13 Dec 2005, 12:04 p.m.,*
in response to message #11 by Howard Owen

You can fix the bad key on the CX by opening the case, place a drop of 91%+ isopropyl alcohol on the breather hole under the key, and gently scritch around in the hole with a small wire brush made of three bristles chucked up in a pin vise or knife blade holder, twisted together, and trimmed square. Wet the brush with more alcohol.

While the machine is open, clean all the contacts (including the ones under the CPU board).

Re: 41CV display

*Message #13 Posted by **Stephen Easterling** on 16 Dec 2005, 7:08 p.m.,*
in response to message #1 by Stephen Easterling

I got my 41CX today and it's a Singapore halfnut. It's very nice and clean and everything is included. I'd say mint, for sure! So I now have two halfnuts. Does this make a whole nut?

Edited: 16 Dec 2005, 7:10 p.m.

Re: 41CV display

*Message #14 Posted by **Massimo Gnerucci (Italy)** on 16 Dec 2005, 10:57 p.m.,*
in response to message #13 by Stephen Easterling

> Quote:
>
> So I now have two halfnuts. Does this make a whole nut?

Unfortunately not, as far as display is concerned ;-)
Massimo

P.S. And: 2 halfnut * -> Whole nut
But this is isn't necessarily a **fullnut**; it could be empty...

Edited: 16 Dec 2005, 11:01 p.m.

HP's internal code names for HP-41

*Message #15 Posted by **Garth Wilson** on 17 Dec 2005, 1:20 a.m.,*
in response to message #14 by Massimo Gnerucci (Italy)

An HP-41 made before the Halfnut version was out is **not** a "fullnut". The HP-41 project was internally named "Coconut," probably before they knew what model number they were going to give it. In the summer of 1983, they began investigating the possibility of a version that would be more reliable and easier to manufacture. Originally the idea was to have only half the number of ports, meaning two instead of four, hence the internal name "Halfnut." There were also stories that the name came from ideas to cut the IC count by half, or cut the manufacturing cost by half. I believe HP started shipping the Halfnuts to dealers in September of 1985. In any case, the original HP-41's name is "Coconut," not "Fullnut."

Goin' nuts!

*Message #16 Posted by **Massimo Gnerucci (Italy)** on 17 Dec 2005, 7:22 a.m.,*
in response to message #15 by Garth Wilson

Right Garth,
and there's no *blanknut* either...
However those names are useful when you have to tell one from the other.

Greetings,
Massimo

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New HP-15C mini-challenge !

*Message #1 Posted by **Valentin Albillo** on 12 Dec 2005, 6:55 a.m.*

Hi all,

While waiting for the incoming S&SMC#13, those of you fortunate enough to own an HP-15C (physical or emulated/simulated) might want to check any alleged 15C-*guru* abilities with this 15C-specific mini-challenge:

Write a routine as short and fast as possible to find integer solutions (a,b,c) of:

$$a^2 + b^2 = c^N$$

for any given integer exponent N >= 2

Your routine must assume that the stack has been loaded like this upon calling it:

```
Z: some control value
Y: some control value
X: N
```

where the control values are *arbitrary user-supplied integer values* that your routine must use somehow to generate solutions so that, for different control values, different solutions are usually generated, in a repeatable way. Depending on your algorithm, they might be initial ranges for a search, or "seed" values for some computation or whatever, as long as they ensure variety and provide some control on the solutions produced.

Your routine must find out exactly *one* solution (which should depend on the user-supplied control values and N, of course), and must output the resulting integer values (a, b, c). Of course, you should aim to produce non-trivial solutions, at least for the vast majority of control values even if certain combinations do occasionally result in some trivial solution.

A sample run for N=5 would be something like this:

```
p1 [ENTER] p2 [ENTER]
           5 [A]   -> 1121
             [R/S] ->  404
             [R/S] ->   17
```

where p_1 and p_2 are some control values that your algorithm uses to produce the solution (1121, 404, 17). Indeed we have:

$$1121^2 + 404^2 = 1256641 + 163216 = 1419857 = 17^5$$

Specifying different control values, q_1 and q_2 should produce a different solution, say:

$$223191^2 + 119512^2 = 145^5$$

```
i.e.:  49814222481 + 14283118144 = 64097340625
```

Remember that your routine must work for arbitrary integer values of N >= 2, not just 5 (within the HP-15C

accuracy and range limitations, of course). In a few days I'll post my own solution, which is a small, HP-15C-specific **12-step routine** (not counting LBL A or RTN). Let's see yours !

Note: Although both this mini-challenge and my solution are HP-15C-specific, solutions for other models are welcome, of course.

Best regards from V.

Re: New HP-15C mini-challenge !

*Message #2 Posted by **hugh steers** on 13 Dec 2005, 7:05 p.m.,*
in response to message #1 by Valentin Albillo

right, as a logtime fan of the 15c. here's my first stab at 19 steps. i am wasting space adjusting loops and stack which is annoying.

```
LBLA
STO 0
DSE 0
RD
I
ENTER
ABS
X^2
R/S
X<>Y
ENTER
ENTER
ENTER
LBL 1
*
CHS
DSE 0
GTO 1
RTN
```

examples

2 ENTER 3 ENTER 2 ENTER LBL A gives c = 13 R/S to give 5 and (i) 12. Therefore 13^2 = 5^2 + 12^2

3 ENTER 4 ENTER 5 ENTER LBL A gives first c = 25 R/S to give 1875 and (i) 2500 so therefore 25^5 = 1875^2 + 2500^2 (claim).

:-)

Re: New HP-15C mini-challenge !

*Message #3 Posted by **PeterP** on 14 Dec 2005, 12:31 a.m.,*
in response to message #1 by Valentin Albillo

Valentin, you truly have me hooked! Having joined the HP community only very recently I'm right now going through all the historical SSMCs. Just finished #6 (only 5 more to go :-( ) when I saw this mini-challenges and could not resist. My attempt is not for a HP 15C (don't own one, but appreciated the "hint"...), but for my trusty 41, not very short (20 lines without the Lbl) yet relativly fast as it does the (some?) trick in one run without any loops and works with Size 000.

Entry: n, enter, seed1, enter, seed2. Output: C in x, a in y, b in z. with C^n = a^2 + b^2

Here is the listing

```
Lbl ZZ
R-P
Rcl Z
St/Z
```

```
1/x
y^x
P-R
Int
Incx
x<>y
Int
Incx
x<>y
R-P
Sto Z
R/^ (RollUp)
St* Z
y^x
P-R
R/^
x^2
End
```

Edited: 14 Dec 2005, 12:34 a.m.

What is "Incx"? [NT]

*Message #4 Posted by **Karl Schneider** on 14 Dec 2005, 1:51 a.m.,*
in response to message #3 by PeterP

No Text

X => X + 1 [NT]

*Message #5 Posted by **Valentin Albillo** on 14 Dec 2005, 4:35 a.m.,*
in response to message #4 by Karl Schneider

Best regards from V.

Re: New HP-15C mini-challenge !

*Message #6 Posted by **hugh steers** on 14 Dec 2005, 6:03 a.m.,*
in response to message #3 by PeterP

hi peter,

intriguing! can you explain Z here. what does that do on a 41? thanks.

Re: New HP-15C mini-challenge !

*Message #7 Posted by **PeterP** on 14 Dec 2005, 9:50 a.m.,*
in response to message #6 by hugh steers

Z is just the stack register Z. 41 has no inate complex abilities (if that's what you thought it might be), unless you use Angel's wonderful rom. Here the P-R's and R-P's do the best they can (actually, I can...) to cope for this shortcoming of the 41 vs the 15.

Cheers

Peter

Re: New HP-15C mini-challenge !

*Message #8 Posted by **Valentin Albillo** on 14 Dec 2005, 6:21 a.m.,*

in response to message #3 by PeterP

Hi, PeterP:

PeterP wrote:

"Valentin, you truly have me hooked!"

> Why, thank you very much. That's precisely why I do take the trouble to concoct them in the first place.

"I'm right now going through all the historical SSMCs. Just finished #6 (only 5 more to go :-( )"

> You mean "6 more to go", right ?. Or did you miss "S&SMC#12: Squaring cubes !" ? ... :-)

"when I saw this mini-challenges and could not resist."

> There are a lot of them, most for the HP-15C, but I'm not counting.

I'll comment on your solution and all the others within a day or two. Thanks again for your interest and

Best regards from V.

Edited: 14 Dec 2005, 6:23 a.m.

Re: New HP-15C mini-challenge !

*Message #9 Posted by **PeterP** on 14 Dec 2005, 9:42 a.m.,*
in response to message #8 by Valentin Albillo

... already did #12, even posted a solution i believe...It's what got me into this "lovely mess" in the first place! ;-)

Incoming S&SMC#13 will have a 'prize' ...

*Message #10 Posted by **Valentin Albillo** on 14 Dec 2005, 9:48 a.m.,*
in response to message #9 by PeterP

... which perhaps you'd find interesting, so if you feel like getting it, get ready and sharpen your HP-calc programming skills *and* mathematical ingenuity, you'll need them both.

Thanks for your kind comments and best regards from V.

Re: New HP-15C mini-challenge !

*Message #11 Posted by **Karl Schneider** on 14 Dec 2005, 12:38 a.m.,*
in response to message #1 by Valentin Albillo

Valentin --

Interesting little math problem. I have a few observations:

1. Setting Y and Z as the upper and lower limits of a and b will bound the search range of the solution (sort of like SOLVE).
2. All possible values of c could then be determined from Y and Z.
3. Even values of c require that a and b are both even, or both odd.

4. Odd values of c require exactly one odd value of either a or b.
5. If the loop-counter functions ISG or DSE for a and b are used directly, the maximum value of 999 would preclude your first solution.
6. Your second solution requires 11 significant digits for both terms, outside the display range of the HP-15C. I'm sure there's a workaround.

Without some applicable mathematical theorem that would make the problem simple, I don't have a solution to present...

(But, as I was writing this, Peter apparently did!)

-- KS

Edited: 14 Dec 2005, 12:48 a.m.

Re: New HP-15C mini-challenge !

*Message #12 Posted by **Eamonn** on 14 Dec 2005, 5:51 p.m.,*
in response to message #1 by Valentin Albillo

Hi Valentin,

I have to admit that I did not solve the math part of this challenge, so I cheated on this part by looking at the solutions provided by others. After that I understood the basic approach, so I had a go at implementing a program for the HP-15C. Here is a 12 line (not including LBL & RTN) solution for the HP-15C:

```
LBL A
FIX 0
Rv
I
ENTER
ABS
X^2
R/S
X<>Y
R^
Y^X
R/S
Re<>Im
RTN
```

The program displays results using FIX 0 display mode. This is done so that the program always displays an integer. Note that the program can be shortened if the HP-15C is configured for FIX 0 mode before running. The FIX 0 command in the program can be removed, resulting in an 11 step solution.

Additionally, the two R/S commands and the Re<>Im command are included for more user friendly output. If they are omitted, then we get the following eight line program (again, not including the LBL A and RTN lines). The result for 'a' is displayed when the program finishes, 'b' can be displayed by entering Re<>Im and 'c' can be displayed by entering X<>Y.

```
LBL A
Rv
I
ENTER
ABS
X^2
X<>Y
R^
Y^X
RTN
```

Here are some sample results (12 line program)

```
Test run 1
```

```
----------
1 ENTER 4 ENTER 5 fA
---> 17 (=c)
R/S
---> 1121 (=b)
R/S
---> 404 (=a)


ie. 404^2 + 1121^2 = 17^5


Test run 2
----------
8 ENTER 9 ENTER 5 fA
---> 145 (=c)
R/S
---> -119512 (=b)
R/S
---> -223191 (=a)


ie (-223191)^2 + (-119512)^2 = 145^5


Test run 3
----------
1 ENTER 12 ENTER 5 fA
---> 145 (=c)
R/S
---> 102241 (=b)
R/S
---> 231612 (=a)


ie 231612^2 + 102241^2 = 145^5
```

Full credit goes to Hugh and Peter for figuring out what needed to be done to solve the challenge, and of course to Valentin for the mini-challenge itself.

Eamonn.

Re: New HP-15C mini-challenge !

*Message #13 Posted by **hugh steers** on 14 Dec 2005, 9:10 p.m.,*
in response to message #12 by Eamonn

Most Excellent! doh! i completely missed the y^x idea.

so, read this and weep Valentin :-) only 10 steps (not counting LBL A + RTN), all answers positive and not even 15c specific.

```
LBL A
RD
->P
X^2
R/S
SQRT(X)
R^
Y^X
->R
R/S
X<>Y
RTN
```

the idea is based on both Eamonn and Peter plus my own original hacks and in the best of humor.

example 1 ent 7 ent 5 lbl a, gives c=50 then r/s gives 17,500 r/s gives 2,500. therefore 50^5 = 17500^2+2500^2.

happy hacking!

Edited: 14 Dec 2005, 9:25 p.m.

Re: New HP-15C mini-challenge !

*Message #14 Posted by **PeterP** on 14 Dec 2005, 10:37 p.m.,*
in response to message #13 by hugh steers

You guys are amazing!

I was thinking of the relationship between nth root in complex space and X^2 + Y^2. However your tricks are way above me. Would you mind to explain old Foolish me what the math behind your tricks is? maybe for 10 lines a line-by-line analysis would not be too long...

Thanks!

Cheers

Peter

Re: New HP-15C mini-challenge !

*Message #15 Posted by **hugh steers** on 15 Dec 2005, 10:18 a.m.,*
in response to message #14 by PeterP

hi peter,

my original idea is based on a plan for generating the solutions by repeated multiplies. the sum of two squares is closed under multiplication;

(a^2+b^2)(c^2+d^2) = (ac – bd)^2 + (ad + bc)^2 ie another sum of two squares.

so it occurred to me that, given any starting a & b, let N = a^2 + b^2 then we must have N^2 = (a^2+b^2)(a^2+b^2) and it must also be the sum of two squares by the above formula and you can keep going to generate any N^m as required in terms of two squares.

i also noticed that the above is the same way complex numbers multiply.

(a+ib)(c+id) = (ac-bd) + i(ad + bc)

except that i was getting negative real parts. i wanted positive ones. so i changed the sign each time and carried on multiplying. it was you that made me realise i didn't need to do this and should keep the negative cases – in which case there was no need for a loop to multiply, just use y^x. the other shocker is that the complex number treatment can also be done in polar coordinates. in (r,theta)^n = (r^n,n*theta). which means the 15c complex mode is not strictly required.

and then i had a very cheeky idea. my original plan of negating the real part of a complex number in polar terms means (r,theta) -> (r, pi – theta). so therefore,

```
(1 times)  (r, theta)
(2 times)  (r^2, 2*theta) -> (r^2, pi – 2*theta)
(3 times)  (r^3, pi – 2*theta + theta) = (r^3, pi – theta) -> (r^3, theta)
```

so the theta remains the same for odd powers! so we can get away with (r,theta)^n = (r^n,theta) when n is odd, but only for the purposes of retaining two squares – not in general.

However, my cheeky idea was too cheeky because even powers went wrong. Eamonn has applied the fixup for them. However, just doubling theta would also fix it. but i cant see a trick for that.

my complex number (re)attempt came out as; LBL A, RD, I, ENT, R^, Y^X, R/S R<>I, R/S, RD, ABS, X^2, RTN

which, when i compare it to Eamonn's original, is really the same! so that's not a new answer. i was hoping to somehow squeeze it down a bit more by not using the complex number mode and using instead a R->P trick.

Re: New HP-15C mini-challenge !

*Message #16 Posted by **PeterP** on 15 Dec 2005, 11:17 a.m.,*
in response to message #15 by hugh steers

Thanks Hugh, that makes sense, very neat indeed!

I was thinking of a thing about the nth power diophant equation X^2 + Y^2 = Z^nth I read once. It states something like the integer solution has to be a nth root of (X+iY), lets call it (a~ + ib~), with integer (a~,b~). So I "foreced" an integer solution by taking the nth root and making the solution intger via "INT" to create a solution (a + ib). C = a^2 + b^2, and X and Y are the coordinates of (a + ib)^n.

I'm wondering if the complex abilities of the 15c combined with your wizardy would maybe yield a shorter than 12 step solution...

```
stack loaded with either seed1/seed2/n or n/seed1/seed2 depending on how the
15c needs it loaded for the nth root calc.


nth root   ------> yielding (a~,b~)
Int
x<>y
Int        ------> yielding integers (a,b)
nth power  ------> yielding X,Y in the real and imaginary parts
LastX C
Abs or Norm -----> yielding C (as a^2 + b^2)
```

(I realize we'll need someway of recouping n after the root operation for the nth power...)

Please accept my appologies if the above is a) wrong b)stupid or c)all of the above. As I stated earlier, you and Eannon (and Valentin) are way above me, just trying to play with the big guys :-)

Cheers

Peter

Re: New HP-15C mini-challenge !

*Message #17 Posted by **Eamonn** on 14 Dec 2005, 10:50 p.m.,*
in response to message #13 by hugh steers

Hi Hugh,

Based on the comments in your post, I'm sure that you realize that your program does not always return integer solutions for a and b. For example, using an example form an earlier post, with p1=2, p2=3 and N=2, your program returns 13 for c, but 10.8167 for a and 7.2111 for b.

However, this can be fixed with the addition of four more program steps, as shown below. This leads to a 14 line solution that will work on many HPs. Testing with the above inputs returns c=13, a=5 and b=12.

Best Regards,

Eamonn.

```
LBL A
RD
->P
X^2
R/S
SQRT(X)
R^
Y^X
X<>Y   <- Here are the additional program steps
LASTx  <-
*      <-
X<>Y   <-
->R
R/S
X<>Y
RTN
```

Edited: 14 Dec 2005, 10:51 p.m.

Re: New HP-15C mini-challenge !

*Message #18 Posted by **hugh steers** on 15 Dec 2005, 9:03 a.m.,*
in response to message #17 by Eamonn

hi eamonn,

yes i knew that some answers were not integers, although i thought it was down to numerical inaccuracy of the machine. non-small input numbers give off-integral results, for example.

looks like its wrong for some small inputs too, which means it can't be called a solution. drat!

thanks for your fixup.

:-)

Edited: 15 Dec 2005, 9:04 a.m.

My original solution and comments

*Message #19 Posted by **Valentin Albillo** on 15 Dec 2005, 4:50 p.m.,*
in response to message #1 by Valentin Albillo

Hi all,

Thanks to all of you who posted solutions or comments to my 15C mini-challenge. Hugh Steers gave an early solution employing the correct approach, and then Eamonn almost nailed my original solution. I'm very happy to see the high level of the contributions posted, and I'm sure they enjoyed a lot discovering and implementing the underlying math necessary for the optimum solution.

As for the math itself, Hugh already explained it in detail so no need to repeat it here. As he said, it all depends on the fact that the product of integers which are the sum of two squares is itself the sum of two squares (closure) and there's an exact correspondence with the product of complex numbers. From this, it's trivial to

demonstrate that positive integer powers of integers representable as the sum of two squares can themselves be represented likewise, and complex exponentiation will produce the required components at once.

This beats any other approach (such as searching) hands down, and results in an extremely short program, which further produces a solution extremely quickly, even if the computed values of a, b, c are such that squaring and adding them would exceed the 10 digits available.

For the record, my original solution was:

```
LBL A
Rdn
 I
ABS
LASTX
Rup
Y^X
R/S
Re<>Im
R/S
CF 8
X<>Y
X^2
RTN
```

which, not counting LBL and RTN, is 12 steps long, as stated in my original post. However, it uses CF 8 to cancel complex mode, which isn´t a requirement, only good housekeeping manners. Removing it brings the solution down to 11 steps, and Hugh Steers came up with virtually the same solution after some editing of his first attempt.

A couple of nice solutions:

$$999^2 + 1432^2 = 145^3$$

$$223191^2 + 119512^2 = 145^5$$

That's all. Hope you enjoyed this mini-challenge, in view of the quality of the contributions I certainly did, so thanks to all of you who posted and/or were interested and

Best regards from V.

Note: the incoming S&SMC#13 won't be such a piece of cake but it will be highly (and unexpectedly) astounding from a mathematical point of view, and further it'll include a prize (well, sort of) for those people who succeed in solving it. Stay tuned.

Re: My original solution and comments

*Message #20 Posted by **PeterP** on 16 Dec 2005, 1:09 a.m.,*
in response to message #19 by Valentin Albillo

Valentin,

thanks for this, I learned a lot. Also from Hugh, Eamonn and the others, many of which I started to appreciate a lot in my ongoing pursuit in solving the old SSMC's (starting at #12 I'm now down to #4...) Unforunately my knowledge and capabilities in math are not advanced enough - Valentin almost always presents like a wizard a solution of the old "as one can easily see" form. And calling this mini-challenge a piece of cake scared me already for SSMC13, I might have to sit that one out...

Anyway, inspired by all the brain here, I loaded the fabulous 41z mod from Angel Martin onto my 41 (I think you Valentin also contributed there a program, right?) and tried a modified version of my original solution.

If one requires integer starting points, not too large, it appears that the problem is solvable in no less than 6(!) steps (not counting the lbl and rtn) using the theorem I mentioned above. The solution below works fine on my 41 and should work with very little translation on a 15c as well.

Limitations: a) for even moderetaly high n it quickly produces large solutions, potentially running into rounding errors. b) it almost always produces negative a, b which still fullfill the initial request, yet are a bit less pretty.

I'm sure you guys can find more limitation, yet I thought I throw it in the mix, given its "length".

```
Input : n enter, intseed1 enter, intseed2 enter
Output: C, R/S then yields a in x, b in y (one could display them together as well with
ZView, yet I find it more convenient to have the solution in x and y)


Lbl aa
Znorm
R/S ------> that is C
RDN
LastZ
RollUp
Z^x
Rtn ------> a in x-reg, b in y-reg
```

Cheers

Peter

PS: a final, but huge, thanks goes to Dave for letting us have so much fun through his forum!

Edited: 16 Dec 2005, 1:12 a.m.

Re: My original solution and comments

*Message #21 Posted by **Ángel Martin** on 16 Dec 2005, 4:44 a.m.,*
in response to message #20 by PeterP

Thanks Peter for the praise. Glad to see that the 41Z is put to work in here! (still one of my favorite modules if not the most).

Regards, ÁM

BTW this alternative listing saves you one step, albeit it's the same size in bytes:

Lbl aa
ZNORM
R/S ------> that is C
LASTZ
RCL Z
Z^X
Rtn ------> a in x-reg, b in y-reg

Edited: 16 Dec 2005, 4:54 a.m.

Re: Wow, down to 5 Steps! [NT]

*Message #22 Posted by **PeterP** on 16 Dec 2005, 8:36 p.m.,*
in response to message #21 by Ángel Martin

Cheers

Peter

PS (I use all of your fabulous modules a lot...)

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HP48G quick start guide

*Message #1 Posted by **jose amram** on 11 Dec 2005, 9:03 p.m.*

Help anyone! I need an HP48G quick start guide. If you have one, even in digital form, please contact me. Thanks. J. Amram Altamonte Springs, FL 407-331-7553

Re: HP48G quick start guide

*Message #2 Posted by **Eric** on 11 Dec 2005, 9:49 p.m.,*
in response to message #1 by jose amram

They can be downloaded direct from HP-

http://h10025.www1.hp.com/ewfrf/wc/manualCategory?dlc=en&lc=en&product=58443&lang=en&cc=us&

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lcm program on hp 33s

*Message #1 Posted by **kevin** on 11 Dec 2005, 7:03 p.m.*

does anybody know a program for finding the lcm of two numbers on the hp33s (or hp 32s or 32sii)?

Re: lcm program on hp 33s

*Message #2 Posted by **Hal** on 11 Dec 2005, 11:57 p.m.,*
in response to message #1 by kevin

Hi Kevin,
I just banged out this very simple, brute force program for a 33s that seems to work. Enter yor two arguments into the X and Y stack registers and XEQ L. The LCM will show in the display when finished. The bigger the arguments and the higher the LCM, the longer it takes. I put in 5000 and 5002 and it took about a munute to return an lcm of 12505000. 50 and 57 took 3 seconds to return 2850. Best regards, Hal

The program:

```
lblL
x>y?
x<>y
stoA
x<>y
stoB
2
stoC
lblO
rclC
rclB
*
rclA
/
FP (fractional part)
x=0?
gtoQ
1
sto+C
gtoO
lblQ
rclC
rclB
*
rtn
```

Re: lcm program on hp 33s

*Message #3 Posted by **Hal** on 12 Dec 2005, 1:51 a.m.,*
in response to message #2 by Hal

Actually the program I submitted in the posting above was predicated on the assumption that the LCM has to be at least twice the larger argument, which is actaully not true (my bad)...the LCM could be the larger argument itself. Easy fix...just change line seven to 1.

Hal :)

Re: lcm program on hp 33s

*Message #4 Posted by **Katie Wasserman** on 12 Dec 2005, 10:21 a.m.,*
in response to message #1 by kevin

Here are LCM and GCD routines for the 32SII/33S that I came up with. Note that LCM(m,n)= m x n / GCD(m,n) and LCM is computed here using Euclid's method. It's really fast, worst case is on the order of log base 2 of the smaller of m, n.

```
LCM: call with m,n in x,y return with LCM in x
uses: A, B, x,y,z,t


L01 LBL L
L02 STO A
L03 x<>y
L04 STOx A
L05 XEQ G
L06 RCL A
L07 x<>y
L08 /
L09 RTN


GCD: call with m,n in x,y return with GCD in x
uses: B, x,y,z,t


G01 LBL G
G02 x>y?
G03 x<>y
G04 STO B
G05 0                 | these 7 instructions are just
G06 ENTER             | to compute y mod x.  On a 33S
G07 CMPLX+            | You can replace these with
G08 /                 | the single instruction:
G09 IP                | RMDR
G10 x                 |
G11 -                 |
G12 RCL B
G13 x<>y
G14 x>0?
G15 GTO G
G16 RCL B
G17 RTN
```

Re: lcm program on hp 33s

*Message #5 Posted by **Valentin Albillo** on 12 Dec 2005, 11:12 a.m.,*
in response to message #4 by Katie Wasserman

Hi, Katie:

In your 1st routine, namely:

```
L01 LBL L
L02 STO A
L03 x<>y
L04 STOx A
L05 XEQ G
L06 RCL A
L07 x<>y
L08 /
L09 RTN
```

you can save an additional step by replacing the final

```
RCL A, X<>Y, /
```

by the simpler:

```
L06 STO/ A
L07 X<> A
```

which is one step shorter, slightly faster, and leaves the GCD in A and the LCM in X. Or you can simply use

```
L07 RCL A
```

instead of

```
L07 X<> A
```

to get the GCD in Y and the LCM in X, also one step shorter.

Best regards from V.

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49G+ buttons

*Message #1 Posted by **Chad Wagner** on 11 Dec 2005, 4:59 p.m.*

Greetings, Has the reliability of the buttons on the 49G+ improved to the point they can be trusted? I pound on the keys pretty hard so it might not be much of an issue for me. I would like to return to the days of buying new machines at an affordable price. I am an old consruction survey layout gradesetter guy. I have owned several of most HP models since 1975. Destroyed them all. I no longer need to hook up to an instrument. At work these days I use GPS (a Trimble Rover Controller)which as a layout tool is really incredible. Rugged too! But as a calculator it really stinks. My company's trainer says Trimbles Survey Pro Rover Controller has too many problems and I won't be getting one of those (mainly because you have to be a rocket scientist to understand the GPS calibration residuals it spits out, I hear)(nothing against the actual rocket scientists who visit this site) So when our model builders are not keeping up I need to make up my own stuff and press on. Plus I truly enjoy shooting holes in the numbers they do give me with my own calculations. I need the alignment calculating ability of the old TDS48 Survey Pro. As I prepare to send my latest handful of 48's and 42's to fixthatcalc.com to get fixed I am considering getting a 49G+ and Ted Kerbers D'Zign Transportation PAC for it. Will it work for an old button masher like me? I would appreciate anyone who knows the current state of these machines giving me a clue. Thanks! CW

Re: 49G+ buttons

*Message #2 Posted by **Frank Boehm (Germany)** on 11 Dec 2005, 5:09 p.m.,*
in response to message #1 by Chad Wagner

I'd suggest building a custom calculator. Just pick the keyboard mechanics of a Panasonic JE-850U or even better Sharp QT-8 and the electronics of the HP. Might be a nice tooling job for the weekends to come ;) (I can promise you: it is impossible to destroy these keys. They are Reed relais based and one key has more metal in it than your whole 48/49. I'd expect them to last for a million keypresses...)

Re: 49G+ buttons

*Message #3 Posted by **Howard Owen** on 11 Dec 2005, 5:38 p.m.,*
in response to message #1 by Chad Wagner

comp.sys.hp48 might be a better place to ask for opinions abount the current state of the 49G+. As far as I can tell, there are complex interactions between hardware and software releases that fix some of the problems for everybody, and all of the problems for somebody. But not all of the problems for everybody. (Odd sense of deja vu there. 8) So I don't think anyone can offer a guarantee that if you go in and plunk down your money for a new 49G+, and load the latest OS, that you're not going to have any problems. Personally, I've had no trouble with my younger the six months 49G+, running the 2.00 release and them the latest one. I have a heavy hand on the keyboard too, so that could partly explain it. However if you go to comp.sys.hp48, you'll hear many, many complaints, and read anecdotal accounts tending the other way.

Good luck!

Edited: 11 Dec 2005, 5:39 p.m.

Re: 49G+ buttons

*Message #4 Posted by **Gene Wright** on 11 Dec 2005, 6:20 p.m.,*
in response to message #1 by Chad Wagner

Another option is to buy a 49g+ from a store where you can return it if you don't find it acceptable.

HP should warranty the unit if you don't like the buttons, but that would involve a return/replacement.

So, best recommendation (if possible) is to determine a store's return policy and if they allow a return because you are dissatisfied, then you have no real risk.

And, I think Ted Kerber's software is very good.

Gene

P.S. I have five 49g+ calculators and only the first (beta) unit ever gave me much of any trouble with the keyboard. It may depend on how you push the buttons, it may be luck of the draw, it may depend on the position of the stars. :-) I'm not sure and if I could figure it out, I'd make lots of money giving exact problem fixes!

Re: 49G+ buttons

*Message #5 Posted by **Chad Wagner** on 11 Dec 2005, 7:19 p.m.,*
in response to message #4 by Gene Wright

Thanks Gene, that will be a good way to go about it.

Re: 49G+ buttons

*Message #6 Posted by **John Smitherman** on 12 Dec 2005, 9:37 a.m.,*
in response to message #4 by Gene Wright

> Quote:
>
> I have five 49g+ calculators and only the first (beta) unit ever gave me much of any trouble with the keyboard.

Hi Gene. What s/n's do your five 49G+'s have? I've a 49G+ with s/n 428 which has been trouble free operating under ROM's 1.23 and the latest 2.0.1 build 80.

Regard,

John

Re: 49G+ buttons

*Message #7 Posted by **db (martinez, ca.)** on 12 Dec 2005, 12:45 a.m.,*
in response to message #1 by Chad Wagner

Chad;

A surveyor i know just got a 49g+ and as far as hardware goes; it works flawlessly. That's not saying that you will buy one from the same good lot that his came from so following Gene's advice is a good idea. It is not pleasant as a calculator.

I do the same jobs that you do, so i guess we're both in local 3. I have used D'zign software in the 41, 42, and 48. It was great and i will assume that the 49 version is at least as good. You will have to learn to think like Ted, but you'll be glad you did.

I've used the Trimble SCS 9000 but not the Rover Controller that you use. The only reason i didn't toss it under a D-10 is that they kept saying that we were getting a D-11. If you like your Trimble, you'll want to take a Topcon home for the weekend.

-db

Re: 49G+ buttons

*Message #8 Posted by **Chad Wagner** on 12 Dec 2005, 1:07 a.m.,*
in response to message #7 by db (martinez, ca.)

We have a D-11, THAT is a peice of iron, it is heavy enough to crush the less dense basalt boulders into dust and rubble when it goes over them. and I like my Trimble 5800 Rover Controller enough to keep out of the way of the 11. I used Ted's software on my 48, and still use it on my 42's. Thanks for the feedback fellow Local 3 member.

Have you seen this product?

*Message #9 Posted by **Matt Kernal (US)** on 12 Dec 2005, 11:23 a.m.,*
in response to message #8 by Chad Wagner

Tim Wessman and John Evers will eventually be selling this 49G+-based instrument:
http://www.pssllc.com/

Matt

Re: Have you seen this product?

*Message #10 Posted by **Tim Wessman** on 12 Dec 2005, 3:29 p.m.,*
in response to message #9 by Matt Kernal (US)

We are actually going to start selling the software in about a months time. I am working on getting the manual finished, and then it will be good to go.

The case and full data collection will be about Feb. Tooling for injection molding takes a lot of time and $$$.

TW

Re: 49G+ buttons

*Message #11 Posted by **Han** on 12 Dec 2005, 10:47 a.m.,*
in response to message #1 by Chad Wagner

Out of curiosity, what type of repairs did your calculator need?

Han

Re: 49G+ buttons

*Message #12 Posted by **Chad Wagner** on 13 Dec 2005, 12:07 a.m.,*
in response to message #11 by Han

Most of the calculators I have destroyed fall off the hood or tailgate of my pick-up truck or fall off my four wheeler where I forget them because folks keep rudely pestering me to figure out their silly problem and go pound wood sticks in the ground for them so they can keep going. They then get run over usually by some form of heavy equipment, sometimes even by me in my pick-up or four wheeler. Sometimes they last long enough to get all kinds of sand and grit in them, I got tree pitch in one once, that will make your keys stick. Once I leaned over to reach a roll of plans and crushed the screen of a 48GX in an environmental case with my elbow. Some get repaired, some get laughed at and thrown in the backfill. This is not a complete list but sadly, it is true. Fortunately it rarely happens anymore now that I have grown older and no longer care what anyone thinks. I'll get to them as soon as I am ready.

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CCD vs PPC

*Message #1 Posted by **Calcfan** on 11 Dec 2005, 4:48 p.m.*

Hello, I have the hp41cx with this setup: 1 double x-memory modules, 1 novram module with ppc rom flashed and 1 advantage module. The question is would you change the ppc flash for ccd modified plus sandbox or other 4k virtual module? so far I like very much the ppc rom, and the manual is awesome, but I heard Raymond's ccd mod and sandbox is the best setup. Also can anyone tell me how many regs should I get with the 16k novram? says 1304 after heproom or hepdir Any oppinions? thank you

Re: CCD vs PPC

*Message #2 Posted by **Howard Owen** on 11 Dec 2005, 5:28 p.m.,*
in response to message #1 by Calcfan

I get 1304 from HEPROOM on my Nov-32 equipped CX. I have CCD OS/X and Toolbox occupying pages A and B on the bank this number comes from, so that is right for 8K (2 pages) of free RAM, which is also what HEPAX 002 shows.

I like the combination of HEPAX + CCD + Sandbox, myself. Since I have the Nov-32, I keep those two modules occupying pages 8-B in one bank, and their abbreviated 4K relatives in pages A and B of the other bank. That lets me use the MLDL features of the HEPAX in that bank, while normally using the 8K variants.

I've had a "real" PPC ROM for some time, and while the manual is instructive and fun to browse, I never had much use for any of the routines. With CCD, I use the extended CAT functions all the time. I haven't settled any of this for myself, though. I've only had the Nov-32 for a few days. 8)

Re: CCD vs PPC

*Message #3 Posted by **PeterP** on 11 Dec 2005, 7:27 p.m.,*
in response to message #2 by Howard Owen

That's pretty much exactely the set-up I have as well [with a rambox, no lucky owner of a NoVram yet:-( ] and love. CCD/OSX + Hepax + SandBox. One could argue for the Full CCD to use Matrix or the Advantage if one needs a lot of other stuff there as well. The CCD/Mod is also cool, yet the functions it has instead of the matrix turn out to be very similar to the SnadBox) Personally I'f use the CCD (either with or without the Matrix, depending on need) And the ToolBox is awesome.

Just 1 cent

Cheers

Peter

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OT: Email Vieira, L. C. (Brazil)

*Message #1 Posted by **Gileno** on 10 Dec 2005, 8:28 p.m.*

I need your email. Please. Subject: MLDL

Thank you.

Here: Email Vieira, L. C. (Brazil)

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 10 Dec 2005, 11:06 p.m.,*
in response to message #1 by Gileno

Hi, Gileno;

be my guest: lcvieira at quantica dot com dot br (trying to avoid SPAM...)

You can also click on the name in blue, in the head of the head of this very post, here. I`m a registered contributor, and my e-mail address is available.

I'm waitting.

Best regards.

Luiz

Edited: 11 Dec 2005, 2:00 a.m.

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Do you miss the 48GX?

*Message #1 Posted by **Massimo Gnerucci (Italy)** on 10 Dec 2005, 1:38 p.m.*

Hurry up!
There's a bargain waiting for you.

And shipping is free if you use BIN (only within USA, alas).
Massimo

Re: Do you miss the 48GX?

*Message #2 Posted by **Ed Look** on 10 Dec 2005, 2:15 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

Terrible.

$2000 USD for a HP 48GX calculator.

$300-400 for a HP 32SII calculator.

roughly the same for a HP 42S calculator.

<sigh>

I'd love to own any one of these, but for what they ask, really, I'd rather go out and buy a HP 33S or HP 49G+

Re: Do you miss the 48GX?

*Message #3 Posted by **Stephen Easterling** on 10 Dec 2005, 4:30 p.m.,*
in response to message #2 by Ed Look

You should buy a 33S and 49G+. They're better anyway.

Edited: 10 Dec 2005, 4:31 p.m.

Re: Do you miss the 48GX?

*Message #4 Posted by **Raymond Del Tondo** on 10 Dec 2005, 6:03 p.m.,*
in response to message #3 by Stephen Easterling

> Quote:
>
> You should buy a 33S and 49G+. They're better anyway.

Not really, if you consider the hardware quality of at least the '49g+'...
Just take a look at the related threads in comp.sys.hp48

I doubt there will be any 49g+ still working in ten years;-)

Raymond

Re: Do you miss the 48GX?

*Message #5 Posted by **Ed Look** on 10 Dec 2005, 7:07 p.m.,*
in response to message #3 by Stephen Easterling

Oh, I already did, and as Paul Brogger mentioned once, among many others here, the 33S is one I generally reach for the most... at work... and I use the 32SII at home only because I'm so used to it.

But the 33S, cosmetics notwithstanding, has really grown on me to the point I love it as much as the 32SII and 34C; the 49G+, though has yet to displace the 48G or G+ in my hands, and I suspect that is only because of familiarity, not so much their function or power.

And you're right, both really ARE better: you can put in longer programs, so long as you conserve labels, but that was the case with ALL HP scientific programmables. It includes a constants library, equation library, which obviates the need to thumb through books and tables, or my own foggy memory. Again, the old ones really are better only in their cosmetic design.

And, equally as good and as important: you can get it for $40-60 USD, which for a machine of this power is a small bargain.

Re: Do you miss the 48GX?

*Message #6 Posted by **brian healy** on 14 Dec 2005, 11:19 a.m.,*
in response to message #5 by Ed Look

Ignoring the cosmetics of the 33S, it's not surprising that 33s is growing on us because it is based on such a great machine, the 32SII. The 33S just can't be beat for a basic RPN calculator without dropping hundreds of dollars on ebay for an older model that is slower with less memory.

Re: Do you miss the 48GX?

*Message #7 Posted by **Howard Owen** on 10 Dec 2005, 2:27 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

As eBay "price pornography" goes, that one's not bad. I'm sure it's the highest price I've seen for a 48GX + Data Collector + RAM csrd. That combo routinely runs around $400-$500, so this auction is "only" asking for a 5X multiple.

Re: Do you miss the 48GX?

*Message #8 Posted by **Gerson W. Barbosa** on 10 Dec 2005, 5:56 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

Ciao Massimo,

I have an even more lightly used 48GX (bought it brand new in the year 2000) and a 512K SMI RAM card.

Thinking of selling the whole set for just $1,500.00 and spending the hollidays in Rome... :-)

Regards,

Gerson.

Re: Do you miss the 48GX?

*Message #9 Posted by **Massimo Gnerucci (Italy)** on 10 Dec 2005, 6:06 p.m.,*
in response to message #8 by Gerson W. Barbosa

Ciao Gerson,
good luck for your proposed sale but... don't expect me to be the buyer ;-)
And, BTW, I **will** spend part of my winter holidays in Rome.

Massimo

Re: Do you miss the 48GX?

*Message #10 Posted by **Eddie Shore** on 11 Dec 2005, 12:42 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

Yes, I had one but lost it several years ago. However, the 49g+ more than makes up for it.

Now: reduced price and worldwide available!

*Message #11 Posted by **Massimo Gnerucci (Italy)** on 13 Dec 2005, 2:09 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

WOW! But no more free shipping!

Massimo

Re: Now: reduced price and worldwide available!

*Message #12 Posted by **Matthias Wehrli** on 13 Dec 2005, 2:39 p.m.,*
in response to message #11 by Massimo Gnerucci (Italy)

Hehehe, shipping to Switzerland is $135 ;) Do you know better Xmas-presents?

Re: Now: reduced price and worldwide available!

*Message #13 Posted by **Howard Owen** on 13 Dec 2005, 5:49 p.m.,*
in response to message #11 by Massimo Gnerucci (Italy)

An obvious disciple of P.T. Barnum, it looks like he's trying to find the upper limit of stupidity on eBay by offering progressively lower, but still outrageous prices.

Now, I'd just love to see Coburlin have some sort of seizure and bid at this price. It's pure spite, of course. 8)

Not a chance

*Message #14 Posted by **Coburlin** on 13 Dec 2005, 5:57 p.m.,*
in response to message #13 by Howard Owen

I'm not an idiot like you engineers and collectors.

Coburlin: Engineers And Collectors Are Idiots

*Message #15 Posted by **I, Claudius** on 14 Dec 2005, 5:27 a.m.,*

in response to message #14 by Coburlin

Always a pleasure to have never done a single business transaction with you. Happy Holidays!

Edited: 14 Dec 2005, 5:32 a.m.

Please, I, Claudius !

*Message #16 Posted by **Valentin Albillo** on 14 Dec 2005, 6:06 a.m.,*
in response to message #15 by I, Claudius

Hi, I, Claudius:

From the Computer Desktop Encyclopedia:

> *"Trolling"*
>
> *2.Posting derogatory messages about sensitive subjects on newsgroups and chat rooms to bait users into responding.*

Do you like taking the bait ? Do you actually believe for a moment that the troll that's posting under the Coburlin alias is the real Coburlin ?

Your namesake, Claudius, used to be a highly intelligent Roman emperor, as portrayed in the eponymous TV series. If you continue to take the bait and feed the troll, which posts for no other reason than to provoke naive people like yourself and rejoyce at their replies, perhaps yould should consider taking on a new, less paradoxical alias.

My only intention in this matter is to try and avoid yet another cascade of postings by the anonymous troll on one side, and the bait-takers on the other, which serves no purpose except to fill up the forum and the archives with garbage, to the troll's great satisfaction. In other words, I feel "verguenza ajena" when I see people like yourself biting the hook.

Best regards from V.

Point Noted

*Message #17 Posted by **I, Claudius** on 14 Dec 2005, 11:11 p.m.,*
in response to message #16 by Valentin Albillo

And of course, you couldn't resist the urge to further the subject...

Your point is not without merits, and has been noted. Happy Holidays!

Thanks and Happy Holidays to you [NT]

*Message #18 Posted by **Valentin Albillo** on 15 Dec 2005, 7:29 a.m.,*
in response to message #17 by I, Claudius

Best regards from V.

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HP-71B Versions and Bugs

*Message #1 Posted by **J-F Garnier** on 10 Dec 2005, 9:50 a.m.*

Hi HP-71B fans!

I updated my page about versions and bugs of the HP-71B, especially regarding version 1AAAA. I found a lot of informations in the HP IDS (Internal Design Specification) for version 1BBBB. Actually, I didn't review the 3000 pages, but I made a binary comparison between the 1AAAA and 1BBBB ROM. Each time I found a difference, I checked the corresponding IDS pages and very often comments explained the reason of the change.

I don't have the IDS for version 2CCCC (*it exists, let me know if you have it!*), and I was not able up to now to make the same study for 1BBBB-2CCCC differences. However, I checked the fixes of some 1BBBB bugs, and give a description of an interesting bug, still in 2CDCC ROM, related to "funny functions" (Math FNROOT, INTEGRATE for instance) and user-defined functions.

Many thanks to Gordon Dyer, for the lending of his 1AAAA machine some times ago.

J-F

Re: HP-71B Versions and Bugs

*Message #2 Posted by **Valentin Albillo** on 10 Dec 2005, 3:41 p.m.,*
in response to message #1 by J-F Garnier

Hi, Jean-François:

Thank you **very much indeed** for your excellent report on HP-71 bugs, impressive work both illuminating and useful. As for other 71B bugs not mentioned, may I remind you the one I discovered for the Math ROM, details of which can be found in my Datafile article HP-71B: "Math ROM Baker's Dozen (Vol. 1)", namely that trying to find out a real root (or ascertain that none can be found) of $\mathbf{x^2 + 1 = 0}$ by executing:

```
FNROOT(0, 0, FVAR * FVAR + 1)
```

does *not* terminate (at least not this side of geological times) as it should. I've seen this happen in 71B BBBB and CDCC, always with Math 1A (is there any other version ?). It doesn't happen with the HP-15C equivalent SOLVE routine.

Perhaps you would consider interesting to find out what FNROOT is doing in this particular case and why it doesn't exit in a reasonable time. I for one would be very interested to know and would be very obligued if you could shed some light on this subject. Certainly only a Saturn assembler *guru* like yourself can succeed at this endeavour. :-)

Thanks again and best regards from V.

Re: HP-71B Versions and Bugs

*Message #3 Posted by **Rodger Rosenbaum** on 26 Dec 2005, 7:09 a.m.,*

in response to message #2 by Valentin Albillo

Quote:

Hi, Jean-François:

Thank you **very much indeed** for your excellent report on HP-71 bugs, impressive work both illuminating and useful. As for other 71B bugs not mentioned, may I remind you the one I discovered for the Math ROM, details of which can be found in my Datafile article HP-71B: "Math ROM Baker's Dozen (Vol. 1)", namely that trying to find out a real root (or ascertain that none can be found) of $\mathbf{x^2 + 1 = 0}$ by executing:

```
FNROOT(0, 0, FVAR * FVAR + 1)
```

does *not* terminate (at least not this side of geological times) as it should. I've seen this happen in 71B BBBB and CDCC, always with Math 1A (is there any other version ?). It doesn't happen with the HP-15C equivalent SOLVE routine.

Perhaps you would consider interesting to find out what FNROOT is doing in this particular case and why it doesn't exit in a reasonable time. I for one would be very interested to know and would be very obligued if you could shed some light on this subject. Certainly only a Saturn assembler *guru* like yourself can succeed at this endeavour. :-)

Thanks again and best regards from V.

Valentin, I happened to notice that if you execute OPTION ROUND POS first, then it will terminate

---

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Functions/QRF/Manual for CCD Modified

*Message #1 Posted by **PeterP** on 10 Dec 2005, 2:07 a.m.*

Hi, playing around with all the mods that can be found here and TOS, I come accros the CCD Modified, which has some extra functions (CCD Plus) instead of the array functions. Anyone has a QRF or manual for those functions? One can figure out most of them, yet I'd still like to be sure...

Thanks!

Cheers

Peter

(Still hoping to get a QRF also for the ToolBox from Angel, after he gaves us the great SandMath and SandBox QRF's...)

Hitchhicking: Functions/QRF/Manual for BLDROM?

*Message #2 Posted by **Vieira, L. C. (Brazil)** on 10 Dec 2005, 8:54 a.m.,*
in response to message #1 by PeterP

Hi PeterP, all;

At TOS, there is a link to the BLDROM manual, but the link(s) to the actual file(s) in the page itself is(are) missing. Any chance that someone here has it?

There are a few other ROM module manuals available at the MoHPC DVD/CD set, but this one I have not found (did I search it all?). But I am not quite sure if Dave has ROM images available to download... or you refer only to the manuals?

In time: I prefer the classic CCD. When I read the text file after opening the .MOD file, I felt I'd find extra functionality, but I'd never sacrifice the matrix (array) functions. I like the way CCD deals with them.

Best regards.

Luiz (Brazil)

Re: Hitchhicking: Functions/QRF/Manual for BLDROM?

*Message #3 Posted by **Massimo Gnerucci (Italy)** on 10 Dec 2005, 1:24 p.m.,*
in response to message #2 by Vieira, L. C. (Brazil)

Hi Luiz,
you have mail!

Greetings,
Massimo

Re: Hitchhicking: Functions/QRF/Manual for BLDROM?

*Message #4 Posted by **PeterP** on 10 Dec 2005, 2:17 p.m.,*
in response to message #2 by Vieira, L. C. (Brazil)

Luiz,

I'm trying to optimize what to put into my HP for playing around and programming. Angel's Toolbox has a lot of great stuff, but also takes 8k. So believe it or not, I'm running out of pages to put stuff. As I do not use Matrix that often, I was thinking of using the Modified CCD. Another option is to use the CCD /X from Raymond and the Advantage mod. SO many options, so little time!

Anyway, for the CCD Modified, I'm only looking for the manual, the .rom is at TOS.

Now to something completetly different - what is the BLDROM? Would you mind forwarding me Massimo's email?

Cheers

Peter

What's a BLDROM?

*Message #5 Posted by **Howard Owen** on 10 Dec 2005, 3:46 p.m.,*
in response to message #4 by PeterP

Mirror is here.

From the cover page:

> Quote:
>
> This rom was intended as a plug in module, unfortunately, the author could not muster the $20,000 investment for such a device. I'm told that later ... HP lowered the cost, oh well. It is now being released or your enjoyment. Try out 64 functions in a 4K handcoded XROM 05

Also on the cover appears a summary of the contents:

- Utility Functions
- Single Stepping USer Code Assembler
- Display Functions
- Hexadecimal Tools
- Alpha Functions
- Nibble Process Fnctions
- Complex Number Functions
- Tone Generator
- LIFO Functions
- Key Assignment Functions
- Load Immediate Functions
- User Code Assembler Functions
- Some Examples

Re: Hitchhicking: Functions/QRF/Manual for BLDROM?

*Message #6 Posted by **Howard Owen** on 10 Dec 2005, 3:50 p.m.,*
in response to message #4 by PeterP

Actually, the *Sandbox* ROM takes 8K, but the *Toolbox* ROM only takes 4K. There's no QR or manual, but the latter looks like a subset of the former, which does have a nice manual. Also see the Alpha ROM which contains the alpha manipulation routines from Sandbox, plus quite a few more, also in 4K.

Re: Hitchhicking: Functions/QRF/Manual for BLDROM?

*Message #7 Posted by **Ángel Martin** on 15 Dec 2005, 6:20 a.m.,*
in response to message #6 by Howard Owen

Hello,

You can think of the SandBox as the "condensed" version that spawned these other four:

- 41Z (4k) - Has its own manual

- SandMath (8k but 'separable' in two independent blocks) QRG is available

- ToolBox (4k)

- ALPHA Rom (4k)

The "Modified CCD" is also from me. I always found the Matrix functions of the Advantage more suitable for real operation (and more complete with the high-level stuff), so the obvious "problem" was to remove them from the CCD. Many of the replacement functions are also in some of the roms listed above, think of it as an alternative as well.

Hope this helps to set the record straight.

Best, ÁM.

Edited: 15 Dec 2005, 5:26 p.m.

Re: Hitchhicking: Functions/QRF/Manual for BLDROM?

*Message #8 Posted by **Doug Wilder** on 14 Dec 2005, 1:31 a.m.,*
in response to message #2 by Vieira, L. C. (Brazil)

Hi Luis,

As automatic conversion to .pdf leaves much to be disired, a .doc format (Word 97) Manual is available for Bldrom 1B. If needed, download the free Word viewer from Microsoft. Drop me an email and the .doc file will be sent. To get my email click on my name above.

Best Regards

Manual for BLDROM: thanks, Doug!

*Message #9 Posted by **Viewira, L.C. (Brazil)** on 14 Dec 2005, 1:06 p.m.,*
in response to message #8 by Doug Wilder

Hello, Doug;

thanks for your time answering me.

You have mail (hopefully).

Best regards.

Luiz (Brazil)

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NSSBWS (Not-So-Short But Weirdly Sweet) HP-33s SLC (Single-Letter Challenge) # 01

*Message #1 Posted by **Paul Brogger** on 9 Dec 2005, 12:00 p.m.*

O.K., we all know the 33s' 33 storage registers and 26.5 program labels would seem to inhibit full utilization of its ~32K memory.

So, how about writing a program that "increases" the number of available registers, while minimizing the use of program labels in the process?

Specifically, using numeric-string manipulation techniques, write a program that stores, maintains and retrieves up to *54* separate values.

These values will necessarily be of lesser precision and/or range than what is available natively in the 33s' registers. How about positive and negative reals with 5 digits of precision, and exponents in the range 10^-99 -- 10^+99?

And how about doing it using only a *single* program label?

I'll share my solution on Monday.

Re: NSSBWS (Not-So-Short But Weirdly Sweet) HP-33s SLC (Single-Letter Challenge) # 01

*Message #2 Posted by **Gene Wright** on 9 Dec 2005, 12:16 p.m.,*
in response to message #1 by Paul Brogger

How about some more introductory information?

Such as...

routine inputs?

To store a number, what? Number in Y and "location" in X?

To retrieve a number, what? "Location" in X?

Does it keep or discard the arguments?

Etc. :-)

I'm very interested in this type of routine, since it might help address one of the basic short-comings of the 33S.

More: NSSBWS HP-33s SLC # 01

*Message #3 Posted by **Paul Brogger** on 9 Dec 2005, 12:43 p.m.,*
in response to message #2 by Gene Wright

Right -- sorry for being incomplete. I'd edit the original post, but that feature has been disabled (for, I think, good reason), so here's more:

I use label "D" (for "Double Memory") for mine.

To store a value, I put the value itself in stack y, and the storage location (1 <= x <= 54) in stack x, and "XEQ D". The routine stores the value, and returns the value as stored (normalized to 5 digits) in stack x.

To recover a value, I put the negated storage location in stack x (-1 >= x >= -54) and "XEQ D". The routine returns the specified value in stack x.

After a "store" call, stack z is returned in y; for recall, stack y & z are maintained in place. As written, the routine uses flags 3 & 4, but it could probably use other, more obscure flags & leave 3 & 4 to the calling programs.

My solution starts mapping pseudo-registers to actual storage way up in the 6 statistics regs (half-register locations 1-12), and proceeds down to register A (half-registers 53 & 54). So if the calling routine needs a few regs, it can keep its storage low in the alphabet, and limit the range of pseudo-index values employed.

My solution utilizes registers V-Z, and restores the original contents of i before returning.

Potentially, similar techniques could be used to store reals of greater precision but reduced range (6 digits & 10^-9 -- 10^+9), 7-digit integers, or even more, smaller integers (perhaps as many as 81 4-digit values?)

Breaking it apart to utilize several labels would make it shorter overall, faster, and easier to understand & maintain. But I was going for the extremes.

And, I won't feel quite so pathologically geek-ish if *someone* finds it useful!

Edited: 9 Dec 2005, 2:34 p.m.

Re: More: NSSBWS HP-33s SLC # 01

*Message #4 Posted by **ECL** on 11 Dec 2005, 5:59 p.m.,*
in response to message #3 by Paul Brogger

Paul,

I think I may be hip to what you're suggesting. Or I'm waaay off :)

Are you proposing something like this?

1. Have two values, 34.555 and 80977.

2. Convert both to similar format: 3.4555E01 and 8.0997E01

3. Multiply the second by a factor, say 10E5, and add it to the first, and subsequently store in one variable? (Kinda like the method of creating values for i? ie. xxxii.eeee?

I'm interested, in other words. ECL

Re: More: NSSBWS HP-33s SLC # 01

*Message #5 Posted by **ECL** on 11 Dec 2005, 6:30 p.m.,*
in response to message #4 by ECL

Sorry,

there were some errors.

I should have said that the second value would be divided by a sufficiently large number (1E+0X). Then the two would be added to equal 34.5550080997 which would be STO'd in 1 variable?

Interesting approach, if this is at all what you're thinking of :P

ECL

Re: More: NSSBWS HP-33s SLC # 01

*Message #6 Posted by **Paul Brogger** on 12 Dec 2005, 12:32 a.m.,*
in response to message #5 by ECL

That's essentially what I'm doing.

Keep playing around. There are more than a few twists.

I'd like to see how someone else would approach the problem.

Re: More: NSSBWS HP-33s SLC # 01

*Message #7 Posted by **Ed Look** on 12 Dec 2005, 1:12 p.m.,*
in response to message #6 by Paul Brogger

It sounds like you guys might be onto some form of a data compression algorithm!

Re: More: NSSBWS HP-33s SLC # 01

*Message #8 Posted by **Paul Brogger** on 12 Dec 2005, 2:01 p.m.,*
in response to message #7 by Ed Look

Not exactly "data compression" -- more like "data re-purposing" (if that makes sense).

I'm taking the twelve decmial digits of precision, 2.5 digits of exponent, and two signs (value and exponent) available for each HP-33s register, and encoding two "half-registers" in each, with a total of 10 digits of precision, four digits for exponents, and four signs (two value, and two exponent signs).

Over the weekend I rescued two more registers, so the routine can reliably encode and recall 58 different reduced-precision values.

(I've been spending WAY too much time playing with my calculator of late . . .)

I'll post the program listing tonight.

Re: NSSBWS (Not-So-Short But Weirdly Sweet) HP-33s SLC (Single-Letter Challenge) # 01

*Message #9 Posted by **Ed Look** on 10 Dec 2005, 8:59 p.m.,*
in response to message #1 by Paul Brogger

I'm not sure I can meaningfully contribute to this thread, but I can nitpick: do the XYZT stack registers count too?

If so, the HP 33S has 37 registers...

... ;P

Re: NSSBWS HP-33s SLC # 01

*Message #10 Posted by **Paul Brogger** on 10 Dec 2005, 11:38 p.m.,*
in response to message #9 by Ed Look

One nit-pick deserves another:

Thirty-*eight*, if we include LAST*x*.

;-}

A Solution: NSSBWS HP-33s SLC # 01

*Message #11 Posted by **Paul Brogger** on 12 Dec 2005, 7:01 p.m.,*
in response to message #1 by Paul Brogger

My solution to the single-letter challenge is posted as Article # 570.

Let me know if you've got any questions, corrections or optimizations.

(And BTW, I found the Forum note from March of 2004 where I first outlined this scheme.)

-- Paul B.

Edited: 13 Dec 2005, 1:50 p.m.

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Battery for CMT 64k Module for HP-71B

*Message #1 Posted by **T. Bergemann** on 9 Dec 2005, 10:54 a.m.*

It's unbelievable but the Battery in the old 64k Module for my HP-71B still shows 2.99V. (I think I bought the RAM module in 1989).

What kind of battery is it? Who sells replacement cells - just in case it dies over the cours of the next 25 years?

Thanks for your help.

See a picture here.

http://www.bergemann.com/HP71B-CMT64k-Battery.jpg

I appreciate your mail to

tom (a t) bergemann.com

Regards, t

Re: Battery for CMT 64k Module for HP-71B

*Message #2 Posted by **Garth Wilson** on 9 Dec 2005, 1:35 p.m.,*
in response to message #1 by T. Bergemann

It's good to know it still measures out to be new after all these years, because I have the same thing. I contacted CMT a couple of years ago, and there was no longer anyone there who even knew what an HP-71 [i]was[/i]. What a shame. Since I never remove mine and I keep good batteries in the computer all the time, that thin shiny battery in the module may never have gotten used. My main concern was just that it not start leaking. But if it's acting new in your case, I suppose it should be fine.

Edited: 9 Dec 2005, 1:36 p.m.

Re: Battery for CMT 64k Module for HP-71B

*Message #3 Posted by **T. Bergemann** on 10 Dec 2005, 8:43 a.m.,*
in response to message #2 by Garth Wilson

Garth,

Thanks for your kind reply. Good to know, that your module battery is healthy as well.

Imagine asking such a question in a shop: "Can I expect the backup to last as long as in my HP-71B?"

;-)

Regards T

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after decillion

*Message #1 Posted by **anna marie** on 9 Dec 2005, 9:42 a.m.*

What comes after decilion??? NOT INTEGER!!! i just wanna know

Re: after decillion

*Message #2 Posted by **John Cadick** on 9 Dec 2005, 9:50 a.m.,*
in response to message #1 by anna marie

A pretty complete table can be found at

http://mathworld.wolfram.com/LargeNumber.html

John

Re: after decillion

*Message #3 Posted by **Matt Kernal (US)** on 9 Dec 2005, 4:46 p.m.,*
in response to message #2 by John Cadick

The Wolfram table skips over "googol".

Where: 1 googol = 1.0×10^{100}

Example: "I'll sell you my HP 42S for 1 googol dollars".

Factoid: The "Google" search engine name came from the number "googol". While still in college, the soon to be founders of Google both used the number as an answer on an exam.

Matt

Re: after decillion

*Message #4 Posted by **Ed Look** on 9 Dec 2005, 11:52 a.m.,*
in response to message #1 by anna marie

This numerical nomenclature is based on Latin. In Latin languages extant today, numbers like 11 or 24 are still spoken as "ten and one, or twenty and four", much like the four and twenty blackbirds of the nursery rhyme.

So, for such systems, after "10"-illion would be "11"-illion, so after decillion would come undecillion, dodecillion, trisdecillion, etc.

Trisdecaphobia, anyone? After all, you're all calc folks!

Re: after decillion

*Message #5 Posted by **Thomas Okken** on 9 Dec 2005, 12:08 p.m.,*
in response to message #4 by Ed Look

> Quote:
>
> In Latin languages extant today, numbers like 11 or 24 are still spoken as "ten and one, or twenty and four"

Actually, they have special words for 11 and 12 (e.g. "onze" in French, not "dix-un"). Probably a legacy from the times when humans still had six fingers on each hand.

(Of course French must be the weirdest language for counting -- who the heck came up with the idea of pronouncing 95 as "four twenties fifteen"? Good thing the names of those large numbers are not based on that...)

Re: after decillion

*Message #6 Posted by **Valentin Albillo** on 9 Dec 2005, 12:26 p.m.,*
in response to message #5 by Thomas Okken

Hi, Thomas:

Thomas posted:

"Of course French must be the weirdest language for counting -- who the heck came up with the idea of pronouncing 95 as "four twenties fifteen"?"

> You've never heard of the English "fourscore", did you ?
>
> Or Abraham Lincoln's quote:
>
> *"Fourscore and seven years ago our fathers brought forth on this continent, a new nation, conceived in Liberty, and dedicated to the proposition that all men are created equal."*
>
> What do you suppose that "fourscore and seven" stands for ?
>
> In other words (Matthew 7): *"Why do you see the straw in your brother's eye, and the beam that is before your eye you do not notice?"*

Best regards from V.

Edited: 9 Dec 2005, 12:32 p.m.

Re: after decillion

*Message #7 Posted by **Etienne Victoria** on 9 Dec 2005, 12:44 p.m.,*
in response to message #6 by Valentin Albillo

Hi Thomas, Valentin,

Agreed!!

And this way of using "scores" (English) or "vingt" or "fiche" (irish according to my wife) reminds us that we've been using our hands and feets "fingers" to count & compute for a long time before RPN was invented.

All the best from France!

Etienne

Re: after decillion

*Message #8 Posted by **Crawl** on 9 Dec 2005, 1:01 p.m.,*
in response to message #6 by Valentin Albillo

Lincoln was trying to be poetic (some might say pretentious) due to the occasion. No English speaker would ever say "fourscore" for eighty under normal circumstances.

Re: after decillion

*Message #9 Posted by **bill platt** on 9 Dec 2005, 12:35 p.m.,*
in response to message #5 by Thomas Okken

> Quote:
>
> Of course French must be the weirdest language for counting -- who the heck came up with the idea of pronouncing 95 as "four twenties fifteen"?

That's why the Belgians and the Acadians simplified it: septante, huitante, neuvante etc --I can't remember exactly the constructions--mine are a little off but this is the basic idea in both cases :-)

Dozen and douze and onze and eleven and twelve are interesting.

Onze is clearly using the root for the word "un"

Douze is clearly using the root for "deux" as is trez, quatourze etc and so in this sense in french it is a consitent system...Jus that the "teens" don't start until seventeen (dix-sept).

(please forgive my spelling--it has been awhile...)

Compared to deutche is interesting, where

elf zwelf

are followed by dreizien (sp?) fierzien etc. and so is just like english in this respect. where the "zien" is "teen".

All three languages bifurcate the nomenclature of numbers in the set 11-19 into two sets linguistically--why they broke at different places is a good question.

Edited: 9 Dec 2005, 12:37 p.m.

Re: after decillion

*Message #10 Posted by **Peter Geiser** on 9 Dec 2005, 4:40 p.m.,*
in response to message #9 by bill platt

English also has special words for eleven and twelve. They are etymologically even stranger than French:

Eleven comes from old English endleofan, meaning "one left over", and twelve is "two left over".

In German: elf, zwölf (zwoelf), dreizehn, vierzehn, ... (zehn being the equivalent to ten).

In this regards, Chinese is very logical, where you have shiyi (ten one), shier (ten two), shisan (ten three), etc.

Best regards
Peter

Re: after decillion

*Message #11 Posted by **Gerson W. Barbosa** on 9 Dec 2005, 12:43 p.m.,*
in response to message #5 by Thomas Okken

> Quote:
>
> Actually, they have special words for 11 and 12 (e.g. "onze" in French, not "dix-un"). Probably a legacy from the times when humans still had six fingers on each hand.

Actually, there's nothing special in French words for 11 and 12, *onze* and *douze*: they come from Latin *undecim* (one and ten) and *duodecim* (two and ten).

...latin

*Message #12 Posted by **Massimo Gnerucci (Italy)** on 9 Dec 2005, 12:51 p.m.,*
in response to message #11 by Gerson W. Barbosa

Hi Gerson,
please be careful with latin... ;-)

I was going to post my contribution but I stopped when I realized that I could easily fly away off topic.

'nuff said!

Greetings,
Massimo

Edited: 9 Dec 2005, 12:52 p.m.

Re: ...latin

*Message #13 Posted by **Gerson W. Barbosa** on 9 Dec 2005, 1:12 p.m.,*
in response to message #12 by Massimo Gnerucci (Italy)

Ciao Massimo,

There's no way to explain "onze" is not a special word, as some might think, without showing its latin root.

But you're right, this thread has gone off-topic.

Regards,

Gerson

P.S.: I should actually be studying *il congiuntivo presente, imperfetto e trapassato* for my Italian test tomorrow :-)

Edited: 9 Dec 2005, 1:15 p.m.

Re: ...latin

*Message #14 Posted by **Massimo Gnerucci (Italy)** on 9 Dec 2005, 3:54 p.m.,*
in response to message #13 by Gerson W. Barbosa

> Quote:
>
> P.S.: I should actually be studying il congiuntivo presente, imperfetto e trapassato for my Italian test tomorrow :-)

Ciao Gerson,
my best wishes for your test!

However you'll be probably disappointed by knowing that these tenses are less and less used in *normal* conversation...
Thanks television! Alas, more elaborate speaking is forbidden when the audience is in the millions.

In bocca al lupo/break a leg!
Massimo

Roman (Latin) numbers

*Message #15 Posted by **Marcus von Cube, Germany** on 10 Dec 2005, 5:25 a.m.,*
in response to message #11 by Gerson W. Barbosa

IIRC, Latin starts more consistent (in our modern eyes) than it ends:

```
11 - undecim, one and ten
...
17 - sedecim, seven and ten
```

but

```
18 - duodeviginti, two before twenty (!)
19 - unodeviginti, one before twenty.
```

The last two arne't too strange, given the fact that the Romans wrote their numbers in a similar way: IIXX and IXX.

Marcus

Re: Roman (Latin) numbers

*Message #16 Posted by **Gerson W. Barbosa** on 10 Dec 2005, 7:48 p.m.,*
in response to message #15 by Marcus von Cube, Germany

Hello Marcus,

If you think numbers in Latin are awkward, what about fractions?

Excerpt from Ars poetica (by Horace):

http://tabula.rutgers.edu/spectator/text/june1711/ars_poetica.html

```
"Romani pueris longis rationibus assem discunt in partis centum diducere.
'dicat filius Albini: si de quincunce remota est uncia, quid superat? Poteras
dixisse.'
'triens!'
'eu! rem poteris servare tuam. Redit uncia, quid fit?'
'semis!'"


"Through long calculations, Roman children learn to divide the
as (the unity) in hundredths.
'Tell me, son of Albinus, if an uncia (1/12) is removed from a quincunx
(5/12), what remains? Can you tell me?
'triens! (1/3)'
'Very good! You'll be able to manage your things. Were an uncia (1/12) added,
what would you have?'
'A semis! (1/2)'

5/12 - 1/12 = 4/12 = 1/3
5/12 + 1/12 = 6/12 = 1/2
```

I think they'd learn this by heart as we do with multiplication tables. For everyday calculations they would use abbaci. Too bad the traditional abbacus maker at the time, Hector Paccatus, sold his skillful greek servants in order to reduce costs and imported less expensive slaves from the East. As a result, in the new abbacci the beads would not slide so smoothly on the rods as before and people started complaining... :-)

Edited: 10 Dec 2005, 7:51 p.m.

Re: Roman (Latin) numbers

*Message #17 Posted by **Richard Anderson (in Athens)** on 12 Dec 2005, 7:00 a.m.,*
in response to message #16 by Gerson W. Barbosa

Hello from where those Greek slaves might have come from!

I thought it was worth mentioning, since Roman numerals and abaci have been mentioned, that those numerals (that everyone points out are so clumsy) are a system of abacus notation. They tell you how to set the beads on an abacus with 4 beads + 1 bead on each bar. I & V on the first bar, X & L on the second, C & D on the third, etc. I suppose that the "subtractions" IV instead of IIII are tricks to save "keystrokes".

A skilled abacus user can outperform any old mechanical calculating machine...and maybe not actually need the abacus. It always annoys me when people say the Romans were deficient with numbers.

Kali Dynami (Good Strength),

Richard

Re: Roman (Latin) numbers

*Message #18 Posted by **Gerson W. Barbosa** on 12 Dec 2005, 11:32 a.m.,*
in response to message #17 by Richard Anderson (in Athens)

> Quote:
>
> Hello from where those Greek slaves might have come from!

Hello Richard,

I may have used the word 'servants' wrongly, instead of 'workers' or 'employees'. I don't have the foggiest notion what an abacus factory looked like. In fact it appears there were no abacus factories at all, these calculating devices being made by skillful artisans, most likely not from Greece, in low quantities. By what I know the Greek played an important role in ancient Rome as educators.

> Quote:
>
> I suppose that the "subtractions" IV instead of IIII are tricks to save "keystrokes"

If am not wrong, these later notation appeared in the Middle Ages as a way to save space in manuscripts.

Kal imera! (Good-day!),

Gerson

Re: Roman (Latin) numbers

*Message #19 Posted by **Richard in Athens** on 15 Dec 2005, 10:00 a.m.,*
in response to message #18 by Gerson W. Barbosa

Hello Gerson,

I'm sure there's a good abacus book or two out there. When I was a kid I learned how to use a "modern" Japanese abacus with 4 & 1 bead per bar rather than the Chinese 5 & 2 kind. I never learned what the Chinese do with those extra beads, nor do I know what kind of abacus the Romans typically used.

Both would be pretty easy to find out.

I typed "slaves" without thinking and then saw that you had said "servants" to begin with. I decided to leave it because slavery was so much a part of the Greek and Roman world.

Greek learning was much esteemed by the Romans. Many Romans sent their sons to be educated in the "Philosphical Schools" of Athens. An English friend of mine suggested that the Romans viewed a Greek education much as Americans think of Oxford or Cambridge. Athens, of course, wasn't the only place to get a Greek education. Alexandria was famous for its library and Euclid is thought to have studied in Athens but "taught and founded a school in Alexandria". (Heath)

Geometric tools are the compass and straight edge. I guess the abacus was the original "number-cruncher" but they went out when Arabic numerals came in. A good abacus cost much more than some scraps of papyrus...probably relatively more than those "dream-come-true" early 70's HPs. As a poverty-stricken archaeological surveyor I just dreamed of owning one of those but eventually jumped on the 42s. A wise jump and luckily I jumped more than once because one of my 42s's seems to have "walked" from my office last week. Nobody steals your old scraps of papyrus.

Richard (this posting counts as "general information")

Re: Roman (Latin) numbers

*Message #20 Posted by **unspellable** on 15 Dec 2005, 3:53 p.m.,*
in response to message #19 by Richard in Athens

The Japanese style abacus is called a soriban. I have one, complete with English instructions although I have never gotten around to learning how to drive it.

But it is to be noted that the Roman number systemn relate to the abcus in the same way that binary numbers relate to the computer.

If you know the history behind the various nymbering systems, and oddities like a dozen, score, pence, shillings, and pounds, etc. they make a good deal more sense.

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LA Times Article on HP

*Message #1 Posted by **Katie Wasserman** on 9 Dec 2005, 9:32 a.m.*

This was posted on the HPLX list but is just as relevant to this forum:

==========

Los Angeles Times, December 8, 2005

by Michael Hiltzik: Golden State Restoring HP to Its Original Condition

Stumbling corporations trying to regain their footing often turn to their past: They invite a retired chairman to resume the reins, reissue a vintage product or christen a factory after a revered founder.

Something like that is undoubtedly behind Hewlett-Packard Co.'s renovation of the rented Palo Alto garage in which its founders, William R. Hewlett and David Packard, assembled HP's first product, an audio oscillator, in 1939.

HP purchased the legendary property at 367 Addison Ave. in 2000 and launched a project to restore it to its 1939 condition last year. On Tuesday, the company held a ribbon-cutting ceremony to mark its completion. The corporate archivist, Anna Mancini, has been giving interviews on the rehab for several months, and a documentary video is posted on the HP website. Except for a few tours this weekend, however, the property won't be open to the public. (It's on a residential street.)

For HP, this project is loaded with subtext. Although the renovation began under former Chairwoman and Chief Executive Carly Fiorina, it's hard to avoid feeling that Tuesday's ceremony was designed partially to leave behind the Fiorina era, which began with great fanfare in 1999 and ended with her ignominious ouster in February, and to certify the succession as CEO of the rather less exhaustingly glamorous Mark Hurd.

Under Fiorina, HP's very survival came into question, as did its devotion to the core principles codified by Packard in his 1995 memoirs as "the HP Way." In a nutshell, the HP Way exalted teamwork, individual initiative and employee dignity. Its corollaries included rock-ribbed integrity, corporate social responsibility and a reliance on innovative engineering.

The company's diverse product lines started with industrial instrumentation and included such inventions as the first hand-held scientific calculator, the HP-35, which rendered the slide rule obsolete overnight. It entered the computer business with only equivocal success, but it's made a mint in printers and imaging.

That success in printers, however, is a mixed blessing.

The category, which includes consumables like ink and toner, has accounted for less than one-third of HP's sales in recent years but nearly 70% of its operating earnings.

Yet the market's growth is slowing, even as lower-priced competitors flood the supply chain.

Meanwhile, third-party suppliers are hacking away at HP's franchise in ink cartridges.

As for the PC, it's a commodity product in which innovation today comes mainly from software — not one of HP's traditional strengths.

Nevertheless, Fiorina doubled down on the PC bet through her controversial, polarizing and ultimately pointless 2002 acquisition of Compaq Computer Corp.

Fiorina was the antithesis of HP's self-effacing, pragmatic founders. She paid lip service to the HP Way, but employees came to doubt that she truly internalized it.

She expanded the corporate jet fleet and seemed to trail clouds of consultants wherever she went.

Her predecessors believed in precise measurement and rigorous financial accuracy; she delivered wildly optimistic growth forecasts that wrecked HP's reputation on Wall Street.

By the time she was forced to lay off more than 10,000 workers in the teeth of the 2000 high-tech crash, she had lost credibility with the rank and file, too.

Yet the founders had never ruled out harsh prescriptions for corporate survival like layoffs, wage cuts or divestitures.

It's part of HP lore that the founders averted a 10% layoff during a 1970 downturn by asking every employee to work nine days out of 10 for six months; but it's generally overlooked that, as Packard observed in his book, this short-term tactic didn't mean HP was committed to "providing absolute tenure for our people." Indeed, in the early '90s HP stringently downsized, mostly through buyouts and early retirements similar to those imposed at other corporations.

Fiorina's layoffs, while certainly larger and possibly harsher than those that came before, were a response to a dramatically changed marketplace and perhaps weren't as much of a violation of the HP Way as her detractors suggested. (Packard died in 1996 and Hewlett in 2001.)

Hurd, a former CEO of NCR Corp., has now inherited the task of setting the company firmly back on the HP Way. He began his tenure with a record round of 15,300 layoffs, but paired that with bonuses for the survivors to shore up morale. He also sheltered the company's $3.5-billion research and development operation from the cuts.

Financial results are looking up. Profits improved across the board in the fourth quarter ended Oct. 31, with even the long-suffering personal computer segment showing an improved operating margin of 2.8%. (Printing and imaging was still the margin champ, at 13.2%.) Under Hurd, HP shares, which lost roughly half their value under Fiorina, have advanced nearly 50% from the trough.

Watching this company's progress is sure to be a fascinating exercise. HP operates in several businesses where differentiating oneself is difficult and margins are narrowing.

But the company is one of high tech's sterling names and retains a reputation for quality; as I've written before, my house is filled with HP products, including a 12-year-old laser printer that churns out flawless prints for less than a penny per page.

If renovating an ancient garage signals the company's modern revitalization, that can only be a good thing.

Re: LA Times Article on HP

*Message #2 Posted by **tomcee** on 9 Dec 2005, 11:33 a.m.,*
in response to message #1 by Katie Wasserman

Here's a very interesting article (with pics) about HP, History and the garage that was recently in the New York Times:

http://www.nytimes.com/2005/12/04/national/04garage.html

Maybe a future Hand Held conference location?

TomC

Re: LA Times Article on HP

*Message #3 Posted by **I, Claudius** on 9 Dec 2005, 6:15 p.m.,*
in response to message #1 by Katie Wasserman

Highly interesting, but it's going to take a bit more than rebuilding the old garage workshop (the symbolism is good publicity) to bring HP around. If the current state of HP calculators can used as a general indicator, HP remains in a slow death spiral. Remember, they have to make sure Carly gets every cent of that $43M golden parachute...

Re: LA Times Article on HP

*Message #4 Posted by **db (martinez, ca.)** on 9 Dec 2005, 9:17 p.m.,*
in response to message #3 by I, Claudius

Sadly, i agree but ..... what do you think of the 49g+ ? Really. I'm asking because a fellow surveyor left his with me from yesterday afternoon till this morning and for the hour i played with it, it was moderatly ok. To me, it's not real user friendly as a calculator (!!!) but to a lesser extent, neither was the 48. The screen and keyboard of his are quite good and it is customizeable. God knows it's expandable and it uses a standard interface. If i didn't have everything i need in my 41, i'd buy one with the d'zign survey program and probably be pretty happy.

Don't tell anyone but i'm only 99% happy with my cx.

Re: LA Times Article on HP

*Message #5 Posted by **I, Claudius** on 10 Dec 2005, 6:41 a.m.,*
in response to message #4 by db (martinez, ca.)

The 49+ is cursed with multiple flaws that have not been adequately addressed. I've had several that had defective keys, and I'll probably never buy another one. For some now the other HP newsgroup, Google group comp.sys.hp48, has threads on several types of keypad and memory problems.

As for usage, it takes a lot of time to get used to the 49 interface if you're used to using a basic RPN machine. However, it is quite powerful, once you know its secrets. Professor Gilberto Urroz wrote a two-volume series on using it for engineering work. Those books are now out of print and hard to find, but if you search consistently copies pop up now and again. Professor Renee deGraeve wrote a great command by command description of the computer algebra system, invaluable if you use advanced functions.

As for survey work - I have an uncle who is a surveyor. He told me he has about twenty 48GXs, ranging from beat up to unopened packages. There will be no other machine for him. - Happy Holidays!

Edited: 10 Dec 2005, 6:44 a.m.

Re: LA Times Article on HP

*Message #6 Posted by **Namir** on 10 Dec 2005, 8:51 a.m.,*

in response to message #5 by I, Claudius

Thanks for mentioning Renee deGraeve! I was able to find his website (nice to be able to read French). I also found the website for Xcas.

:-D

Namir

deGraeve English Link

*Message #7 Posted by **I, Claudius** on 10 Dec 2005, 7:01 p.m.,*
in response to message #6 by Namir

It's nice to know other languages, but I should have given the english link:

http://www-fourier.ujf-grenoble.fr/~degraeve/cas49_1.pdf

Happy Holidays!

Re: LA Times Article on HP

*Message #8 Posted by **GE** on 12 Dec 2005, 6:52 a.m.,*
in response to message #6 by Namir

Just for the record, Renée is a "she". Nice doc, BTW.

Re: LA Times Article on HP

*Message #9 Posted by **unspellable** on 9 Dec 2005, 6:16 p.m.,*
in response to message #1 by Katie Wasserman

The only problem with this is that everything that came out of that garage went with the other half of the company when the split came. Today's HP has next to nothing to do with that garage or anyhting that came out of it. Always maintained the name and the calculators went with the wrong half when they split.

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Size of magnetic cards for cardreader

*Message #1 Posted by **Robert Graulich** on 9 Dec 2005, 7:28 a.m.*

Hi!

The manual of the cardreader of the HP41 says that I can save 2*16 registers on a card. Are there longer cards available? 32 registers is not that much.

Robert

Re: Size of magnetic cards for cardreader

*Message #2 Posted by **Chan Tran (USA)** on 9 Dec 2005, 8:38 a.m.,*
in response to message #1 by Robert Graulich

There is no longer card for the 41 card reader. No the card doesn't hold much but then in the HP41 time it was reasonable.

Re: Size of magnetic cards for cardreader

*Message #3 Posted by **Robert Graulich** on 9 Dec 2005, 8:52 a.m.,*
in response to message #2 by Chan Tran (USA)

That's a pity. Using the cardreader would be nice. Did somebody try to hack the OS to squeeze more on a card? Like we did on the C-64 with these "turbo" routines for reading and writing files on tape? Robert

Re: Size of magnetic cards for cardreader

*Message #4 Posted by **Namir** on 9 Dec 2005, 9:16 a.m.,*
in response to message #3 by Robert Graulich

After launching the HP41, HP launched the HP-IL loop and it's perpherals, including the digital tae recorder. That device made the card-reader obsolete for serious data collectors. I remember writing and selling a database program for the HP41C that used the digital tape.

Namir

Re: Size of magnetic cards for cardreader

*Message #5 Posted by **Robert Graulich** on 9 Dec 2005, 9:30 a.m.,*
in response to message #4 by Namir

Well, I understand. So I will ignore all cardreaders on eBay. ;-)

Thank you for your answers, Robert

Re: Size of magnetic cards for cardreader

*Message #6 Posted by **Etienne Victoria** on 9 Dec 2005, 9:32 a.m.,*
in response to message #1 by Robert Graulich

Of course there are :-)))

A long insightful article was published by Vassilis here:

Long magnetic cards

Easy to implement, this technology was a giant leap forward to increase the Hp-41C card reader usability :-))

New heights have been reached recently by packing the MLDL2000 in the card reader which finally made it useful.

Please note the :-))) at the end of the sentences.

Etienne

Re: Size of magnetic cards for cardreader

*Message #7 Posted by **Robert Graulich** on 9 Dec 2005, 9:40 a.m.,*
in response to message #6 by Etienne Victoria

That's a nice one! Due to your smilies it was easy to spot the deal. So I'm already asking Meindert to get an MLDL 2000. Seems to make much more sense to me after looking at the other options.

Robert

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My HP 48GX don't turn on! help me...

*Message #1 Posted by **Edgar Moraes** on 9 Dec 2005, 6:42 a.m.*

Dear friends

My HP 48GX don't turn on. I retained its for 2 years, without the battery. When I try turn on now, nothing. Please, if somebody can help me...

Re: My HP 48GX don't turn on! help me...

*Message #2 Posted by **Raymond Del Tondo** on 9 Dec 2005, 7:46 a.m.,*
in response to message #1 by Edgar Moraes

Dear Edgar,

make sure you have fesh batteries,
make also sure you put them in with the correct polarity.
Never put them in with wrong polarity,
regardless of what some people might say,
unless you can drop them the bill for a new HP-48;-)

If that doesn't help, you could try the ON+C reset first.
For this you press and hold the ON key,
then press the third white menu key from the left,
then release both. If the calc starts, you're done:-)
If that won't do either, you can try the hard (pin hole) reset.
For this pry out the rubber foot on the back which is next to
the word 'ONLY' of '128K ONLY'. You'll see a small hole,
and lightly visible a small letter 'R' left to it.
Straighten an end of a paper clip and carefully insert it into the hole,
until you feel kinda resistance. Hold it there for a second or two.
Then remove the paper clip end, and press the ON key.
The calc should now turn on.

If it still doesn't turn on, there may be a hardware defect,
like a shrunken contact pad between the display and the main pcb.

BTW it's a good idea to remove any extension cards
before trying the above procedures.

Regards

Raymond

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My HP 48GX don't turn on! help me...

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CY / Rambox 64 rom image

*Message #1 Posted by **PeterP** on 9 Dec 2005, 12:04 a.m.*

Hi, does anyone have the CY OS image (normally on page 8) or can tell me how to copy one to an MLDL or mass storage device or PC or all of the above for save keeping? Thanks Peter

Re: CY / Rambox 64 rom image

*Message #2 Posted by **Christoph Klug** on 9 Dec 2005, 3:39 a.m.,*
in response to message #1 by PeterP

Dear Peter,

the HP41CY operating system is part of EMU41, this includes a virtual 64KByte RAM-Box. Therefore it would be able to extract a copy of the CY operating system from EMU41.....

Regards - Christoph Klug

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i lost my program on my 41cx

*Message #1 Posted by **ross denys** on 8 Dec 2005, 4:10 p.m.*

i lost a valuable program on my 41cx whan i left it too long without charging the battery. is there anyone who knows how to get it back or is it lost forever. boo hoo it was a very trusty sun shot program for surveyors navigation.

Re: i lost my program on my 41cx

*Message #2 Posted by **Vieira, L.C. (Brazil)** on 8 Dec 2005, 6:21 p.m.,*
in response to message #1 by ross denys

HI;

if you get something like

```
[MEMORY LOST]
```

you certainly lost it for good. There is no way to recover it from the calculator´s memory once it is cleared. Is there any chance that yo have a listing with the program contents? If so, chances are you can key it back in.

Let us know.

Best regards.

Luiz (Brazil)

Edited: 8 Dec 2005, 6:21 p.m.

Re: i lost my program on my 41cx

*Message #3 Posted by **Ron** on 9 Dec 2005, 12:06 a.m.,*
in response to message #2 by Vieira, L.C. (Brazil)

http://collab.mathsoft.com/~Mathcad2000/login

Try this forum, maybe you will be able to inquire as a guest. Membership is open I think.

Anyway, there is a section on Astronomy and navigation which might have a member with your program or one in another language you might easily transform into your own 41cx. There are other sections in various applied math which might interest you.

Good luck,

Ron

Re: i lost my program on my 41cx

*Message #4 Posted by **Garth Wilson** on 9 Dec 2005, 12:58 a.m.,*
in response to message #1 by ross denys

I expect that even the "Memory lost" message indicates only that the calculator couldn't make sense of the file chain, and only re-initialized it but did not write over everything. One way to find out would be to use the RAM editor in the Zenrom module. It would be kind of a big job to make sense of what you find though, even if significant parts of the program are still intact.

Re: i lost my program on my 41cx

*Message #5 Posted by **Eric Smith** on 9 Dec 2005, 4:36 a.m.,*
in response to message #4 by Garth Wilson

When it says "MEMORY LOST", it has zeroed all of main memory. It's a defensive measure; if the memory doesn't look valid it could contain any random junk that could cause a crash later.

The code that does this is at label "coldst" at line 809 of cn0b.asm. In fact, it looks like the code will zero extended memory too. Sigh.

Re: i lost my program on my 41cx

*Message #6 Posted by **Garth Wilson** on 9 Dec 2005, 2:24 p.m.,*
in response to message #5 by Eric Smith

That's amazing that they would do that. It's totally unnecessary. I haven't gotten into HP-41 Mcode and other internals (except for a small level of synthetic programming), but I've designed and used file chains in RAM on small embedded computers based on what I understood to be happening in the HP handhelds. Instead of using a FAT, I had a header at the beginning of each file, and the header included information on how long the file is so the OS can link to the beginning of the next file to find it, and so on. The location pointed to by the last link should equal the address pointed to by a system variable telling where the .END. byte is, and that address should contain the .END. byte value. Every file except the first one should be immediately preceded by the END byte of the previous file. There is a system variable telling how many files there are, so the OS can check and see if it finds that many, all ending with an END byte, before reaching the .END. byte. The file-length record in the header may be changed and the rest of the chain was scooted up or back and the expected address of the .END. byte changed as necessary when you edit the file. It worked great. Beyond this info, the embedded computer's routine that checked the file chain integrity didn't care what was in a file, so long as it could make sense of the chain and find the right number of files with all their END bytes, and finally the .END. byte at the expected location. This constitutes several safeguards to be sure the file chain is good even if there could be a problem in one file that does not affect any others and should not be a cause to wipe them all out. If there was a file chain problem (which in the final product only resulted from removing the batteries for too long), it would just reset the number of files to 0, and store the .END. byte where the first file would start. The rest of the memory was untouched, and its contents didn't matter to the computer. This worked out well during debugging in the development since I was able to quickly pick through and reconstruct the file chain and recover the information. (We're definitely not talking about tens of thousands of files like you get on a desktop computer.)

Edited: 9 Dec 2005, 2:37 p.m.

Re: i lost my program on my 41cx

*Message #7 Posted by **Eric Smith** on 10 Dec 2005, 2:36 a.m.,*
in response to message #6 by Garth Wilson

That would be a lot of work for no real gain. Writing microcode for the Nut processor is painful,

and you don't write any more of it than you have to.

The "file chain" doesn't get corrupted all by itself, so what's the point in having a lot of microcode designed to recover from problems? Writing fancy recovery code would have taken longer to write, and much longer to test thoroughly - you'd have to ensure that for every possible corruption case the recovery code either successfully recovers (so the RAM contents afterward are fully valid), or that it clears memory. It wouldn't be acceptable to have any cases for which the recovery code thought it had recovered successfully, but in fact left any invalid code in memory.

And that's not easy, because it's difficult to fully validate 41 user code. There are many byte sequences that could appear in a program that will cause a crash. It was a non-negotiable requirement of the product design that after a cold start, there can't be any leftover junk in memory that might cause problems.

As it is, they overlooked the effects of possible corruption on one of the warm-start processes, and that made it possible to get an unrecoverable hang from an invalid buffer chain. It would have been better if they'd erred even further on the side of caution, as it would have saved people a lot of time with batteries removed and waiting for the capacitor to discharge. (They solved this by adding a hard reset feature in later versions of the Nut processor.)

I've been an embedded software developer for many years, and I think if I'd been one of the 41C designers I'd have had a hard time selling my manager on spending an extra several weeks to write and even more time to test fancier recovery code for conditions that aren't even supposed to happen. After all, users were supposed to store their programs and data on cards.

Re: i lost my program on my 41cx

*Message #8 Posted by **Garth Wilson** on 10 Dec 2005, 5:12 a.m.,*
in response to message #7 by Eric Smith

I never wrote any recovery code. I picked through the headers by hand a couple of times only in the debugging, which didn't take more than a few minutes when there were probably less than six files there. The computer only looked at header bytes and the end-of-file and end-of-chain bytes, plus the two variables telling how many files it should find and what the address of the .END. should be; and this was only to determine the integrity of the chain. It took about 40 lines of assembly code. If something there didn't make sense there, it re-initialized the chain by writing into the one variable that there were no files, and into the other variable that the address of the .END. byte would be where the first file will start, and it wrote the .END. byte there. This all took 8 lines of assembly code. It did not do anything else to any other memory locations, and it didn't care what was in the old file space. It's like deleting files on a disc and just marking the space available instead of completely re-initializing every sector that a file had used before being deleted. There's simply no reason to write over those sectors unless you're trying to keep enemies from getting some data off a computer they've captured.

Re: i lost my program on my 41cx

*Message #9 Posted by **Eric Smith** on 10 Dec 2005, 7:11 p.m.,*
in response to message #8 by Garth Wilson

Sure, but you only get to the MEMORY LOST code if it has detected a serious problem. So at that point it can't be assumed that any of the memory contents are valid. Aside from clearing all memory (which is what they do), the only way to guarantee that memory doesn't contain nasty stuff that can cause a serious crash later would be to do some sort of validation process on *everything*, not just the END chain.

That validation of everything is what I am claiming would require much work to write, and even more to debug.

Re: i lost my program on my 41cx

*Message #10 Posted by **Garth Wilson** on 11 Dec 2005, 3:25 a.m.,*
in response to message #9 by Eric Smith

> Quote:
>
> the only way to guarantee that memory doesn't contain nasty stuff that can cause a serious crash later

If it ever gets there to try execute those bytes, it has *already* crashed.

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What is the ans. of sin(32 pi) in rad mode

*Message #1 Posted by **cre** on 8 Dec 2005, 4:06 a.m.*

My question in my test was "what is the ans. of sin(32 pi) in rad mode. I put -3286476925x10E-12. But the model ans. is 0. Why? I just input directly to my HP38g.

Anything wrong?

Re: What is the ans. of sin(32 pi) in rad mode

*Message #2 Posted by **Han** on 8 Dec 2005, 4:26 a.m.,*
in response to message #1 by cre

> Quote:
>
> My question in my test was "what is the ans. of sin(32 pi) in rad mode. I put -3286476925x10E-12. But the model ans. is 0. Why? I just input directly to my HP38g.
>
> Anything wrong?

The sin(x) function is periodic, with period 2*Pi. This means that sin(x) = sin(x + 2*Pi) = sin(x + 4*Pi) = ... = sin(x + 32*Pi). Since sin(0) = 0, then sin(0 + 32*Pi) = 0.

If you truly entered sin(32*Pi), you _SHOULD_ have obtained 1.26616369195E-10 as your answer (which is extremely close to 0, the real answer). The reason it's not exactly 0 is because the HP first calculates 32*Pi, which is approximately 100.530964915. Then it takes the sine of this approximate value, which returns 1.26616369195E-10 (approximately 0).

I'm not sure how you managed to obtain -3286476925x10E-12. For one, this is not a typical way of displaying numbers on a calculator. Secondly, -3286476925x10E-12 = -0.003286476925, which on your calculator should appear as either -0.003286476925 or -3.286476925E-2.

Check that your modes are correct. [SHIFT-KEY] + [HOME] and examine that your modes are Radian and Standard.

Re: What is the ans. of sin(32 pi) in rad mode

*Message #3 Posted by **cre** on 8 Dec 2005, 10:37 a.m.,*
in response to message #2 by Han

If I have the same question again on my test, should I write "0" or the number with the notation which display on my calculator?

Re: What is the ans. of sin(32 pi) in rad mode

*Message #4 Posted by **Han** on 8 Dec 2005, 11:16 a.m.,*

in response to message #3 by cre

> Quote:
>
> If I have the same question again on my test, should I write "0" or the number with the notation which display on my calculator?

Well, mathematicians always accept the exact answer -- in this case it is '0'. If your question specifically says to use your calculator for computations, however, then I would write down what shows up on the calculator.

Re: What is the ans. of sin(32 pi) in rad mode

*Message #5 Posted by **unspellable** on 8 Dec 2005, 4:12 p.m.,*
in response to message #4 by Han

If the test asks for the answer provide by the calculator, which in this case it appears to do, since it specifies the mode, I would put down the residual error dipslayed on the calculator rather than zero. In this case that WOULD be the exact answer, and hopefully the instructor is looking for an understanding of calculator operation.

On the other hand, if I were an instructor looking for an understading of the underlying math and not the peculiarities of calculator operation I might expect to see zero regardless of what the calculator displays.

I have seen much controversy about calculators in tests and whether muscle calculators are an unfair advantage or whether they should be banned. In my engineering classes the test questions were always made up in such a way that it made no difference what sort of calculator you had from very basic non-programmable scientific with no memory on up. In fact I had one math instructor who would send the exam home with you for the week end. (In which case you could kiss the week end goodby.)

Re: What is the ans. of sin(32 pi) in rad mode

*Message #6 Posted by **Ed Look** on 10 Dec 2005, 7:17 p.m.,*
in response to message #5 by unspellable

THIS is the best comment (if not explanation) so far!

Please, Cre, memorize your basic trigonometric values first and review on a set of x and y axes why this is true drawing the triangle which hypotenuse radiates from the origin using the definitions of sine, cosine, tangent, etc.

Remember, sin A = 0 for A = 0, 180, 360, etc., and, = 1 for A = 90; = -1 for 270, etc. and all the other special values for sin 30, 45, 60, etc., and similarly for cos A. These have either exact or easily remembered values.

This might save you a lot of time on a test rather than the calculator answer. The calculator is really for us old folks whose brains have worn out since college... or high school for some! ;)

Re: What is the ans. of sin(32 pi) in rad mode (edited...)

*Message #7 Posted by **Vieira, L. C. (Brazil)** on 8 Dec 2005, 1:17 p.m.,*
in response to message #3 by cre

Hi, Cre;

I agree with Han. Sin (2n*PI), being "n" an integer, is always zero. The simplification he shows might also be used to demonstrate your answer in the test. If you write Sin (2n*(3.1415...)), you'd need to compute it with as many digits as the system accepts and handles.

I am not sure about the HP38G, but you can find at least two possible answers in some advanced calculators. If the calculator is set to compute exact answers, then SIN(2n*PI)=0 (n=integer). Otherwise, in approximation mode, SIN(2n*PI) returns the best approximation, given internal accuracy.

As a teacher, I'd ask the student to explain the answer.

Hope this helps a bit.

Best regars.

Luiz (Brazil)

Edited: 8 Dec 2005, 7:21 p.m.

Re: What is the ans. of sin(32 pi) in rad mode

*Message #8 Posted by **Garth Wilson** on 8 Dec 2005, 1:37 p.m.,*
in response to message #2 by Han

About the "-3286476925x10E-12"-- I've seen this mistake with students before. I don't have that calculator model to know exactly what you got, but I suspect it might have been "-3.286476925 -12", with the decimal point after the first digit if it was in scientific notation, or possibly after the second or third digit if you have the calculator set for engineering notation.

The "-12" at the end however means E-12, or "times ten to the minus twelfth power," which is *not* the same thing as "x10E-12". The "E" already means "x10^__" If you put "x10" in there yet again, you'll be off by a power of ten. "x10E-12" is the same as "E-11". To visualize more easily, consider "10E0", which means "ten, times ten to the zero power," = 10x1 = 10, not 1 or 100. "x10E0" means "times ten"; but if the calculator says "E0" or just "00" in the exponent area at the right end, it means "times one". It seems to be common for students to misinterpret this and be off by a factor of ten.

Re: What is the ans. of sin(32 pi) in rad mode

*Message #9 Posted by **Crawl** on 8 Dec 2005, 5:52 p.m.,*
in response to message #1 by cre

A few extra comments:

Usually, with really good calculators, sin("pi") <> 0 has nothing to do with calculator error. The error is in pi, which is an irrational number being represented as a rational.

It turns out that you can use sin(pi) as a quick way of getting a more accurate pi.

If x is very small, then

sin(pi + x) ~ -x

However, pi on the calculator has an error, because it is only stored to so many digits. That error is the negative of the sine of the stored pi, so adding them subtracts the error from the stored pi.

On of my calculators, "pi" = 3.14159265359

sin("pi") = -2.067615374e-13

Of course, you can't combine the two, because all the extra digits will be pushed off.

You can split pi in half, though.

The first half, say, could be

3.141592653

and the second would be 0.00000000059.

Add *that* to the sin of "pi" and you get

0.000000000589793238 46...

Put both halves of pi together to get

3.14159265358979323846

which is correct to pi for 21 digits.

Another note: It's not a good idea in almost any test to give all 10 (or more) digits from a calculator as an answer.

Simple: Pi to 24 digits on later HP calc's

*Message #10 Posted by **Karl Schneider** on 9 Dec 2005, 2:19 a.m.,*
in response to message #9 by Crawl

Utilizing the identity

```
sin(A - B) = sin(A)*cos(B) - cos(A)*sin(B),
```

the result

```
sin(pi - x) = sin(pi)*cos(x) - cos(pi)*sin(x)

            = sin(x)
```

is easily obtained.

Let "x" represent the entire string of missing digits when the value of pi is truncated (not rounded) to a certain number of decimal places.

sin(x) ~= x for small x, and the approximation improves toward perfection as x approaches zero.

Therefore, entering the first "n" digits of pi and taking its sine in radians mode should accurately yield a string of immediately-subsequent digits.

Best results for this simple procedure are obtained using an HP calculator with a Saturn microprocessor. These offer 12 significant digits and a faster processing speed that enables the functions to be computed more accurately.

In radians mode on a HP-20S,

```
sin (3.14159265358) = 0.000000000000979323846264

and pi = 3.14159265358979323846264, correct to 24 digits.
```

The difference between x and sin(x) for this very small value of x is guranteed to be less than (1/3)*x^3 (the next term of the Taylor series for sine), which is much smaller than x.

(I assume that one could probably use "EXACT" mode on an HP-49 to obtain more digits of pi.)

On a 10-digit pre-Saturn HP calc, the 11th through 20th digits of pi cannot be obtained by this procedure. The algorithms apparently don't carry out the series for sine to as many terms, probably owing to lack of processor speed. Alas, tradeoffs had to be made...

In radians mode on a HP-15C or 41C,

```
sin (3.141592653) = 0.00000000059

and pi = 3.14159265359, rounded to 12 digits.
```

-- KS

Edited: 9 Dec 2005, 2:37 a.m.

Re: Simple: Pi to 24 digits on later HP calc's

*Message #11 Posted by **Marcus von Cube, Germany** on 9 Dec 2005, 3:02 a.m.,*
in response to message #10 by Karl Schneider

Karl,

I tried this on 2 of my TIs (an old TI-36 solar with 12 digit accuracy and a more modern Voyage 200.) None of them produced any more digits as had already been stored in the numerical constant PI.

Does this mean, that these calcs dont't use Taylor series approximation but CORDIC instead? As I understand, the latter algorithm produces consecutive digits of a transcendental function based on a series of precomputed constants in ROM.

Marcus

Accuracy and methods for sine (and cosine)

*Message #12 Posted by **Karl Schneider** on 9 Dec 2005, 3:48 a.m.,*
in response to message #11 by Marcus von Cube, Germany

Marcus --

I'm not sure exactly what methods the respective calculators use for sine and cosine, but it is quite likely that something other than Taylor series are used. I have heard of CORDIC.

Note that I didn't explicitly state that the Saturn-based HP's used Taylor series:

> Quote:
>
> sin (3.14159265358) = 0.000000000000979323846264 and pi = 3.14159265358979323846264, correct to 24 digits.

> The difference between x and sin(x) for this very small value of x is guranteed to be less than (1/3)*x^3 (the next term of the Taylor series for sine), which is much smaller than x.

This implies only that, if this 12-significant-digit result for sin(x) returned by the HP-20S (and other Saturn-based models), is correct and accurate, it must differ from x by less than (1/3)*x^3, as guaranteed by the convergent alternating Taylor series of monotonically-decreasing terms.

I got the following results:

- 11th and 12th digits "59" on the HP-6S;
- 11th through 20th digits on the HP-30S;
- no additional digits on the Le World scientific;
- (My TI-36X Solar is at the workplace.)

-- KS

Re: Accuracy and methods for sine (and cosine)

*Message #13 Posted by **Ron** on 9 Dec 2005, 3:30 p.m.,*
in response to message #12 by Karl Schneider

FWIW:

My HP49g+ yields 0 for sin(32*pi) in exact mode (approximate not checked) and the same deviation as yours when approximate is checked or if in algebraic mode. It appears to respond with zero only if the calculator is in EXACT AND RPN.

All methods to display pi: (1*pi, pi..) otherwise result in pi rounded to 12 digits .....59, regardless of exact or algebraic modes.

Re: What is the ans. of sin(32 pi) in rad mode

*Message #14 Posted by **John Smitherman** on 10 Dec 2005, 6:38 p.m.,*
in response to message #1 by cre

> Quote:
>
> My question in my test was "what is the ans. of sin(32 pi) in rad mode. I put -3286476925x10E-12. But the model ans. is 0. Why? I just input directly to my HP38g.
>
> Anything wrong?

Hi cre. My 30s returns 0. Too bad the 30s is algebra only as it is nice to keep around to check answers.

Regards,

John

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HP Forum Archive 15

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New solution for the corrosion of HP-41 I/O block.

*Message #1 Posted by **Diego Diaz** on 7 Dec 2005, 4:57 p.m.*

Hi all,

I've managed to built a suitable solution for those bad damaged I/O blocks we've all seen into lots of HP-41's battery compartment.

Please take a look at:

http://www.clonix41.org/Maintenance/IO_Block/IO_Block.htm

Your comments are certainly welcomed.

Diego.

Re: New solution for the corrosion of HP-41 I/O block.

*Message #2 Posted by **Jon** on 7 Dec 2005, 5:27 p.m.,*
in response to message #1 by Diego Diaz

Hi Diego:

That´s the best solution that I have ever seen. It looks great. Just wondering if the adhesive is strong enough. The original flex circuit is assembled with plastic rivets. In my opinion some tiny screws will increase the durability.

Great work ... again ;-)

Jon

Re: New solution for the corrosion of HP-41 I/O block.

*Message #3 Posted by **Eric Smith** on 7 Dec 2005, 5:37 p.m.,*
in response to message #1 by Diego Diaz

Very cool! What will they cost?

Re: New solution for the corrosion of HP-41 I/O block.

*Message #4 Posted by **Jim Creybohm** on 7 Dec 2005, 5:40 p.m.,*
in response to message #1 by Diego Diaz

Hi Diego.

Let me be among the first to say thank you for the development of this item. I have long waited for a solution such as this, and just two weeks ago I lost my fave 41 to this disease.

How to order? How much?

Congrats again.

Re: New solution for the corrosion of HP-41 I/O block.

*Message #5 Posted by **Randy** on 7 Dec 2005, 5:48 p.m.,*
in response to message #1 by Diego Diaz

Positively brilliant. The VHB adhesive does the job very well I'm sure without the need for screws or rivets.

Do you have any quantity pricing?

Re: New solution for the corrosion of HP-41 I/O block.

*Message #6 Posted by **James MacPhail** on 7 Dec 2005, 6:19 p.m.,*
in response to message #1 by Diego Diaz

I am eager to order some of these as well.

However, I am wondering if the VHB adhesive is too strong and will make future repairs impossible... after the new circuit is attached, how difficult is it to remove it?

If it is difficult, perhaps using less than 100% coverage of adhesive would be appropriate? (Or perhaps it is already that way?)

Thanks!

Re: New solution for the corrosion of HP-41 I/O block.

*Message #7 Posted by **Diego Diaz** on 8 Dec 2005, 9:46 a.m.,*
in response to message #6 by James MacPhail

Hi James,

3M VHB is AFAIK the strongest double sided adhesive tape available. However, it can be removed. I've done this in one of the samples (in the keyboard PCB contact area) with a smal drop of oil... and a nice amount of patience...

Should the case of a later replacement arises, it will be possible to get the I/O Block plastic cleaned to receive a new Flex PCB.

Greetings.

Diego.

Re: Adhesive tape on the Canries ;-)

*Message #8 Posted by **Marcus von Cube, Germany** on 8 Dec 2005, 10:06 a.m.,*
in response to message #7 by Diego Diaz

Hi Diego,

> Quote:
>
> 3M VHB is AFAIK the strongest double sided adhesive tape available.

Did the tape help you to withstand the powers of the recent tropical storm on the Canaries?

Marcus

Re: Adhesive tape on the Canries ;-)

*Message #9 Posted by **Diego Diaz** on 8 Dec 2005, 11:38 a.m.,*
in response to message #8 by Marcus von Cube, Germany

Hi Marcus,

Good point indeed! :-)

But unfortunatelly, we haven't got enough tape to securely bond every antenna... and power line tower... more than 200,000 people sunk into darkness, rotten foods, closed highways, no phone lines and almost out of tap water for four days. A real mess. The worst part of all that happened in the Teneriffe island, here at Gran Canaria, where I live, there were almost no significative damages affecting people's normal life. There were severe damages to the harvests though.

This was by no means comparable to Rita's or Katrina's destruction path thru the States, but this was the first time something like this happened in the Canaries and we were not ready at all, so we've paid a very high price for joining the "Hurricane Club".

I sincerely hope we've all learned that first lesson and next time (if ever) we'll be more prepared to face Nature's power.

Best wishes.

Diego.

Re: New solution for the corrosion of HP-41 I/O block.

*Message #10 Posted by **Wilson (Bill) Holes** on 7 Dec 2005, 7:37 p.m.,*
in response to message #1 by Diego Diaz

Another fantastic product Diego!!! I'm sure you've just saved the lives of many, many ailing 41's.

I'm not sure how many I need yet, certainly 2 but maybe more. I need to check with my two sons' in Japan before ordering - I'm guessing they both will need one as well. I'll eMail you once I'm sure.

Keep up the great work; I'll be anxiously awaiting the next in what seems like an endless line of incredible products from the Canaries...

Best Wishes for the coming Holidays, Bill

Re: New solution for the corrosion of HP-41 I/O block.

*Message #11 Posted by **Les Bell** on 7 Dec 2005, 9:09 p.m.,*
in response to message #1 by Diego Diaz

Excellent! Put me down for a couple!

Best,

--- Les

[http://www.lesbell.com.au]

Re: New solution for the corrosion of HP-41 I/O block.

*Message #12 Posted by **Howard Owen** on 7 Dec 2005, 10:05 p.m.,*
in response to message #1 by Diego Diaz

Wow!

Let me add my voice to the chorus of "way to go!" coming from the gallery. Way to go, Diego! 8)

Accepting orders already? I need five! (N.T.)

*Message #13 Posted by **Vieira, Luiz C. (Brazil)** on 7 Dec 2005, 10:25 p.m.,*
in response to message #1 by Diego Diaz

Re: New solution for the corrosion of HP-41 I/O block.

*Message #14 Posted by **John Garza(3665)** on 7 Dec 2005, 11:00 p.m.,*
in response to message #1 by Diego Diaz

Very cool.

I'll take a couple. Can you post price & ordering info? Thanks.

Re: New solution for the corrosion of HP-41 I/O block.

*Message #15 Posted by **GE** on 8 Dec 2005, 3:43 a.m.,*
in response to message #1 by Diego Diaz

Incredible work ! I want 2 of these. Please let us know if this makes it to production status. Congratulations on your dedication to helping others.

Re: New solution for the corrosion of HP-41 I/O block.

*Message #16 Posted by **Christoph Klug** on 8 Dec 2005, 3:51 a.m.,*
in response to message #15 by GE

Dear Diego,

a really great solution from your side for the world of HP41 enthusiasts. Now this is your second Xmas gift :-))

With best wishes - Christoph

Re: New solution for the corrosion of HP-41 I/O block.

*Message #17 Posted by **chic thomson** on 8 Dec 2005, 4:58 a.m.,*
in response to message #1 by Diego Diaz

Yeah D, I'm in for a couple too!
Chic

Re: New solution for the corrosion of HP-41 I/O block.

*Message #18 Posted by **Matthias Wehrli** on 8 Dec 2005, 6:50 a.m.,*
in response to message #1 by Diego Diaz

Brilliant work I agree.... Thanks for your work again Diego.

I´m currious about the ebay deals with dead HP-41 calculators... ;) Matthias

Re: New solution for the corrosion of HP-41 I/O block.

*Message #19 Posted by **Diego Diaz** on 8 Dec 2005, 9:13 a.m.,*
in response to message #18 by Matthias Wehrli

Hi again and a very big thanks to all of you for your kind comments... (Seems you were rigth Bill ;-)

I'd like to clarify that these units are not in production yet. If this was the case I'd have placed a FS ad instead.

These are samples I ordered a few weeks ago and received yesterday for testing. Tests have gone really well. I was the first one to be impressed for the outstanding quality of the board and the accuracy of the tooling job (this was my real concern as tolerances for the I/O interfece are very tight)

The aim of this thread is making myself a clearer idea about the "reasonable" number of units to order mass production. Obviously the final price will depend on that number... the higher the number, the lower the price (ok, you knew that already :-) import taxes will also affect the definitive figures.

The expected range for the final price tag is set between 35 and 45 Eur. As you can see they're not cheap, (more than $1000 just for processing and tooling... three samples!!) that's probably why no-one had decided re-manufacturing them before... that, and the difficulties in find a high quality manufacturer willing to accept so small a run orders... most HI-Tech manufacturers of Flex-PCB's do not accept orders below the thousand units.

Regarding availablity, they can be ready to ship by early Feb. I'll place the corresponding FS ad with the usual info in this site as I got them on hand.

Again thanks for your interest and best wishes for this Xmas season from the (now sunny :-) Canary Islands.

Diego

Re: New solution for the corrosion of HP-41 I/O block.

*Message #20 Posted by **valentino ducati (switzerland)** on 8 Dec 2005, 3:35 p.m.,*
in response to message #19 by Diego Diaz

Diego: Here, here!

I've also a "dead" 41C. Well, not really dead, but with corroded contacts. If I could change them, I could give it a second life!

Count me in, I too I'm looking forward to your offer.

Have a nice Xmas.

Valentino

Re: New solution for the corrosion of HP-41 I/O block.

*Message #21 Posted by **Andreas Müller** on 12 Dec 2005, 9:41 a.m.,*
in response to message #19 by Diego Diaz

Hi Diego,

Congrats to this superb job. If I can help to decrease the cost: I need five!

Best wishes, Andreas

P.S. How many top secret "little surprises" do you still have in your drawer?

Re: New solution for the corrosion of HP-41 I/O block.

*Message #22 Posted by **David Smith** on 9 Dec 2005, 12:08 p.m.,*
in response to message #1 by Diego Diaz

The picture of the contacts on the installed one looks different than the flat one. They appear much too thin. Did you have two versions made?

BTW, I have a box of 24+ HP41 machines: all working, but with repaired corroded contacts and many with minor engravings, etc. It may be worth fixing them up with new contacts.

Now, tool up some port and battery covers...

Re: New solution for the corrosion of HP-41 I/O block.

*Message #23 Posted by **Diego Diaz** on 10 Dec 2005, 10:52 a.m.,*
in response to message #22 by David Smith

Hi David,

You've certainly got a sharp eye man!!

The flat Flex in the picture is indeed thicker than the mounted one. This is due to the liner (protective paper coating) attached to its back. This liner must be removed during instalation to expose 3M VHB adhesive, thus the final thickness is actually thinner, but there is just one version of this Flex PCB.

If you're seriously planning a *mass* recovery of your (+24) units, chances are that this helps to get a "thinner" final price for all of us too. ;-)

Best wishes.

Diego.

Re: New solution for the corrosion of HP-41 I/O block.

*Message #24 Posted by **David Smith** on 10 Dec 2005, 11:09 a.m.,*
in response to message #23 by Diego Diaz

Well, I was referring to the width of the traces where the modules make contact. On the photo of the mounted one, they appear to be rather thin. On the photo of the flat one they seem to be more like the width of the original HP ones.

Re: New solution for the corrosion of HP-41 I/O block.

*Message #25 Posted by **Diego Diaz** on 10 Dec 2005, 12:48 p.m.,*
in response to message #24 by David Smith

Hi David,

Thanks for the clarification, I had been wondering how have you got such a sharp perception to appreciate the difference in the PCB's thickness... (and was seriously considering a visit to the optician!! :-)

Back to the tracks widthness issue, the difference you can see in the picture is just caused mainly due to illumination incident angle when the pictures were taken, but both PCB's are identical and have been designed to match (or exceed) the original specs.

Cheers.

Diego.

Edited: 10 Dec 2005, 12:56 p.m.

Re: New solution for the corrosion of HP-41 I/O block.

*Message #26 Posted by **Ron** on 12 Dec 2005, 2:10 p.m.,*
in response to message #1 by Diego Diaz

If the price is reasonable, I would be interested in purchasing about five. Any idea yet what the price would be?

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Creating .ROM files for HP41 ?

*Message #1 Posted by **Francois** on 7 Dec 2005, 3:15 p.m.*

Hello,

Further to advices found on the forum for creating my own .rom files, I've started working with EMU41 which works great but I'm unable to solve the following problems. 1) I've downloaded the machine code for hp41cx (5 * 8k rom files) but I'm unable to merge these files into one .ROM file and then convert it with CLBIN41.EXE Can I use directly .ROM files in EMU41 ? 2) I've not find the necessary rambox.bin file. Where can I find it or create it ? 3) Can I load .ROM files directly in V41R8 or does it accept only .MOD files In this case, how can I convert .ROM to .MOD files ? Thank you by advance for advices, I'm very new in this domain. I own my 41cx since 1984 but don't know anything about machine langage.

Francois (loooking for a charging port cover ...) France

Edited: 7 Dec 2005, 3:16 p.m.

Re: Creating .ROM files for HP41 ?

*Message #2 Posted by **J-F Garnier** on 8 Dec 2005, 6:46 a.m.,*
in response to message #1 by Francois

Bonjour Francois,

I can answer the questions relative to Emu41:

*1) I've downloaded the machine code for hp41cx (5 * 8k rom files) but I'm unable to merge these files into one .ROM file and then convert it with CLBIN41.EXE Can I use directly .ROM files in EMU41 ?*

ROM files are compatible with Emu41, you can load them directly without merging or converting them. Just pay attention that Emu41, as a DOS application, doesn't accept long filenames so you have to shorten some ROM filenames to 8 characters (e.g. xfuns3-2d.rom).
The only exception are bank-switched ROMs, that you *have* to merge into a single file so Emu41 can recognize the bank switching scheme. To merge files, you can do at Windows Command Box level:
copy time-2c.rom /b + xfuns5-2D.rom /b cxtime.rom
Finally, the Emu41.ini file for CX machine becomes:

```
0 4 nut0-N.rom
1 4 nut1-F.rom
2 4 nut2-L.rom
3 4 xfuns-2d.rom
5 8 cxtime.rom   the only ROMs that *need* to be merged
```

The other ROM that need to be merged are: the Advantage ROM (merge the 3 4k-blocs) and the Hepax (merge the 4 4k-blocs)

2) I've not find the necessary rambox.bin file. Where can I find it or create it ?

The Rambox code is part of the Rambox and is included in the ramboxii.dat file (both banks of page 8).

J-F

Edited: 8 Dec 2005, 6:53 a.m.

Re: Creating .ROM files for HP41 ?

*Message #3 Posted by **Francois** on 8 Dec 2005, 3:54 p.m.,*
in response to message #2 by J-F Garnier

Merci Jean Francois et félicitations pour EMU41, I've succeded in declaring the rom files for 41 cx and merging the xfuns rom files into one. It works great and I find all the modules in cat 2. For the rambox, I've declared 10 64 ramboxii.dat it's ok. After, I've created a user code software rom using INITPG LDPGM XQ>XR SUMPG ENDPG All works great. I can list my programs in the RAMBOX 64a module and they are stored in the mldlram.dat file. After, the problems begin. I copy the mldlram.dat in emu41in.dat file and execute LOWER and UPPER. Then rename emu41out.dat in module.bin and convert it in module.rom. But I'm unable to declare and see my module in cat 2 either declaring module.bin or module.rom I think I miss a little detail somewhere but I'm unable to find where. If someone could help me .... Thank you again Francois

Edited: 8 Dec 2005, 3:57 p.m.

Re: Creating .ROM files for HP41 ?

*Message #4 Posted by **J-F Garnier** on 9 Dec 2005, 7:14 a.m.,*
in response to message #3 by Francois

For the rambox, I've declared 10 64 ramboxii.dat it's ok

The 64k rambox *must* be declared as:
8 64 ramboxii.dat (starting from page 8, up to page 15)

I understand that your goal is to create a custom ROM module. It's a good idea to use the mldlram.dat file. You just have to override 2 free pages of the rambox, by adding *after* the rambox declaration:
10 8 mldlram.dat for instance

After, the problems begin. I copy the mldlram.dat in emu41in.dat file and execute LOWER and UPPER. Then rename emu41out.dat in module.bin and convert it in module.rom.

You are refering to the LOWER and UPPER utilities described in Christoph Klug's document. I advise to include a CLRDEV function (X-I/O module) after the SELECT function and at the end of each utility, to be sure to reset input file pointer and then close the output file (flush any data in internal/system file buffer).

Tell me if this helps !

J-F

Re: Creating .ROM files for HP41 ?

*Message #5 Posted by **Francois** on 9 Dec 2005, 4:36 p.m.,*
in response to message #4 by J-F Garnier

Thank you Jean Francois

I've looked rapidely at my problem. I'm able to create .BIN files with my code inside but when I

declare it in EMU41, it doesn't appear in any cat but can be exectuted.

Best regards François

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HP48GX -- 2 years not in use -- cant get it run

*Message #1 Posted by **Pelusa** on 7 Dec 2005, 3:17 a.m.*

Hi, I have a big problem with my HP48GX. I read already in the archiv that of the RAM is without battery for a too long time strange things might happen.

Well my problem right now is, that when putting new batteries in, I just see first these fast running horizontal lines going from the upper part of the display to the lower. I thought perhaps the HP is recovering. But it is now on for more than 2 hours, the lines have changed however. Now its just one thick line that is going downwards, but still no response to any keyboard entry.

Hopefully I get my HP to work again .... I thought I am asking first perhaps I have to wait longer to recover all memory, before i am trying to reset or delete what was on my memory (if this did not yet happen already ...)

Thanks for your help Pelusa

Re: HP48GX -- 2 years not in use -- cant get it run

*Message #2 Posted by **Namir** on 7 Dec 2005, 3:55 a.m.,*
in response to message #1 by Pelusa

With the batteries out of the alculator, use a piece of metal to connect the batterie contacrs. Ths acion should discharge any possible static charge. Insert the batteries and see f it turns on.

Namir

Re: HP48GX -- 2 years not in use -- cant get it run

*Message #3 Posted by **Han** on 7 Dec 2005, 12:17 p.m.,*
in response to message #2 by Namir

Here are some fixes you can try:

1. Check that your batteries are inserted in the correct position. If so, then remove the batteries and re-insert them. Does the HP turn on correctly?

2. If not, keep the batteries in there and leave your HP on. Turn it over so that you see the four rubber feet. Remove the top right rubber foot. You will see a hole where the rubber foot used to be. Take a paper clip and press it gently into that hole. Take a look at your HP's screen now. It should be off. Now turn your HP back on again, and chances are your HP is back to working order (with a "Recover Memory?" screen).

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Theodolites and calculators

*Message #1 Posted by **Matthias Wehrli** on 7 Dec 2005, 12:43 a.m.*

Can someone tell me a bit more about attaching a theodolite to a HP calculator (HP-41 Serie, HP-71B, HP48GX, ...). What theodolite is needed for what system? There are so many different systems. For the HP48GX there is a SMI and a Topcon software, so I think there is at least one Topcon theodolite for this, but which one? What do I need else? For the HP-71B and for the HP-41 Serie there extists also Surveing software. For the HP-41 I have a DIF41. This is the interface to attach a Kern Swiss Theodolite E1/E2 (so at least here I know what I need). Maybe someoe can sell me usable configurations as Calculator, Software and Theodolite. With what systems do you operate?

Yours, Matthias

Re: Theodolites and calculators

*Message #2 Posted by **db (martinez, ca.)** on 7 Dec 2005, 11:30 a.m.,*
in response to message #1 by Matthias Wehrli

attaching: It's not just the software. Except for Topcon and Leitz they all use different plugs, or at least different pinouts. The oldest 2 Topcons also used their (don't ask me how) power input socket to transfer data but they only output distances. Older Geodimeters also had the problem of only transfering distance, at least to TDS. Of course, the HP platforms all use their own plugs on that end, with the exception of one TDS 41 configuration, which uses a standard 9 pin. D'zign's great 48 series programs were never marketed with data collection capability because each gun (dozens) needs it's own routine and Ted said it was just too much trouble back then. However, he would give users the program he wrote for his own Topcon 3B. Allen Precision Istruments caries a lot of the cables.

sell: If you want to have an instrument to trigger from your calculator just to have; i'd suggest looking for one of the older Topcons, they go cheap. The HP 3810b sometimes gets sold for a couple of hundred bucks. No one with a functioning Kern is going to sell it for what you will want to pay. They had sweet glass. You may someday, as they say, pry it from his cold dead hands. This is an *IF*: If Airbus uses Kern in the airframe division they will sell off working units after they have had the guts turned out of them. This happens with Boeing and their used Wild equipment. Good luck.

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Photo-Love-Story

*Message #1 Posted by **Matthias Wehrli** on 7 Dec 2005, 12:23 a.m.*

Have a look at this auction... How much money does teh seller pays for all these pictures ;)

http://cgi.ebay.com/HP-HEWLETT-PACKARD-41CX-CALCULATOR-WITH-PETROLEUM-41-CX_W0QQitemZ5839401428QQcategoryZ58039QQrdZ1QQcmdZViewItem

Re: Photo-Love-Story

*Message #2 Posted by **Howard Owen** on 7 Dec 2005, 3:19 a.m.,*
in response to message #1 by Matthias Wehrli

A real photo essay there..

All the eBay tipsters say "take lots of pictures." This guy sure has taken that advice to heart! 8)

Re: Photo-Love-Story

*Message #3 Posted by **Christoph Giesselink** on 7 Dec 2005, 4:20 p.m.,*
in response to message #1 by Matthias Wehrli

Most of the pictures are only embedded from non ebay server. This safes a lot of money when you don't locate them on the ebaystatic server.

Cheers

Christoph

Re: Photo-Love-Story

*Message #4 Posted by **Howard Owen** on 7 Dec 2005, 6:37 p.m.,*
in response to message #3 by Christoph Giesselink

Yep, although his hosting costs may have shot up from being MoHPCackled. Or, not. 8)

Re: Photo-Love-Story

*Message #5 Posted by **gifron** on 8 Dec 2005, 1:00 p.m.,*
in response to message #1 by Matthias Wehrli

The group of 40 cost nothing, as they're hosted elsewhere. Don't know about the group of three.

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"Nasty Old HP41C"

*Message #1 Posted by **Howard Owen** on 6 Dec 2005, 3:26 p.m.*

Someone doesn't share our love for old HP machines. 8)

Nasty Old eBay Auction

Re: "Nasty Old HP41C"

*Message #2 Posted by **Walter B** on 6 Dec 2005, 4:18 p.m.,*
in response to message #1 by Howard Owen

Sounds like broken love d;-)

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How to open the HP28

*Message #1 Posted by **inaki** on 6 Dec 2005, 7:59 a.m.*

Anyone has opened the HP28 calculator ? Does it have hidden screws or is it assembled by presure/click only ?

Re: How to open the HP28

*Message #2 Posted by **Gerson W. Barbosa** on 6 Dec 2005, 10:33 a.m.,*
in response to message #1 by inaki

Take a look at this older thread:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv006.cgi?read=9873

I got a nice 28S recently. Too bad there are two columns in the alpha keyboard that are not working, those starting at 'B' and 'F'. Do you want to open yours because of a similar problem?

Regards,

Gerson.

Re: How to open the HP28

*Message #3 Posted by **Bo B(Sweden)** on 6 Dec 2005, 10:49 a.m.,*
in response to message #2 by Gerson W. Barbosa

Yes, the method suggested in the link in Gersons' post above do work. I've used it for several 28S with broken keyboards. It's somewhat difficult to glue it together again and one should not expect the calculator to feel as solid as before (one could of course argue that this calculator didn't have a solid feel in the first place... :))

Bo

Re: How to open the HP28

*Message #4 Posted by **Gerson W. Barbosa** on 6 Dec 2005, 11:52 a.m.,*
in response to message #3 by Bo B(Sweden)

Hello Bo,

Before I attempt to open it up, how may I be sure the failure is due to a bad contact or a broken trail in the flex printed circuit? Given the columns that are not working, what keyboard overlays should I peel off, both?

Thanks,

Gerson.

Re: How to open the HP28

*Message #5 Posted by **Bo B(Sweden)** on 6 Dec 2005, 4:14 p.m.,*
in response to message #4 by Gerson W. Barbosa

Hi Gerson,

First of all, you may want to practice the disassembly procedure with throw-away unit (I did). Remember the Clamshells are often stated as "not repairable" - for a VERY good reason. I agree with Howards' post below, but with a great deal of patience and a little luck it might be worth a try.

With the 3 28S I've disassembled, I haven't experienced the type of column failure you describe. In all cases, individual keys have failed due to bad contact so a simple cleaning with isopropyl alcohol was sufficient. However, in your case a broken trail seems more probable. I don't know how to possibly diagnose and/or repair a broken trail, but perhaps some other on this forum knows?

And about the overlays: it's always a good advice to take the calculator apart as little as possible (even though the overlay removal is the easy part). Try first the side with the failing columns and see if it helps. The left overlay is most easily peeled off starting from the top (the A row), while the right overlay can be peeled off from either side.

Hope this is of any help! Let us know.

Bo

Re: How to open the HP28

*Message #6 Posted by **Howard Owen** on 6 Dec 2005, 12:06 p.m.,*
in response to message #3 by Bo B(Sweden)

But the main advice in the referenced thread is still good: given the difficulty of surgery on the clamshell models, and the low value they command on eBay, buying a used one there is almost a no-brainer.

Re: How to open the HP28

*Message #7 Posted by **Etienne Victoria** on 6 Dec 2005, 4:56 p.m.,*
in response to message #1 by inaki

Good evening Gerson, Inaki et al

Opening an Hp-28 can be done with some chances to restore the calculator in working order but very few chances to restore the original cosmetics.

I did it to add an interface in a friend's 28 using the following directions:

For english only speakers:

Dismantling the Hp-28. [source Joris Ballet]

For fellow french lovers :-) :

The excellent book from Sébastien Lalande. [source: courbis/Lalande]

The first link provides a tested procedure to disassemble/reassemble the calc.

The second link provides a much more detailed procedure and...all the rest.

I would advise to check them before X-actoing savagely your calc.

Best regards from France.

Etienne

Edited: 6 Dec 2005, 4:57 p.m.

Re: How to open the HP28

*Message #8 Posted by **Gerson W. Barbosa** on 6 Dec 2005, 9:15 p.m.,*
in response to message #7 by Etienne Victoria

Thanks Etienne, Bo and Howard,

Since I feel I am not exactly skillful in removing the overlays and putting them back in place again, I think I won't try it on that 28S because it looks so nice and I might ruin it. Besides, the menus in the defective columns can be accessed via MENU, which in turn can be accessed via CATALOG. Perhaps I can find out workarounds for the missing keys (using CHR, ->STR, etc.) If it only had a two-way infrared interface... Anyway, I'll try to introduce a complete program despite the missing keys.

Howard's suggestion is good, the problem is most 28S calculators I have seen at eBay would not be shipped abroad.

> Quote:
>
> For fellow french lovers :-) :
>
> The excellent book from Sébastien Lalande. [source: courbis/Lalande]

I'll take a look at it, *je pense que je peux comprendre quelque chose* :-)

Best regards,

Gerson

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HP25 Memory

*Message #1 Posted by **Grahame Sutherland(Scotland)** on 6 Dec 2005, 6:29 a.m.*

Is there any data/specification for the HP25 memory ic type 1820-1564. Mine seems to be faulty, unable to store programs & memories.

cheers

Grahame

Re: HP25 Memory

*Message #2 Posted by **Stephen Easterling** on 6 Dec 2005, 7:15 a.m.,*
in response to message #1 by Grahame Sutherland(Scotland)

I thought that was the difference between the 25 and 25C: the "C" stood for continuous memory so that it would retain the program once you turned it off. I would not expect a non-C series 25 to retain memory after turning off.

Re: HP25 Memory

*Message #3 Posted by **Tony Duell** on 6 Dec 2005, 7:55 a.m.,*
in response to message #1 by Grahame Sutherland(Scotland)

Alas all the chips in the HP25 (and, in fact, most of the chips in all HP handheld calculators) are HP custom devices. There are no data sheets available, and the only source of spares is other old HP calculators.

FWIW, The HPCC schematics CD-ROM contains reverse-engineered schematics for the 25 and 25C (and IIRC all other Woodstocks).

Re: HP25 Memory

*Message #4 Posted by **Grahame Sutherland(Scotland)** on 6 Dec 2005, 8:29 a.m.,*
in response to message #3 by Tony Duell

It's a pity there's no info, although having a look at the HP25 diagram might shed some light on the operation of the chip. I may be re-tracing old steps here but it seems a shame I can't use my calc fully.

thanks anyway

Grahame

Re: HP25 Memory

*Message #5 Posted by **db (martinez, ca.)** on 6 Dec 2005, 11:03 a.m.,*
in response to message #4 by Grahame Sutherland(Scotland)

Somone posted something like this a couple of years ago. A reply stated that it probably was one particular chip due to the pattern of what still worked and what didn't.
If you repost with 1)if it is a 25 or 25c 2)when, if at all programs can be stored 3)what can be entered and rolled around in the stack 4)if the memories work 5)does the last x function- then some people here can take a good guess as to what is burned out.
A lot of these go south because of a bad battery connection durring recharging. For some reason; the problem can be worse if the calc is OFF while the charging problem is happening. Sadly; you don't know it happened till the dammage is done and theres no fix for a fried chip.
Good luck. May the RPN deities by with you.

Re: HP25 Memory

*Message #6 Posted by **Grahame Sutherland(Scotland)** on 7 Dec 2005, 5:00 a.m.,*
in response to message #5 by db (martinez, ca.)

*** 1)if it is a 25 or 25c 2)when, if at all programs can be stored 3)what can be entered and rolled around in the stack 4)if the memories work 5)does the last x function ***

1) HP25

2) Unable to store programs '13 00' for all entries

3) Stack seems to be OK

4) Memory contents always zero

5) LASTx always zero

Grahame

Re: HP25 Memory

*Message #7 Posted by **Tony Duell** on 6 Dec 2005, 2:44 p.m.,*
in response to message #4 by Grahame Sutherland(Scotland)

Here's a little background. Some of this comes from what I know about the HP41 series (NUT CPU), I believe the Woodstocks (ACT CPU) are similar, but hopefully Eric Smith will correct any serious errors.

The bus in these machines is bit serial. There's a 2 phase clock generated by the ACT which is routed to all the chips, there are 56 clock cycles per machine cycle. The ACT also generates a SYNC signal during a particular set of clock states of _most_ machine cycles (yes I believe I know the reason for this, but I don't want to confuse you too much).

Another bus line is ISA (Instruction and Address). During the first part of a machine cycle, the ACT outputs a ROM instruction address bit-serially on this line. During a later part of the cycle -- actually the states where SYNC is asserted, the ROM outputs the instruction, again bit-serially, and it's read by the processor _and by other chips in the machine_.

The last bus line you need to consider is the DATA line. This is normally an output from the ACT, and carries the 56 bits (one bit per clock cycle) from one of the internal registers of the ACT.

The RAM chip connects to all those bus lines and very little else. There is, for example, no traditional Read/Write line or address bus to the RAM.

To store something in RAM, the ROM chip contains a write-to-RAM instruction. To the ACT processor this is essentially a NOP. But the RAM also decodes it, and on the next machine cycle stores the bits from the DATA line into one of the 56 bit RAM 'registers'.

To load something from RAM, the ROM outputs a read-from-RAM instruction. Now the processor makes the DATA line an input, and stores the 56 bits presented on it during the next cycle into the appropriate register. Meanwhile the RAM also decodes that instruction and outputs the selected 56 bit 'register' onto the DATA line.

From this you can see that the RAM chip in an HP25 is a lot more than just RAM. It includes circuitry to decode some of the machine code instructions and do the appropriate things.

Re: HP25 Memory

*Message #8 Posted by **Grahame Sutherland(Scotland)** on 6 Dec 2005, 6:41 p.m.,*
in response to message #7 by Tony Duell

A wee bit clearer now, it sound a bit like an early I2C type device! This may be a bit simplistic, but might it be possible to program a Pic to decode these instructions and either read or write the 56bit data to the Pic's internal ram? It would depend on the clock speed of course but if sync and other timing pulses are available ;)

A worthwhile project?

regards

Grahame

Re: HP25 Memory

*Message #9 Posted by **Eric Smith** on 6 Dec 2005, 6:53 p.m.,*
in response to message #8 by Grahame Sutherland(Scotland)

Yes, programming a PIC to replace a Woodstock-series RAM chip is definitely possible. You'd need level shifters on the two-phase clock inputs, because they have a -12.5 to +6.5V swing (IIRC). Most of the PIC chips don't have an operating voltage range extending to +6.5V, but you can probably get away with that on any of them that are spec'd with an absolute maximum rating of +7V. Or you could use a PIC16HV series part.

Re: HP25 Memory

*Message #10 Posted by **Eric Smith** on 6 Dec 2005, 6:49 p.m.,*
in response to message #7 by Tony Duell

Tony's description is correct. There's a little bit of additional complication, in that there are actually 16 instructions that read the RAM, 17 that write it, and one that clears a block of 16 registers:

```
opcode
(octal)   function
-------   ------------------------------------------------------
1160      select register (and selects the block of 16)
0070      read selected register
xx70      (xx != 00) read register xx from selected block of 16
1360      write selected register
xx50      write register xx to selected block of 16
1260      clear block of 16 registers
```

The "clear block" instruction disappeared from later RAM chips. The 1820-1564 has it, and the

1820-1843 probably does as well. Both of those are 16-register chips. I'm not sure whether the 32-register chips (1820-1886, and the CMOS 5061-0469) have the clear instruction.

There are also combined RAM/ROM chips, used in the 67, 92, 97, 19C, 29C, 27, and Spice (series 30).

Re: HP25 Memory

*Message #11 Posted by **Gordon from Chicago HP Calc Club** on 6 Dec 2005, 11:09 p.m.,*
in response to message #1 by Grahame Sutherland(Scotland)

Grahame,

Before you start replacing chips, please take a look at this link from Katie: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=267

I am the original owner of a 25C from 1977. It went into storage for 15 years, when I revived it, it no longer stored data properly. RCL yielded random results in all 8 registers, and so did the program memory, as well as the statistical functions (which used the registers).

I accidently discovered that if I left it connected to a charger overnight, it would work perfectly after the charging resistor heat up the calculator. When it cooled, the problem returned.

I followed the directions on the link, guess what, it worked beautifully ever after. Thank you Katie! I also added the zener diode to protect the calculator while I had the case opened and soldering iron out.

If your memory chips weren't fried by the charger, you may want to try out this repair and keep the original chips.

Good luck.

Re: HP25 Memory

*Message #12 Posted by **Grahame Sutherland(Scotland)** on 7 Dec 2005, 5:06 a.m.,*
in response to message #11 by Gordon from Chicago HP Calc Club

Thanks for that, some usefull information there. I'll stick the meter on it and do some checks.

thanks

Grahame

Re: HP25 Memory

*Message #13 Posted by **Bernhard** on 7 Dec 2005, 4:31 p.m.,*
in response to message #12 by Grahame Sutherland(Scotland)

Dear Graham,

if you need a replacement RAM chip you might salvage one from a HP25C. These are more common and they have the same functionality, but a different pinout, so they don't fit into the socket of the HP25 RAM. I'd love to try such kind of surgery or assist in it. If you see no way out, please contact me by email.

regards, Bernhard

Re: HP25 Memory

*Message #14 Posted by **Grahame Sutherland(Scotland)** on 8 Dec 2005, 11:09 a.m.,*
in response to message #13 by Bernhard

Rewiring a different pin-out ic should be possible, there is a reasonable amount of space around the chip and not all pins are used. I'm keeping an eye out for any 25/25c's on Ebay, unless you have any;)

I read with interest the post for a new flexible connector for the 41c, that would breath some more life into mine.

thanks

Grahame

Re: HP25 Memory

*Message #15 Posted by **Bernhard** on 8 Dec 2005, 6:10 p.m.,*
in response to message #14 by Grahame Sutherland(Scotland)

Dear Graham,

one hint for hunting "transplant donor" HP25/25C on Ebay: the RAM chip of them is very close to the battery contacts and if the calc was killed by a leaky battery, then the RAM chip might be corroded, too.

The best way to mount a HP25C RAM chip into a HP25 probably is to bend the pins 90 degrees or snip them off, solder thin isolated wires to those which are needed, and the other side of the wires to the PCB, and then glue the RAM chip to the old place an upside down position.

I think if you add the few discrete components of the HP25C circuit which relate to the continous memory you might succeed in getting a HP25 with continous memory just like the HP25C.

But if the donor HP25C PCB is good (except for a few bad chips) it might be better to replace the bad chips with good ones from your HP25. This of course assumes that at least the RAM chip of the donor is still good. According to my experience with HP25Cs which were killed by attempting to run them on a charger without battery inserted almost all of them had a dead 1818-0154 ROM (the chip on the right lower side) while all other chips were still good (especially the 1818-0168 anode driver always was good, somehow the display seems to protect it from overvoltage). Second place in fatalities was the ACT. All these chips can be interchanged between HP25 and HP25C. ACT 1820-1523 and 1820-1741 also fit the same socket (can be interchanged in the HP25, HP25C)

BTW, I have a few 5061-0469 RAM chips (25C/29C) and would swap / trade against a 1818-0154 and/ or a 1818-0431 which I am looking for.

Regards, Bernhard

Re: HP25 Memory

*Message #16 Posted by **Grahame Sutherland(Scotland)** on 9 Dec 2005, 5:02 a.m.,*
in response to message #15 by Bernhard

As I only have the one 25 at the moment I'll keep looking for a doner machine but I agree

with your idea of mounting the chip upside-down and wiring the pins out to the board. I still think it would be a good project to emulate the ram chip within a PIC, a bit more research into the workings of the HP ram chip first though.

many thanks

Grahame

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HP41 Beep sound in a .WAV format file

*Message #1 Posted by **Andrés C. Rodríguez (Argentina)** on 5 Dec 2005, 10:04 p.m.*

I am looking for an acceptable-quality WAV sound file containing a recording of the HP41 BEEP. I think it may be used in some emulators/simulators, but I haven't found such file.

I suppose there are no copyright issues for this case :-)

If someone has this kind of file, please send it to

andres dot c dot rodriguez at gmail dot com

Thank you in advance,

PS: Just in case you are curious about this, it will be the startup sound of my new digital still camera.

Re: HP41 Beep sound in a .WAV format file

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 6 Dec 2005, 2:17 a.m.,*
in response to message #1 by Andrés C. Rodríguez (Argentina)

Hi Andrés, you have mail...

Greetings,
Massimo

Edited: 6 Dec 2005, 2:18 a.m.

Re: HP41 Beep sound in a .WAV format file

*Message #3 Posted by **Geir Isene** on 6 Dec 2005, 2:12 p.m.,*
in response to message #2 by Massimo Gnerucci (Italy)

Me too, please.

Re: HP41 Beep sound in a .WAV format file

*Message #4 Posted by **Massimo Gnerucci (Italy)** on 6 Dec 2005, 3:20 p.m.,*
in response to message #3 by Geir Isene

Geir,
I tried but your mail server seems oversensitive about spamming; here's the reply when I tried the e-mail address available on your website:
PERM_FAILURE: SMTP Error (state 9): 550 <(ACCOUNT_NAME_OMITTED)@isene.com>: Recipient address rejected: User unknown in virtual mailbox table

What can I do?

Greetings,
Massimo

Re: HP41 Beep sound in a .WAV format file

*Message #5 Posted by **Geir Isene** on 7 Dec 2005, 3:11 a.m.,*
in response to message #4 by Massimo Gnerucci (Italy)

You have mail :)

Re: HP41 Beep sound in a .WAV format file

*Message #6 Posted by **Mike (Stgt)** on 7 Dec 2005, 4:36 a.m.,*
in response to message #5 by Geir Isene

Would be nice if you could publish it as I did with my favorite "beep" (OT).

TIA.....M.

It's a HIT!

*Message #7 Posted by **Massimo Gnerucci (Italy)** on 7 Dec 2005, 6:36 a.m.,*
in response to message #6 by Mike (Stgt)

Hi all,
it seems that this is gonna be a hit...
You can find it here as an mp3

While at there feel free to browse around my collection (last update about three years ago).
Unless you have a 92 or a 95c to offer please disregard all those "wanted!"...

Oh, and the mail link is outdated too, so spammers can ignore it as well. :-)

I am waiting for my new digital camera in order to renew and redesign the site.

Greetings,
Massimo

Re: HP41 Beep sound in a .WAV format file

*Message #8 Posted by **Massimo Gnerucci (Italy)** on 7 Dec 2005, 5:50 a.m.,*
in response to message #5 by Geir Isene

You too! :-D

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Value of Champion case

*Message #1 Posted by **Samuel Heddle** on 5 Dec 2005, 9:33 p.m.*

How much can I be expected to get in return for a Champion leather case on an online trade? I'm just wondering, as I'm looking to get some modules for my new toy, a slightly battered 41-CV.

Re: Value of Champion case

*Message #2 Posted by **Stephen Easterling** on 5 Dec 2005, 11:39 p.m.,*
in response to message #1 by Samuel Heddle

$35 - $70, depending on if some bidders get into bidding wars on Ebay. I'm so glad I finally found one for my 28S (my first calc 15+ yrs ago). I would have gladly paid $50 for the case just to make it complete and cozy. Those nice leather cases for the Champions just never turn up on Ebay, and when they do, they are being auctioned off with the calc and manuals. I say run an auction for $45 or $50.

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Clonix-41 update (Xmas gift... ;-)

*Message #1 Posted by **Diego Diaz** on 5 Dec 2005, 3:32 p.m.*

Hi all,

It's Xmas season and most of us are seeking for appropriate gifts...

Indeed it's a hard job to find the right gift for every person, but I'm pretty sure I've got a (sort-of-a) gift that will make many (all?) Clonix users very happy: some miliamps!!

Yes, if you take a look at http://www.clonix41.org/Projects/Clonix-41/clonixlp.zip you'll find a brand new version of the code for your Clonix-41 (of course it can also be used with NoV's)

Tha main difference with previous version is that the power consupmtion has been reduced by some 60%... yes, sixty!

There are some drawbacks though:

- You cannot use the 512 RAM words option.

- No bank-switching (this only affects Advantage emulation)

- It cannot be used with 2x speeded up HP-41's

For now this is *experimental* as it has not been possible to test it with the whole HP-41 clock range (340 thru 380KHz) but I've tested it within the 351 - 371KHz range and worked flawlessly.

Hope you enjoy it as much as I've enjoyed developing the code!! ;-))

Best whishes from the Canary Islands.

Diego.

I consider myself visited, Santa!

*Message #2 Posted by **Vieira, L. C. (Brazil)** on 5 Dec 2005, 6:30 p.m.,*
in response to message #1 by Diego Diaz

Hey, Diego;

I'm still waiting for the package, but it is not yet delayed; my bet is that it will be here prior to the end of the week. I'll let you know.

And by all means, I consider myself alredy visited.

Thanks!

Luiz (Brazil)

Re: Clonix-41 update (Xmas gift... ;-)

*Message #3 Posted by **Massimo Gnerucci (Italy)** on 5 Dec 2005, 7:58 p.m.,*
in response to message #1 by Diego Diaz

Ola Diego!
Thanks a lot from your first customer ;-)
Merry Xmas to you too,
Massimo

Re: Clonix-41 update (Xmas gift... ;-)

*Message #4 Posted by **Diego Diaz** on 5 Dec 2005, 10:57 p.m.,*
in response to message #3 by Massimo Gnerucci (Italy)

Hi,

Nice to meet you both here: my very first, and my last (so far) customers ;-))

Hope many others in between also enjoy the modules I build...

Season Greetings for all of you.

Diego.

Re: Clonix-41 update (Xmas gift... ;-)

*Message #5 Posted by **Vieira, L. C. (Brazil)** on 6 Dec 2005, 9:35 a.m.,*
in response to message #3 by Massimo Gnerucci (Italy)

Hey, Massimo!

Yours is a priviledge position; mine will be lost soon, surely.

Best regards.

Luiz (Brazil)

Re: Clonix-41 update (Xmas gift... ;-)

*Message #6 Posted by **Christoph Klug** on 6 Dec 2005, 10:43 a.m.,*
in response to message #5 by Vieira, L. C. (Brazil)

Dear Diego,

the 60% supply current reduction would be a great progress for your nice CLONIX design :-) With best wishes for any Clonix enthusiast for the comming Christmas Day...

Christoph Klug

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For those who ordered a 49G+ from Joe Horn...

*Message #1 Posted by **Wayne Brown** on 5 Dec 2005, 12:04 p.m.*

...a bit of news has surfaced.

Several people have mentioned over the last few months that they ordered 49G+ calculators from Joe Horn's web site but never received them. I believe it's been about a year since those orders were placed, and people have (understandably) been concerned and/or upset about the situation. The most worrying part is that there has been little or no information available about the reasons for it. There were a few bits of information indicating that Joe had been dealing with some serious health issues, but no explanation for why no one was at least attempting to answer questions about the calculators. Although I didn't order one of these calcs myself, I found all this troubling because I've always known Joe to be a stand-up guy and found it hard to believe that he would behave in a dishonest manner, so the whole mess seemed inexplicable.

However, it looks like the situation is on its way to being resolved, and I'm happy to say that the problems up to now appear to have been, as expected, beyond Joe's control. There's been a thread in comp.sys.hp48 recently discussing this issue, and Joe responded to it yesterday. I'm going to reporduce his reply here, for the benefit of those who don't read comp.sys.hp48.

```
Joe Horn <joehorn@holyjoe.net> wrote:
> Mike wrote:
>
>> I have been contacted by one of Joe's friends who is still
>> working to clear up this mess.  We have emailed a few
>> times today and it sounds like in the long run, things are
>> indeed going to get resolved and those being owed
>> calculators will eventually receive them.
>
> That is correct, and I am hugely thankful to the many people who have
> offered to help. I'm caught in a predicament that I am absolutely
> unable to resolve, and (due to its nature) absolutely unable to
> explain, much to the reasonable consternation of those involved. I was
> not even able to RESPOND about it until now. Suffice it to say that I
> placed my naive trust in the wrong hands, and stupidly signed stupid
> agreements, and a lot of people got screwed (including me). I can't say
> any more about it, except that it WILL be resolved VERY soon, in a way
> that I promise will be most agreeable to all. At that time, either I or
> one of those helping with this mess will post a message here
> immediately to let y'all know how it was resolved... as well as some
> good news that will make everybody's day.
>
> Meanwhile, there are nine people who have every right to be angry as
> hell. I'm one of them, and am more eager than they are to undo the mess
> I caused.
>
>> Why Joe has to rely on a friend, who lives nearly 100 miles
>> away, to take care of this is beyond me, however I am relieved
>> to hear that things are progressing.
>
> They are. Thank you for being one of the people who has reached out to
> help.
>
> For all readers who are not involved, PLEASE accept my apology for the
> bandwidth that this fiasco has taken up on comp.sys.hp48. It'll all be
> over very soon.
>
```

Re: For those who ordered a 49G+ from Joe Horn...

*Message #2 Posted by **Wayne Brown** on 12 Dec 2005, 3:08 p.m.,*
in response to message #1 by Wayne Brown

The latest news from Joe on this issue, posted in comp.sys.hp48 on December 9th:

```
Joe Horn <joehorn@holyjoe.net> wrote:
> Joe Horn wrote:
>
>> It'll all be over very soon.
>
> All the pending hp49g+ orders were shipped today. Finally.
> Details will remain online at http://holyjoe.net/hp/hp49gplus.htm
>
> -jkh-
>
```

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Is this an authentic HP product?

*Message #1 Posted by **Han** on 5 Dec 2005, 11:19 a.m.*

HP48 AUR on eBay

Did HP ever produce such a version of the AUR? It looks like someone may have just printed the HP48 AUR that exists as a PDF file and placed it into a 3-ring binder...

Re: Is this an authentic HP product?

*Message #2 Posted by **Ed Look** on 5 Dec 2005, 11:47 a.m.,*
in response to message #1 by Han

Yes, there IS an authentic HP-published HP 48G series AUR. You can still find copies from some sources, like Samson Cables or maybe CalcPro.

Re: Is this an authentic HP product?

*Message #3 Posted by **Han** on 5 Dec 2005, 11:55 a.m.,*
in response to message #2 by Ed Look

Perhaps I should clarify. I understand that HP did produce a AUR for the HP48G series. The version I know of resembles the User's Guide (softbound cover). However, the eBay auction shows a 3-ring binder version of the AUR. So, did HP ever produce a 3-ring binder form of the AUR?

Re: Is this an authentic HP product?

*Message #4 Posted by **Ed Look** on 5 Dec 2005, 12:00 p.m.,*
in response to message #3 by Han

Not to my knowledge; notice on that picture on eBay that there is an extended gray region on the binder cover. I don't recall there being such a huge gray region like that on the original book version. It was more of a thinner sliver. I think it's a (homemade) copy put in a binder with a nice cover jacket.

I'm not sure it's legal, even if it's dirt cheap...

Re: Is this an authentic HP product?

*Message #5 Posted by **Norris** on 5 Dec 2005, 12:30 p.m.,*
in response to message #3 by Han

I bought an HP48GX, interface cable, and AUR from a mail-order electronics distributor in 1999 (possibly 1998). It was from either "Wholesale Products" or "Wholesale Advantage" (can't remember which -- they are both still listed in the "Calculator Buying Guide" at hpcalc.org).

Anyway, my AUR appears to be exactly like the one shown in the eBay auction. I have always assumed that it was an authentic HP product; in fact, I didn't realize that the AUR came in any other

formats besides the 3-ring binder.

I doubt that these are "homemade" copies. It's hard to see the scale in the eBay photos, but on my AUR the binder and paper are non-standard sizes: the paper is 5.5" x 8.5" (half size), and the binder is an unusual 10" x 8.8" size. Someone who wanted to print out the AUR from a CD would probably use standard 8.5" x 11" paper and a regular binder.

My guess would be that HP ran out of softbound AURs by 1999, needed more, and decided that it would be cheaper to reprint the AUR in binder format than in softbound format.

The binder version may be better than the softbound version in terms of functionality. It's bulky, and takes up a lot of shelf space, but it easily lies flat on your desk and stays open at any page.

Re: Is this an authentic HP product?

*Message #6 Posted by **Norris** on 5 Dec 2005, 12:44 p.m.,*
in response to message #5 by Norris

To clarify a bit more, the printed pages in my AUR binder are almost exactly the same size as the pages in my softbound HP48G "User's Guide". They are not standard 8.5" x 11" pages.

It appears to me that the eBay AUR is identical, but since there is no scale in the photos, it's hard to see the dimensions.

Re: Is this an authentic HP product?

*Message #7 Posted by **Ed Look** on 5 Dec 2005, 1:08 p.m.,*
in response to message #5 by Norris

Well, Wholesale Advantage or Wholesale Products appears to be no longer in existence, as a few years back, its link on one of the calculator site pages was nonfunctional and I cannot even find a website for it anymore.

If you know differently, please post!

If it is legal, then this is not a bad deal, to get a physical copy of the (really, rather large) AUR without having to photocopy it yourself!

Re: Is this an authentic HP product?

*Message #8 Posted by **Norris** on 5 Dec 2005, 2:36 p.m.,*
in response to message #5 by Norris

If you go to this link, you will find some archived messages regarding the HP48G from December 1998 and January 1999. They include some discussion of the availability of the Advanced User's Reference, including the following:

> Quote:
>
> Jim Lawson is at Handi-Calc, and can be reached at 732-928-9528. the URL for Handi-Calc is http://www.waterw.com/~jake-s/handyclc.htm
>
> I got my AUR from Jim, fair price, good shipping rate, and timely. I highly recommend him.
>
> Glenn Capone

> BTW, regarding the discussion about the bound vs. loose leaf style AUR, I got the loose leaf and like it very much. The binder allows it to lay flat when open, at the sacrifice of having to tote a larger book.

This suggests that other people also got binder-style AURs during the 1998-1999 time frame, and that they got them from other distributors (not just the one that I used). So most likely the binder-style AUR was an authentic HP product. In any case, it is quite professionally done, and is probably better for desktop use than the softbound style, although it is less portable.

Re: Is this an authentic HP product?

*Message #9 Posted by **Norris** on 5 Dec 2005, 2:52 p.m.,*
in response to message #5 by Norris

I did a search on Google groups for "AUR binder hp48". Got the following messages from 1998 on comp.sys.hp48:

> Quote:
>
> I ordered an AUR from the US recently, and it also took a while to arrive (a few weeks after my GX did). When I queried the delay, I was told it was on back-order with HP.
>
> It just arrived this morning, and is a ring binder with the manual in loose-leaf form. This kinda ties in with the other recent thread where someone tried to sell an AUR in this form.
>
> From this I can only surmise:
>
> 1) HP isn't making a properly bound AUR any more (which might need lead to more speculation in itself :)
>
> 2) HP has run out (or there is a shortage), and is shipping the ring-binder version until more of the properly bound version are printed/available.

> Quote:
>
> I just checked the university bookstore... They got a whole shipment of AUR manuals that are ALL in this loose-leaf form. It looks pretty big. Not something I would want to carry around.
>
> Oh ya, they sell them for $24.95

> Quote:
>
> another reason for wanting a used [AUR] over a new one is that the new ones are bound in a three-ring binder, instead of the same type of book that the user's manual is. I am pretty sure that is the only way to get them now.

Is this an authentic HP product?

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HP-21 keybord malfunction

*Message #1 Posted by **Mike (Stgt)** on 5 Dec 2005, 7:42 a.m.*

I got a used HP-21 where the 4 key almost results in 7 or nothing or sets the system in a obstructed state. It's quite impossible to enter 4444. Is there a chance to repair it? For schlemiel ones like me too??

TIA.....M.

BTW: All who waited for mail from me the last 6 month -- sorry! I had/still have to care for my health.

Re: HP-21 keybord malfunction

*Message #2 Posted by **hugh steers** on 5 Dec 2005, 10:12 a.m.,*
in response to message #1 by Mike (Stgt)

hi mike,

try this, it has worked for me on several woodstocks. take the machine apart and separate the circit boards. you don't need to dismantle the keyboard. the idea is co tony duell.

find a fine wire brush and poke it into the holes in the back of the keyboard circuit. if you look closely you might see some green inside the holes. ive seen this on several and its small amounts of corroded copper and possibly the problem.

try pressing the key at the same time as working the brush. this squeezes the contact against it and can help as long as you're not too violent.

hope this helps,

Edited: 5 Dec 2005, 10:16 a.m.

Re: HP-21 keybord malfunction

*Message #3 Posted by **Mike (Stgt)** on 5 Dec 2005, 2:09 p.m.,*
in response to message #2 by hugh steers

TNX a lot! I'll try it.

M.

Re: HP-21 keyboard malfunction

*Message #4 Posted by **Etienne Victoria** on 7 Dec 2005, 8:40 a.m.,*
in response to message #3 by Mike (Stgt)

Hello Mike!

Did you succeed in fixing your Hp-21 ?

Etienne

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QRF for ToolBox from Angel Martin?

*Message #1 Posted by **PeterP** on 5 Dec 2005, 12:01 a.m.*

Hi Angel, I know you have already delivered to us the QRF for the SandMath III and there is the docu to the SandBox, yet in March of this year you uploaded the Toolbox Mod to TOS, and I was wondering if you might have a chance to build a QRF for us. As you might (or might not) have seen in the latets SSMC, your functions do get used ;-)

Cheers and thanks for your wonderful stuff!

Peter

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I,Claudius- Plonking is a temporary term of silence...

*Message #1 Posted by **I,Plonked** on 4 Dec 2005, 10:58 p.m.*

If you PLONK him, he simply has to post under a NEW name, AND thread...!??

WHAT a foolish thing to argue over. And yes, distinguish the Scots in the argument please, db(martinez,Ca) *wink* It does sound quite like a conditional defense you make.

The 48 series really outweighs the 42s (pun). I,Plonked -lurker

Re: I,Claudius- Plonking is a temporary term of silence...

*Message #2 Posted by **KerPlunk** on 5 Dec 2005, 8:54 a.m.,*
in response to message #1 by I,Plonked

...he simply has to post under a NEW name, AND thread...

But easily identifiable with the same moronic style.

!*PLONK*!

Re: I,Claudius- Plonking is a temporary term of silence...

*Message #3 Posted by **Geir Isene** on 5 Dec 2005, 10:36 a.m.,*
in response to message #2 by KerPlunk

Do what helps. Do not do what doesn't help.

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82143 Printer Cable for HP41 for I/O

*Message #1 Posted by **Philip** on 4 Dec 2005, 4:45 p.m.*

Does anyone have specs on the cable and connector for the 82143 printer for the HP41? There is a chapter in "Controlling the World with HPIL" which discusses using this connector when disconnected from the printer for other I/O. The article is simply using the connector and the cable but none of the signals. I'm just curious if anyone has done anything to use that interface for something other than the printer.

THanks

Re: 82143 Printer Cable for HP41 for I/O

*Message #2 Posted by **Eric Smith** on 4 Dec 2005, 5:10 p.m.,*
in response to message #1 by Philip

I hacked up something to montitor the signals over that cable and output the data bytes on an EIA-232 serial port. It depended on the printer still being attached and handshaking properly with the module electronics. It would be more difficult to replace the printer entirely.

But unless you have a source of lots of 82143A printer modules (sans printers), what's the point? Designing a one-off interface usinng the 82143A module would be quite a lot of work. It's much easier to just get an 82160A HP-IL interface and an HP-IL converter (serial, GPIO, or HPIB) and use that to connect things.

The closest thing to specs for the signals on that cable that has been seen outside HP would be the documentation on the NPIC chip, which can be found on TOS. It's a clocked synchronous protocol.

Re: 82143 Printer Cable for HP41 for I/O

*Message #3 Posted by **Philip** on 4 Dec 2005, 6:12 p.m.,*
in response to message #2 by Eric Smith

My interest is purely curiosity. I have several 82143's that don't work and I have all the IL gear. I'm just curious if there have been any other implementations or technical details that would allow me to tinker.

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HP-67 Write Problem

*Message #1 Posted by **Henning** on 3 Dec 2005, 5:42 p.m.*

Hello,

First i hope my English is not to well...

I got a HP-67 for a time and it had the Wheel Problem. I repaired it with the two o-rings. I can read cards now but everytime i try to write to a blanc card i got a error message. everybody have a hint for me for that problem?

All the best, Henning

Re: HP-67 Write Problem

*Message #2 Posted by **David Smith** on 3 Dec 2005, 10:30 p.m.,*
in response to message #1 by Henning

The problem is almost certainly the adjustment of the write protect leaf switch since you get an error on writing. Errors reading a just written card could be the adjustment of the head enable switch.

Sorry David...

*Message #3 Posted by **Klaus** on 5 Dec 2005, 10:25 a.m.,*
in response to message #2 by David Smith

...when writing my response I was in a hurry and didn't read your response carefully. So it happened that I repeated your arguments.

I didn't mean to be rude!

Greetings, Klaus

Re: HP-67 Write Problem

*Message #4 Posted by **Klaus** on 4 Dec 2005, 4:30 a.m.,*
in response to message #1 by Henning

Is the card write-protected (corner removed)? Maybe the contact that detects write-protection is out of shape.

Re: HP-67 Write Problem

*Message #5 Posted by **Henning** on 4 Dec 2005, 5:25 p.m.,*
in response to message #4 by Klaus

Hello,

Thanks for the reply! I take a look at the write protect leaf switch. I hope that this is the problem.

All the best, Henning

Re: HP-67 Write Problem

*Message #6 Posted by **Randy** on 4 Dec 2005, 5:33 p.m.,*
in response to message #5 by Henning

If you haven't seen it, be sure to check Tony Duells excellent article on the 67. Look for the signal WPS - that's the one of interest.

67 Internals

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Increase HP48GX processor speed

*Message #1 Posted by **George Rose** on 3 Dec 2005, 4:52 p.m.*

I thought I read either here or at the hpcalc.org site that the processor speed of an HP48GX can be increased at the expense of battery life and incorrect clock time. But now that I have need to do it, I can't find how to do it again. I use my 48GX as a surveying data collector to control a Topcon robotic total station. I really like the 48GX & SMI software, but I really could use the speed increase. Can anyone point me in the right direction?

Re: Increase HP48GX processor speed

*Message #2 Posted by **Raymond Del Tondo** on 3 Dec 2005, 8:56 p.m.,*
in response to message #1 by George Rose

Hi,

there were some companies offering speed upgrades for the HP-48,
one of them is Dynatach (www.dynatech.de),
maybe Cynox (www.cynox.de) offered the upgrade, too.
These upgrades were mostly made by Mr. Kemper (www.miketech.de),
so you could ask him directly.

However if you mainly need the speed increase because the input forms,
choose boxes, and alike are too slow, I have another suggestion:
There exists a software speed upgrade for these user interface elements.
It's called SpeedUI and can be found on www.hpcalc.org .

I have a speed & mem upgraded HP-4G+ from Dynatech,
but with the SpeedUI, the forms are fast enough even in
normal processor speed.

Ok, this is kinda advertizing SpeedUI,
but hey, it's downloadable for free;-)

HTH

Raymond

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Charger 82002A HP 80 parts

*Message #1 Posted by **Gerardo Rincon** on 3 Dec 2005, 12:28 p.m.*

I need to replace the three prong female connector of my HP 80 charger. Where can I buy this female connector?

Thanks, Gerardo

Re: Charger 82002A HP 80 parts

*Message #2 Posted by **Randy** on 3 Dec 2005, 1:20 p.m.,*
in response to message #1 by Gerardo Rincon

Attached to another 82002A... They don't exist otherwise as it is a custom molded HP part.

The most common problem is fractured wires were it enters the connector. One solution would be to carefully slice it open, shorten the cable and solder the wires to the pins. It can be done in such a way as to be almost invisible.

Total replacement is another possibility.

Re: Charger 82002A HP 80 parts

*Message #3 Posted by **db (martinez, ca.)** on 3 Dec 2005, 1:47 p.m.,*
in response to message #2 by Randy

Randy; I was going to post that he should send it to fixthatcalc.com, and there you go giving away the store.

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Creating your own keyboard overlay...

*Message #1 Posted by **Han** on 3 Dec 2005, 1:30 a.m.*

... is it easy ? I have tried (perhaps in vain) to search for HP48 accessories -- in particular the keyboard overlays. One of my HP48GX's is slowly showing a little bit of wear on the keyboard (nothing bad, just that it no longer is shiny and new looking =)

Has anyone tried making their own keyboard overlay? Or could someone owning one give us dimensions / measurements so we could attempt such a project?

Han

Re: Creating your own keyboard overlay...

*Message #2 Posted by **tomc** on 3 Dec 2005, 2:03 p.m.,*
in response to message #1 by Han

I was lucky enough to have purchased a few from HP back when they were available.

There is someone out there (in Hawaii)that is making blank ones. Not quite to the quality of the HP ones, but very usable and reasonably priced. I found him either here or in the newsgroup. Let me know if you can't track him down and I'll get the info up here.

TomC

Re: Creating your own keyboard overlay...

*Message #3 Posted by **Geir Isene** on 3 Dec 2005, 2:15 p.m.,*
in response to message #2 by tomc

Please get the info up here.

Re: Creating your own keyboard overlay...

*Message #4 Posted by **Han** on 3 Dec 2005, 8:55 p.m.,*
in response to message #3 by Geir Isene

I second that motion.

Re: Creating your own keyboard overlay...

*Message #5 Posted by **tomc** on 3 Dec 2005, 9:22 p.m.,*
in response to message #4 by Han

All:

Well here it is; it's been a while (just about a year), but hopefully Jason is still in this biz. They

were not quite as 'clean' as the HP ones, but were very good.

Jason Look <jyl@hgea.org>

Let me/us know how it goes.

TomC

Re: Creating your own keyboard overlay...

*Message #6 Posted by **Han** on 4 Dec 2005, 12:49 a.m.,*
in response to message #5 by tomc

Thank you for the info! I was wondering if you happen to have some photos of these overlays (the non-HP ones).

Han

Re: Creating your own keyboard overlay...

*Message #7 Posted by **tomc** on 4 Dec 2005, 3:25 p.m.,*
in response to message #6 by Han

Don't have any here; but perhaps I could scan both the HP ones and the other ones. Don't hold your breath though; very busy now; will try within the next week or so.

TomC

Re: Creating your own keyboard overlay...

*Message #8 Posted by **tomc** on 5 Dec 2005, 5:30 p.m.,*
in response to message #7 by tomc

Just an fyi; my email to Jason (the overlay source) I had listed bounces!

Re: Creating your own keyboard overlay...

*Message #9 Posted by **tomc** on 5 Dec 2005, 6:03 p.m.,*
in response to message #8 by tomc

Ok; I've scanned in both an hp (non-clear) overlay and the 'non-hp' one I had obtained from Jason. Email me and I'll email you 600dpi scans (about 12MB each) of whatever ones you want.

TomC

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32s2 for 48gx

*Message #1 Posted by **david bowers** on 2 Dec 2005, 11:11 p.m.*

i have 2 32s basically mint and hardly used, maybe a few hours each from singapore, and 2 x 48g plus the beat up 42s and a hp48 gx for surveying i would be interested in getting a 48 gx with survey pro card as a back up for my other work gx, if anybody would want to do a deal for one of the 32s and they have a gx for sale let me know, i placed an add in the wanted section but got two identical emails from china, but with different names saying they had some in a wharehouse, maybe a scam. anyway if anyone has a gx in australia they wouls sell thanks david

Re: 32s2 for 48gx

*Message #2 Posted by **Han** on 3 Dec 2005, 1:27 a.m.,*
in response to message #1 by david bowers

So are you looking for an HP48GX only? Or did you want a complete package (HP48GX + Survey card)?

Han

Re: 32s2 for 48gx

*Message #3 Posted by **david bowers** on 3 Dec 2005, 10:51 a.m.,*
in response to message #2 by Han

hi i would like the gx and a survey pro card and cables etc, i have tds survey, but the pro is better, its a gamble i guess, somebody said even the cards crash fatally, but a tds ranger for constructions sites only is out of my range of dollars, does anyone know if the ranger has an rpn calculator built in, i may be off to jamaica after taiwan, or iraq, hmm no i hope not cheers david

Re: 32s2 for 48gx

*Message #4 Posted by **Han** on 3 Dec 2005, 9:07 p.m.,*
in response to message #3 by david bowers

If I recall, TDS had a trade-in period for the Survey Pro cards for about $400. It was part of some promotional thing they did to help surveyors transition from the (then) soon-to-be discontinued HP48GX. With this in mind, it may be that there are even fewer Pro versions out there, and that you may be paying top dollar for them. Is the Ranger that much more expensive?

Re: 32s2 for 48gx

*Message #5 Posted by **Tim Wessman** on 3 Dec 2005, 9:38 p.m.,*
in response to message #4 by Han

Rangers can run 4-8 thousand depending on which software and upgrades you run.

That is one of the reasons our DC49 will clean up when it is released.

TW

Re: 32s2 for 48gx

*Message #6 Posted by **Raymond Del Tondo** on 3 Dec 2005, 10:12 p.m.,*
in response to message #3 by david bowers

Hi,

there's an Ebay auction featuring what you are looking for.
Item number: 5835392496 .
Ok, it's a complete set, but it contains at least
three valuable items: the GX, the Survey Pro card,
and the 1MB mem card.
The TDS card alone may be worth more than $400,
much more than even a NIB 32SII,
so the remaining items included in the auction
could be considered as cheap add-ons;-)

Regards

Raymond

Re: 32s2 for 48gx

*Message #7 Posted by **david bowers** on 4 Dec 2005, 8:25 a.m.,*
in response to message #6 by Raymond Del Tondo

hi i wasnt asking for an equal swap, but as part payment if anyone had a gx they didnt use much, i would trust people from here more than e bay to buy, the ranger base unit is 2700usd and about the same for survey pro, if i can get the company to for out for the programme i may get the ranger but the gx is a great unit, someone writes about a 49g invention, i saw the site of an hp cacl shoved in a plastic box, doesnt look too professtional, i thought he gx wasnt stable, anyway i will keep looking thanks to all david

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OT: PRM-85 Goodness

*Message #1 Posted by **Howard Owen** on 2 Dec 2005, 6:22 p.m.*

Just got my PRM-85 programmable ROM card for the HP Series 80. THe "SuperROM85" that comes with it is a 27512 EPROM containing the following:

```
Advanced Programming
Assembler
Service-85
Program Development
Mass Storage
Matrix
Input/Output
Extended Mass Storage
```

To get the card working in my HP-85B, I had to remove the jumpers for the Mass Storage and Input/Output ROMS, as these are built-in on that model. But once I did that, I was able to access an HP 9122 double sided disk from the 85B! Now I get to start learning about all those other ROMS. 8)

Next I also get to figure out what it will take to get an EPROM burner set up so I can create a SuperROM for my 87XM. What a hassle, I have to learn how to do all this cool stuff. 8) 8)

Thanks to John Shadbolt for turning me on to this great device, and of course to Bill Kostaka for the design and production!

Regards,
Howard

Re: OT: PRM-85 Goodness

*Message #2 Posted by **Jack Rubin** on 3 Dec 2005, 1:19 a.m.,*
in response to message #1 by Howard Owen

Got mine on Wednesday but only got to my 85B today - really nothing to add to Howard's review. A slick piece of work that delivers as advertised. Thanks to John and Bill.

Now I'm looking for a case to mount the card in - anybody have a blown 128K memory card or interface module? I just need the shell - the PRM-85 has the same form factor as the "long" HP modules (vs the "short" 16K case).

Great stuff - get one!

Re: OT: PRM-85 Goodness

*Message #3 Posted by **john** on 9 Dec 2005, 2:57 p.m.,*
in response to message #1 by Howard Owen

Howard,

I am working on a HP-86 SuperROM with the following built in:

Advanced Programming Assembler Advanced Programming 2 (*) Matrix 2 (*) Plotter (*) Matrix I/O Extended Mass Storage

(*) - Due to the design of the PRM-85 (version 1), only 2 of these ROMs can be enabled at any time.

I'll send you one next week with instructions, Regards, John

Re: OT: PRM-85 Goodness

*Message #4 Posted by **Howard Owen** on 9 Dec 2005, 3:01 p.m.,*
in response to message #3 by john

Great, John! Would you like me to send you a blank EPROM in return? Anything else? (Postcard? 8)

Re: OT: PRM-85 Goodness

*Message #5 Posted by **Jack** on 12 Dec 2005, 11:02 a.m.,*
in response to message #3 by john

John,

I'd be interested in the 86/87 superROM as well - please send details.

Thanks!

Re: OT: PRM-85 Goodness

*Message #6 Posted by **john** on 16 Dec 2005, 5:46 p.m.,*
in response to message #5 by Jack

Hi,

SuperROM for your HP-86/87s are now in the post. Details on installation being worked on now,

Regards, John

Re: OT: PRM-85 Goodness

*Message #7 Posted by **Howard Owen** on 16 Dec 2005, 7:13 p.m.,*
in response to message #6 by john

Wow, thank you, John!

Re: OT: PRM-85 Goodness

*Message #8 Posted by **marais** on 17 Dec 2005, 3:27 a.m.,*
in response to message #7 by Howard Owen

I can confirm reception of my board, and I must say, I am really impressed with the build quality. Thank you John! I will now look out for an empty housing to protect the board.

Andreas

Re: OT: PRM-85 Goodness

*Message #9 Posted by **john** on 17 Dec 2005, 5:12 p.m.,*
in response to message #6 by john

Hi,

I have updated the PRM-85 user guide at:

http://www.vintagecomputers.freeserve.co.uk/hp85/prm85user.htm
Note the change with the new boards, in that the black DIL switches are the opposite as described previously, so that ON is now '0' and OFF is '1'.
I have also described how to use the HP-87 SuperROM, and made it available for download.
Regards,
John

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MLDL2000 and HP41X: HEPAX issue solved.

*Message #1 Posted by **Vieira, L. C. (Brazil)** on 2 Dec 2005, 1:45 p.m.*

Hi, all;

After having the MLDL2059 working ‘tunned’, I decided to go ahead and compare it to the HP41X, one of the many Hrast’s masterpieces (Thanks, Hrast! HP41X rocks!!!).

Because of the weird entries shown with HEPDIR when I tried configuring SRAM in my MLDL2000, I used HEXEDIT in HP41X to compare memory contents and I actually found a different value at #XFE9h (X=8, 9, etc). In all HEPAX addressed memory blocks with HP41X, this address is filled with 091h, so I did the same in MLDL SRAM blocks addressed by HEPAX and voilá! For the first time I saw

```
H:DIR EMPTY
```

instead of the many entries (C2 C3 etc). I'd guess 091 is sort of an 'end of field' marker.

Thought I should share with you all.

Best regards.

Luiz

Edited: 2 Dec 2005, 1:51 p.m.

Re: MLDL2000 and HP41X: HEPAX issue solved.

*Message #2 Posted by **Diego Diaz** on 2 Dec 2005, 9:40 p.m.,*
in response to message #1 by Vieira, L. C. (Brazil)

Hi Luiz,

Here goes both my congrats and my apologise.

It was my fault, I've been revising my posts in the previous thread, and noted I unadvertedly ommited the contents of H'xFE9, which as you've discovered by your own is H'091 in every page.

Best wishes and a very nice weekend. ;-)

Diego.

Re: MLDL2000 and HP41X: HEPAX issue solved.

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 2 Dec 2005, 11:12 p.m.,*
in response to message #2 by Diego Diaz

Hey, Diego;

after all of your contributions to make HEPAX to work with MLDL2000, at least this little one of mine inspires me to go deepper. And I had no other source to compare with but the wonderfull Hrast's HP41X running in an HP49G.

Best regards and thanks again.

Luiz, from Brazil, waiting for my X-Mas delivery (((8^D

Re: MLDL2000 and HP41X: HEPAX issue solved.

*Message #4 Posted by **HrastProgrammer** on 3 Dec 2005, 12:56 a.m.,*
in response to message #1 by Vieira, L. C. (Brazil)

I decided to go ahead and compare it to the HP41X, one of the many Hrast's masterpieces (Thanks, Hrast! HP41X rocks!!!).

Thanks Luiz. I am very happy to know that you found HP-41X helpful :-)

Re: MLDL2000 and HP41X: HEPAX issue solved.

*Message #5 Posted by **Howard Owen** on 3 Dec 2005, 1:02 a.m.,*
in response to message #4 by HrastProgrammer

He found it so helpful, I decided to order it for my 49G. 8)

Re: MLDL2000 and HP41X: HEPAX issue solved.

*Message #6 Posted by **HrastProgrammer** on 3 Dec 2005, 2:14 a.m.,*
in response to message #5 by Howard Owen

:-)

Re: MLDL2000 and HP41X: HEPAX issue solved.

*Message #7 Posted by **Vieira, L. C. (Brazil)** on 3 Dec 2005, 8:00 a.m.,*
in response to message #4 by HrastProgrammer

Hello, Hrast;

This is ONLY ONE of the many, many circumstances I found HP41X to be more than a powerfull emulator. I got in contact with some of the most important HP41 external ROM (modules) features through HP41X. I had not yet got into MCODE before because (my thoughts, O.K.?) I wanted a chance to do MCODE in the actual HP41. So, the HP41X as an emulator would be a development plataform and necessary support. Now with Meindert´s MLDL2000 all I need is already here.

When I think that a 26YO+ handheld, pocket size calculator is the center of this 'working gear', I come to realize I have no idea of what was going on inside Hewlett-Packard's R&D clusters...

BTW, Hrast, would you, please, drop me a mail? I have not found yours in my e-box (after so many cleanups because of virus attacks, I guess I wipped out too many information) and I'd like to contact you.

lcvieira at quantica dot com dot br

Best regards.

Luiz (Brazil)

Edited: 3 Dec 2005, 8:02 a.m.

Re: MLDL2000 and HP41X: HEPAX issue solved.

*Message #8 Posted by **HrastProgrammer** on 3 Dec 2005, 8:41 a.m.,*
in response to message #7 by Vieira, L. C. (Brazil)

BTW, Hrast, would you, please, drop me a mail?

Done ...

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42s - It doesn't need the optional sugar-coating..(A rant)

*Message #1 Posted by **ECL** on 2 Dec 2005, 12:46 a.m.*

I know that we pick at the ebay peddlers quite often, but I usually refrain. I'm venting over the snow-job wording in this B.S. ad for a 42s:

> Quote:
>
> Fully Tested - Guaranteed to Work Correctly !

It will never work INCORRECTLY! This is important, as computers are notorious for working incorrectly.

> Quote:
>
> The English manual as a bit of use in the outside and inside it's perfect.

Its never been used on the INSIDE! Only the outside has been used.

> Quote:
>
> The unit passes perfectly the self-test.

While most calcs receive only mediocre scores on their self-tests, this one passed PERFECTLY! What has led to the proliferation of adjectives and adverbs nowadays?

And why do the online STORES keep selling the same calculator "which I bought during my last year of college and never used."??

I am becoming increasingly weary of marketing. PBS, and listener-supported Jazz stations are havens...

Liberal Arts students should be required to take some engineering courses as their 'breadth' requirements. Any takers on this one? Then again..that would mean we'd get more exposure to them...

ECL

Re: 42s - It doesn't need the optional sugar-coating..(A rant)

*Message #2 Posted by **bill platt** on 2 Dec 2005, 9:15 a.m.,*
in response to message #1 by ECL

Hey--I was a lit major! :-)

Re: 42s - It doesn't need the optional sugar-coating..(A rant)

*Message #3 Posted by **A regular contributor** on 2 Dec 2005, 11:36 a.m.,*

in response to message #1 by ECL

Beware of the dogs... There's at least one guy that doesn't care telling he dislikes us, engineers. And he'd actually said that out loud in this forum many times! A clue: if he had a sales representative net, it should be called... COBweb ?!?!?

Take care.

(A Rant) is a good description

*Message #4 Posted by **db (martinez, ca.)** on 2 Dec 2005, 12:22 p.m.,*
in response to message #1 by ECL

I bothered to look at the auction. It is from Portugal and probably by someone who does 99.9% of his thinking in Portuguese. I caught three common Latin to English errors. They were small ones. Can you do better in his language?

You were complaining mostly about his adverb usage and to native English speakers that is a matter of style. I agree that to us; his did border on gushing. To him, in his language; it is probably expected. I don't speak Portuguese but I've tried to decipher Brazilian "tele-novellas". While they may not be representative of the language, they are also over descriptive to my ears.

Someone thought it works *perfectly* and *correctly* enough to lay down 250 bones for it.

This is American website and unless you identify yourself otherwise you are perceived to be the same. Running down foreigners for how they talk American helps brand us as more arrogant than the stereotype already says we are. If you want to complain about how someone speaks English; take on the Brits. They deserve it.

Re: (A Rant) is a good description

*Message #5 Posted by **I, Claudius** on 3 Dec 2005, 6:58 a.m.,*
in response to message #4 by db (martinez, ca.)

Estoy de acuerdo. Este chico siempre habla demasiado sobre nada.

Re: (A Rant) is a good description

*Message #6 Posted by **ECL** on 3 Dec 2005, 7:52 p.m.,*
in response to message #5 by I, Claudius

Claudius, DB, and rest,

English is a second language for me as well. Yet, I seem to have mastered it well enough. Don't put me on trial.

> Quote:
>
> Estoy de acuerdo. Este chico siempre habla demasiado sobre nada.

Why do you sneak around and say it in Spanish? Porque no hablas en Ingles? Eres timido, Claudius? Don't be arrogant. What is the significance of YOUR postings?

Recall that to the mainstream, we here ALL discuss useless things (HP calculators). But WE cherish them. Please refrain from lashing out at our own here.

My post was written with an element of HUMOR. This is the one social skill that we engineers DO posess. DO NOT twist my posting into an ESL attack. Observe that I am picking on the GENERAL embelished sentence structure used nowadays, and my disenchantment with marketing.

Furthermore, consider this statement by DB:

> Quote:
>
> If you want to complain about how someone speaks English; take on the Brits. They deserve it.

And exactly WHY do the Brits *deserve it*? Does their accent trouble you? DB, you are selective in your criticisms. Let's acknowledge that YOU introduced the element of ethnicity to this situation. Is it ok to pick on someone's grammar as long as they are not the terribly innocent Spanish speakers? THAT IS B.S. Don't be a *FILTERED SHELTER*, DB.

You are tempting me to PURGE this forum from my MEM.

ECL

Re: (A Rant) is a good description

*Message #7 Posted by **db (martinez, ca.)** on 3 Dec 2005, 11:11 p.m.,*
in response to message #6 by ECL

ECL;

You were running someone down for the way he wrote in english. I called you on it, not Claudius or "the rest". If you badmouth someone in a small community you ought to expect a response.

If you can work on not ridiculing other RPN users, I'll read whatever pop psychology book that "FILTERED SHELTER" crawled out of.

BTW: We and the Brits have been snipping at each other about English for probably 200 years. It's a hoot. It gives us something to talk about over beers (they have their's warm). "Two great peoples separated by a common language" and all that.

Re: (A Rant) was a good description >> Switch to HP 33s

*Message #8 Posted by **ECL** on 4 Dec 2005, 7:38 p.m.,*
in response to message #7 by db (martinez, ca.)

Yes, let's end it, but please note-

Main point: The post was NOT targeted at foreigner's misuse of English. I am simply fed up with embellished advertising. All you need to show is the screen with pass/fail. If asks for US$300, he has a target for the sale(us), and thus no extensive verbage (nor complete copy/pasted feature listing) is necessary.

I exit the issue here. Back to HP.

To that end, I have been working fitting some root finding algorithms on the 33s, and some non-linear interpolation tools (Lagrange Polynomials). Also, I'm using the Gauss-Seidel method for simultaneous equations, despite its conditional convergence. Anyone else have thoughts to

contribute?

ECL

Re: (A Rant) was a good description >> Switch to HP 33s

*Message #9 Posted by **Ed Look** on 5 Dec 2005, 12:38 a.m.,*
in response to message #8 by ECL

I am not nearly at all the mathematical expert that any of you are, but I did try first on a HP 32SII, as a test, Newton's method to find the square root of a number. If the the algorithm did not converge, i.e., the results come back farther and farther away instead of closer, then, after x iterations, it was terminated. It took at least overnight for the 32SII.

I tried a similar algorithm to find the convergence of a simple series, also on that calculator and it also took about as long.

I tried these on the HP 33S and each only took from a little over one to a few hours. So, I warn you, even with the improved speed of the 33S, it's kind of slow.

I haven't tried it on the HP 48G, G+, nor HP 49G+, but I suppose it should be a bit faster on those... maybe.

Thank God that the short, amateurish programs I write and run on either the 48G/49G+ series or 32SII/33S don't normally require too many real calculational steps or iterations!

Re: (A Rant) is a good description

*Message #10 Posted by **Mel K. (MN)** on 4 Dec 2005, 10:35 p.m.,*
in response to message #7 by db (martinez, ca.)

The post left by ECL was humorous, in the context of modern advertisments. - and that is what he seems to have meant. I think some of you took unintended offense. I don't speak spanish, but apparently ECL does, and he seems to have been put on the defensive by I,Claudius' comment.

ECL clearly stated in both his original post and responses that it was not intended as a jab at the individual's grammar as a foreign citizen, but rather at the general methods advertisers use in their hooks.

Besides, does this Ebay merchant count as an RPN user? Particularly when letting go of such a nice machine? :P

You'll never pry my 42s' from me!

Mel

Re: (A Rant) is a good description

*Message #11 Posted by **Howard Owen** on 4 Dec 2005, 10:44 p.m.,*
in response to message #10 by Mel K. (MN)

I took the original statement as humorous too.

Edited: 4 Dec 2005, 10:45 p.m.

Re: (A Rant) is a good description

*Message #12 Posted by **Ed Look** on 4 Dec 2005, 12:13 a.m.,*
in response to message #6 by ECL

Um... gentlemen, perhaps it's best to let this rest now that we've aired it all out.

I don't think there's any more need to attack/defend, nor need to leave. Even on a faceless electronic medium this stuff pops up from time to time. I recommend that this get DROPped and we R/S on.

Re: (A Rant) is a good description

*Message #13 Posted by **ECL** on 3 Dec 2005, 8:01 p.m.,*
in response to message #5 by I, Claudius

Claudius pratar altigt om hans underbara 49. Men varfer kan han inte prata in Engiska nar han vil prata illa om nogon?

Yes, Claudius, I can speak four languages, and Spanish is one of them. Now that you know I speak Spanish, what will you resort to the next time you wish to commit slander?

ECL

Re: (A Rant) is a good description

*Message #14 Posted by **I, Claudius** on 4 Dec 2005, 5:51 a.m.,*
in response to message #13 by ECL

!*PLONK*!

Re: (A Rant) is a good description

*Message #15 Posted by **Les Bell** on 3 Dec 2005, 9:08 p.m.,*
in response to message #4 by db (martinez, ca.)

> Quote:
>
> If you want to complain about how someone speaks English; take on the Brits. They deserve it.

db, please don't lump us Scots in with those English; they carry on as though they *own* the language.

Best,

--- Les
[http://www.lesbell.com.au]

Re: 42s - It doesn't need the optional sugar-coating..(A rant)

*Message #16 Posted by **Howard Owen** on 2 Dec 2005, 3:07 p.m.,*
in response to message #1 by ECL

Well, the target may not have been exactly spot on, but the idea of "sugar coated calculators" got me thinking.

"Kalc Krispies: they go 'SWAP crackle DROP!'"

Was the best I could come up with. I wanted to go somewhere with "Honeynut 41Cs," but I just couldn't find a

gag involving a bee and a BCD based processor. Go figure.

Regards,
Howard

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Synthetic Programming on the HP-9815A/S

*Message #1 Posted by **John Ioannidis** on 1 Dec 2005, 10:37 p.m.*

Before there was Synthetic Programming on the HP41 (and even the 67/97), there could have been SP on the 9815. To wit:

The HP-IB interface for the 9815 has some commands that allow you to manipulate individual bytes in storage registers and then transfer them to program memory! (The reason for this was to allow character strings to be sent to and from the HPIB interface under program control). Some interesting facts so far:

* Most instructions occupy one byte; some are two bytes, with a prefix and an argument. Storage register operations and GOTO/GOSUBs are examples of the two-byte instructions.

* There are several one-byte instructions that are undocumented.

- One instruction appears to be a NOP, except it doesn't print onthe printer. There does not seem to be a way to enter it from the keyboard.

- CALL A through CALL E can actually be typed on the keyboard, but they make no sense; CALL A tries to access the cartridge drive, but it's unclear what it's doing (it reports "WRONG FILE TYPE"). CALL B through CALL D appear to be no-ops, and CALL E must be trying to access some I/O device unsuccessfully.

* Some 2-byte instructions have interesting properties

- FIX n, SCI n, and SCI3 n (they hadn't invented the term Engineering Notation yet) with n not in the range 0-9 just set the mode to FIX, SCI, and SCI3 without changing the number of visible digits, thus behaving like the HP-67/97 FIX, SCI, and ENG.

- LBL xx, GOTO L xx and GOSUB L xx are prefixes that take the actual label number (00 through 99) as an argument. With SP you can set the argument to any number between 0 and 255, so in effect you have 256 labels, rather than "only" 99. It's also amusing how these print on the printer.

- For some weird reason, the argument for the register operations is only 7 bits; there are separate prefixes for RCL Rxx and RCL R+128xx. The high bit of the argument appears to be ignored.

- The prefix for STO I A through STO I J can be used with arguments other than A through J (101-110). I'm still trying to decipher the results.

I'm in the process of formatting properly a complete "byte table", which I'll post here. Let's see if we can uncover some more secrets :)

/ji

Re: Synthetic Programming on the HP-9815A/S

*Message #2 Posted by **Howard Owen** on 2 Dec 2005, 12:19 a.m.,*
in response to message #1 by John Ioannidis

Congratulations, John! Great job of paleocybernetics there. 8) I suppose the relative cost of the 9815 and the HP-41 explains why more hacking was done on the latter than the former.

Re: Synthetic Programming on the HP-9815A/S

*Message #3 Posted by **Tony Duell** on 2 Dec 2005, 6:38 a.m.,*
in response to message #1 by John Ioannidis

Something else that I've not had time to fully investigate yet :

The 9815A has 7 off 2K ROM chips on the CPU board and a space for an eighth. The 9815S has 2 off 8K ROM chips (and more RAM). The address decoder circuit only enables a total of 14K of the ROM, same as for the 9815A.

If you solder in a link on the CPU board it enables all 16K of ROM (this is obvious from the schematics). The extra 2K of ROM has the correct headers for being an I/O device ROM, and in fact seems to contain meaningful names.

One day I am going to sit down with a 6800 disassembler and figure out just what those extra functions do.

Re: Synthetic Programming on the HP-9815A/S

*Message #4 Posted by **Eric Smith** on 2 Dec 2005, 1:05 p.m.,*
in response to message #3 by Tony Duell

Can you make ROM dumps available?

Re: Synthetic Programming on the HP-9815A/S

*Message #5 Posted by **John Ioannidis** on 2 Dec 2005, 3:34 p.m.,*
in response to message #3 by Tony Duell

Have you actually tried soldering the jumper? If the upper 2K looks like an I/O rom, then [CALL] [n] [A-J] would probably be the way to access its functions.

Were there any patents filed for the insides of the 9815?

/ji

Re: Synthetic Programming on the HP-9815A/S

*Message #6 Posted by **Eric Smith** on 2 Dec 2005, 8:24 p.m.,*
in response to message #5 by John Ioannidis

US Patent 4,089,059: Programmable calculator employing a read-write memory having a movable boundary between program and data storage sections thereof

Re: Synthetic Programming on the HP-9815A/S

*Message #7 Posted by **Tony Duell** on 3 Dec 2005, 5:56 a.m.,*
in response to message #5 by John Ioannidis

Yes, I've soldered the jumper in my 9815S.

From what I remember CALL 7 A, etc produce names that print out sensibly on the built-in printer, but I haven't worked out what they do yet.

I guess I have an upgraded 9815A after all

*Message #8 Posted by **John Ioannidis** on 3 Dec 2005, 4:53 p.m.,*
in response to message #7 by Tony Duell

My case says "9815 A" in the front, and has a "9815S" sticker inside the paper well. I opened the beastie again, and sure enough it only has 7 ROMs with space for an 8th, but it has eight 2114 RAM chips (so 4K of RAM) and no edge connector for an extension RAM board.

I wonder if this is an early-run 9815S board?

Re: I guess I have an upgraded 9815A after all

*Message #9 Posted by **db (martinez, ca.)** on 3 Dec 2005, 11:32 p.m.,*
in response to message #8 by John Ioannidis

John; Or possibly a repaired unit. Did hp ever do factory upgrades? It would have made sense to want more memory if you were using the plotter.

Re: I guess I have an upgraded 9815A after all

*Message #10 Posted by **John Ioannidis** on 4 Dec 2005, 2:00 a.m.,*
in response to message #9 by db (martinez, ca.)

yes, HP did factory upgrades, hence the 9815S sticker inside the printer well. A repaired A would just have received a regular A board, with the 2111 RAM chips.

According to a prior post by Tony Duell, the S had the eight 2114 chips and two 8K ROMs. I would guess that configuration must have been a later-model version, when 8K ROMs had become cheaper. HP would change the innards of their machines during the machine's lifetime, so that doesn't surprise me.

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Is this rare?

*Message #1 Posted by **Samuel Heddle** on 1 Dec 2005, 9:25 p.m.*

This 41-CV has a "turbo speed" upgrade, and a red switch on the side. Only 90 Euros, anyone know if it's a wise buy? Link

Re: Is this rare?

*Message #2 Posted by **Howard Owen** on 1 Dec 2005, 10:19 p.m.,*
in response to message #1 by Samuel Heddle

It's described as non-functional. And you can see corrosion on the battery contacts even the oblique photo provided.

So yes, the turbo speed upgrade is somewhat rare, although I believe that there are plans, or at least instructions, on how to do the mod in the old PPC issues. But the corrosion means you have an unknown amount of damage to the bridge connector, and possibly the main PCB. I've had mixed results bringing machines with that sort of damage back to life. Perhaps some of the more experienced calculator techs have had better luck?

Re: Is this rare?

*Message #3 Posted by **Garth Wilson** on 2 Dec 2005, 2:34 a.m.,*
in response to message #1 by Samuel Heddle

I ordered the speed upgrade kit for my 41cx from Educalc back in the heyday. Being careful to read the whole "manual" before attempting installation, I came across something that said you shouldn't use it if you have the HPIL, merged modules, or something else-- maybe extended memory-- I don't remember. In any case, I had all three of the things on the list of potential incompatibilities, and was using them all regularly, so I sent it back.

Re: Is this rare?

*Message #4 Posted by **Raymond Del Tondo** on 2 Dec 2005, 3:48 a.m.,*
in response to message #3 by Garth Wilson

Hi,

AFAIK the X-Memory works fine with the 1.7x speed,
and most other 'passive' ROM modules do.

At least my CY Turbo has no problems with any modules,
only the Wand, card reader, and HPIL should be operated
at normal speed.

Raymond

Is this rare?

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MLDL 2000 question

*Message #1 Posted by **Miki Mihajlovic** on 1 Dec 2005, 11:57 a.m.*

Can anyone of you new proud owners of MLDL 2000 tell me about some of the results of test that Meindert suggests on page 11 of User Manual.

Namely, steps (5),(6) say that after you cleared page $9 and moved M2K ROM from $8 to $9 you should see two times -M2K entry on CAT 2.

Step (7) says that disabling ROM in FLASH and enabling it in SRAM puts it in page $F and after executing XCAT 21 should show ROM entries as $Fxxx.

Can anybody confirm that this is the way you had it, since I was not able to see two entries of M2K at (6) and at (7) I still get ROM entries showing as $8xxx and not $Fxxx. Dip switches are of course in correct position as per manual.

Miki

Re: MLDL 2000 question

*Message #2 Posted by **Matthias Wehrli** on 1 Dec 2005, 2:44 p.m.,*
in response to message #1 by Miki Mihajlovic

I do have a MLDL from Meindert but as he tested the unit allready I didn´t. Maybe you should load a CCD ROM into you HP-41. WHith CAT8-F you can test, where the K2K Rom is.

Matthias

Re: MLDL 2000 question

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 1 Dec 2005, 3:45 p.m.,*
in response to message #1 by Miki Mihajlovic

Hi, Miki;

I'm one of the named 'happy owners' and I also did not succeed seing the espected results. Meindert mentions in his site (www.kuipers.to/hp41.htm , go to DOWNLOAD) that it may happen.

See, when you change both SW3 and SW4, you select one of the four possible Setting Rgister configuration (SR0, SR1, SR2 or SR3) available in the kind of memory you choose through SW2 (SRAM or FLASH). Each SR# allows any page in the HP41 bus (P#0 to P#F, four banks each), so each SR# stores the address of up to 64 memory positions inside MLDL2000. BUT if you choose FLASH Setting Register, it does not mean the SR 'per se' must point to a FLASH position, instead it can point to any valid FLASH or SRAM position.

Meindert pre-configures each MLDL2000 to leave with M2K ROM image in FLASH #0000 and the four FLASH SR configurations ready to follow the examples. So, when you place SW2 in OFF, you are dealing with THe setting registers in FLASH memory, so the configuration is kept for as long as it takes till you use it.

If SW2, SW3 and SW4 are set to OFF, then MLDL2000 is instructed to use FLASH SR0 contents, which allow the HP41 to 'see' only the M2K ROM image recorded in FLASH memory through page 8 (lower port 1). As you choose SR1 (SW3=OFF, SW4=ON), SR2 (SW3=ON, SW4=OFF), the related configuration should activate one valid address in SRAM so -M2K ROM image can be copied, listed and used/erased. When you finally choose SR3 (SW3=SW4=ON), the HP41 'sees' only the copy of -M2K ROM, now in SRAM, through page #9 (upper port 1). Keep in mind that what the HP41 sees is not the SR#, instead what each SR# contents 'tell it to see'. e.g., by changing SR0 contents the HP41 may see whatever you load in whatever valid SRAM or FLASH address.

What seems to happen is that Meindert may have not programmed the FLASH SR with the suitable contents in some units, mine included. I'd suggest to go ahead with other experiments if you actually see

-M2K ROM

after CAT 2. It is most likely that your unit is perfectly fine. After loading your PC with the MLDL2000 manager and the necessary USB driver, things will get clearer, believe me.

Hope this helps.

Cheers.

Luiz (Brazil)

Edited: 1 Dec 2005, 4:07 p.m.

Re: MLDL 2000 question

*Message #4 Posted by **Miki Mihajlovic** on 1 Dec 2005, 4:46 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Hi Luiz,

Thanks for the detailed low-down. After some initial troubles with IO PCB that Meindert resolved for me I have put the unit together a few days ago and it looks really great. By the way, your pictures were a great help since I studied them closely for the housing cutouts - great job Luiz. My unit was working OK with mentioned 'problems' of M2K ROM showing in $8xxx but now it totally kills all of my calcs to the point of no return except reversing battery polarity for a few minutes. Interesting thing is that the software control from PC through USB works flawlessly, all the tests, copying, moving, editing, up-downloading goes fine, external battery keeps SRAM alive etc. but as soon as I move any of the switches from OFF that's it, calc winds up somewhere deep in the NUT OS code and it is bye, bye. I am kind of suspicious that I have some wires shorting inside the housing since it is pretty tight in there. I will dismantle it this weekend and see how it works.

Miki

Re: MLDL 2000 question

*Message #5 Posted by **Meindert Kuipers** on 2 Dec 2005, 3:08 a.m.,*
in response to message #4 by Miki Mihajlovic

Miki,

Please verify current consumption of the unit when it crashes you machine. While debugging I have seen some problems that cause the HP41 to go into very high current consumption even after the MLDL2000 disconnected. This was caused by a completely wrong configuration of ROMs in the

MLDL2000. Please doublecheck all connections and verify the Settings Registers and ROM contents if these point to something sensible.

Meindert

Re: MLDL 2000 question

*Message #6 Posted by **Miki Mihajlovic** on 2 Dec 2005, 3:53 p.m.,*
in response to message #5 by Meindert Kuipers

I have checked the SRs and in SRAM they are all $3FF. In FLASH I got $000 for Page 8, Bank 0, the rest of them are $3FF. Dip switches are all OFF. When I try to clear them all and upload SR configuration to FLASH I got SR did not verify at $FFF20.

Any ideas?

Edited: 2 Dec 2005, 3:54 p.m.

Re: MLDL 2000 question (edited for errors)

*Message #7 Posted by **Vieira, L. C. (Brazil)** on 2 Dec 2005, 5:34 p.m.,*
in response to message #6 by Miki Mihajlovic

Hi, Miki;

one thing I learned after having to reset the entire FLASH memory contents twice (because of my own mistakes) is: whenever updating FLASH SR, i.e., from your computer to MLDL, always erase entire sector 34 contents to default (ROM/SR handler already has the erasing feature).

Now I test all SR in SRAM first (to be sure it works) prior to load SR FLASH. Meindert calls our attention to this fact when suggesting to use FLASH SR to permanent (or hardly changing) configurations, and SRAM SR to configurations that may need future changing.

My way now is to save each SR (from SR0 to SR3) in separate files. This way, I test all four SR configurations in SRAM, save each in separate files (e.g.: FL_SR0_xxx.sr, and SR_SR0_xxx.sr, where FL refers to flash, SR refers to SRAM and xxx is a particular reference; I choose sequencial counting) and then I go to Erase FLASH feature, erase entire FLASH sector #34 then I load each valid SR in FLASH. If I have to change at least one single configuration, I go to all steps again. Well, changing a single "1" to "0" is harmless, but after having to erase the entire FLASH contents after insisting on uploading a SR set priot to erase sector 34 made me be more carefull and actually do what must be done. Please note: all because of my own fault.

As all FLASH SR are in the range #FFF00 to #FFFFF, your verifying error matches. In time: have you tried [Reset Flash] already? It is intended to prepare FLASH to be recorder again. Why not?

Hope this helps.

Success!

Luiz (Brazil)

Edited: 2 Dec 2005, 6:28 p.m.

Re: MLDL 2000 question

*Message #8 Posted by **Vieira, L. C. (Brazil)** on 2 Dec 2005, 6:14 a.m.,*
in response to message #4 by Miki Mihajlovic

Hi, Miki;

I faced something close to what you describe, but I was entirely responsible, in my case. You see, I did not get the very MLDL2000 operation way at that time, so I tried to use SRx in SRAM (SW2=ON)prior to configure the corresponding SR. Only after I set all SRAM SRx to their default state I could use any SR confioguration, either SRAM or FLASH. I knew that EPROM's have all of its bits back to '1' after being erased, and FLASH behaves the same, so the default FLASH contents matches the default SR (all bits = '1'), but SRAM default contents are random, so if you set any SRx in SRAM prior to program it, who knows where does it point the HP41 to... No wonder why mine was completely lost, poor thing.

Cheers.

Luiz (Brazil)

Edited: 2 Dec 2005, 6:17 a.m.

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Hp-85/9815/9825 tape capstan creation & 9815 installation procedure.

*Message #1 Posted by **Etienne Victoria** on 1 Dec 2005, 11:25 a.m.*

Hi all,

This is just to report on successful tape capstan repairs if it can help somebody.

I've put on my ugly "site" 2 step-by-step procedures:

- How to rebuild a new tape capstan for the Hp 85/9815/9825 from a tap joint.

- How to change your 9815 A/S Tape capstan.

Next step will be "Silencing your 9815 printer on demand".

As soon as I understand how to include pictures in articles, I'll post an article on the forum.

Critics & suggestions are welcome!

Etienne

Re: Hp-85/9815/9825 tape capstan creation & 9815 installation procedure.

*Message #2 Posted by **Tony Duell** on 2 Dec 2005, 6:43 a.m.,*
in response to message #1 by Etienne Victoria

I've not tried any of this, but a few ideas...

Once you've dismantled the machine as far as you did, it's very easy to go a bit further and take the tape drive out. On a 99815 (any model), undo the 2 screws on the tape drive PCB, free the left side panel from the base, then unplug the tape drive PCB from the edge connector on the PSU/printer PCB and take the lot out. IIRC 2 more screws hold the tape drive to the side panel.

Once it's out, the motor is electrically isolated from everything else (the motor drive amplifier is on the PSU/printer PCB). You could then connect a DC bench supply to the motor and get it to spin so you could use the X-acto blade to scrape off the remains of the old rubber.

Re: Hp-85/9815/9825 tape capstan creation & 9815 installation procedure.

*Message #3 Posted by **Etienne Victoria** on 2 Dec 2005, 9:55 a.m.,*
in response to message #2 by Tony Duell

Thanks for the feedback Tony!

You're right, getting the whole tape subassembly out is much better than merely fixing it in place!

I did remove all screws but didn't succeed in unplugging the tape drive PCB...and was reluctant to exert force.

You may see the unscrewed assembly here:

http://homepage.mac.com/etienne.victoria/.cv/etienne.victoria/Sites/.Pictures/Photo%20Album%20Pictures/2005-12-01%2007.53.27%20-0800/Image-E320BD8A627511DA.jpg-thumb_140_105.jpg

I'll update the procedure at my next maintenance operation (ie Shut-upping the printer on demand).

Thanks again!

Etienne

Re: Hp-85/9815/9825 tape capstan creation & 9815 installation procedure.

*Message #4 Posted by **vassilis Prevelakis** on 2 Dec 2005, 8:11 p.m.,*
in response to message #2 by Tony Duell

If you do decide to remove the motor assembly from the tape drive, note the connections to the speed sensor. I got them wrong and the machine unspooled my test tape.

Not fatal (ji repsooled the tape), but still best avoided because it means you have to take the tape drive out to fix the connection.

**vp

Edited: 2 Dec 2005, 8:12 p.m.

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OpenRPN Hardware Specifications

*Message #1 Posted by **Hugh Evans** on 30 Nov 2005, 11:10 p.m.*

I have created a set of hardware specifications that I would like to present to this community for feedback. I will be passing these specifications on to an embedded hardware designer to prepare a DIMM-sized development board which will eventually become the mainboard for both of our calculator models.

Sharp LH7A400 (ARM9TDMI) *USB Device *RS232 *IrDA 16MB Flash ROM 512KB SRAM CompactFlash 4xAAA (2250mAh@3V)

Here are a few pages from the OpenRPN documentation site, which include more detail and links. I'm only looking for feedback on the core electronics (don't comment on LCD resolution, keyboard layouts, etc.)

General Hardware Specifications Landscape Feature Set Portrait Feature Set

Best Regards, Hugh

Re: OpenRPN Hardware Specifications

*Message #2 Posted by **Howard Owen** on 1 Dec 2005, 12:07 a.m.,*
in response to message #1 by Hugh Evans

Nice choice! I like the I/O selections. Did I misread the LH7A400 docs to say it has a color LCD controller, or is that just an option? I note you are specifying greyscale LCD.

The MMU means you could run Linux or WinCE on this thing, given more RAM. 8) I assume that is "no value add" for this project.

Edited: 1 Dec 2005, 12:07 a.m.

Re: OpenRPN Hardware Specifications

*Message #3 Posted by **Hugh Evans** on 1 Dec 2005, 12:44 a.m.,*
in response to message #2 by Howard Owen

The I/O seems to be the right mix to satisfy everyone. Indeed, the onboard LCD controller can do 15 grayshades or up to 64k color at a maximum resolution of 1024x768. Grayscale will be used extensively to simulate antialiasing characters.

Another reason for putting the mainboard on a DIMM is that virtually every feature on the CPU can be accessed from the 144 edge connections making it an excellent development kit for the LH7A400 (alternative market). While we won't be using SDRAM, color LCDs, running Linux or Windows CE, our mainboard could be adapted to use all of them. Theoretically, one could probably pull a DIY qonos with it!

Re: OpenRPN Hardware Specifications

*Message #4 Posted by **Howard Owen** on 1 Dec 2005, 1:17 a.m.,*

in response to message #3 by Hugh Evans

Yes, that's a very cool form factor. I had read about it before, somewhere. I guess it may allow some economy in packaging, using COTS parts for stuff that might otherwise be custom?

Shifting gears to software, have you read the recent threads that talk about the sad, neglected state of RPN calculator development? I thought they might provide ideas, when the time comes to think about system software. 8)

Re: OpenRPN Hardware Specifications

*Message #5 Posted by **Richard Garner** on 1 Dec 2005, 9:43 a.m.,*
in response to message #3 by Hugh Evans

I don't know allot about electronics and how you can package it in a small enough area to make it work. Reading over the specs, I see that you are specifying using 4xAAA batteries. I thought the idea around this project was to make calculators that would fit in the shirt pocket. I equate shirt pocket with the use of button type batteries like the 15C or 42S used or the quarter size batteries like the 33S uses. Once you move away from these types of batteries you loose the ability to carry a calculator in the shirt pocket. Am I wrong?

Re: OpenRPN Hardware Specifications

*Message #6 Posted by **Hugh Evans** on 1 Dec 2005, 12:22 p.m.,*
in response to message #5 by Richard Garner

The machines are 0.625" thick, nearly identical to a voyager. We could have used button or coin cells, but by using 4xAAA you can go for at least a year between changes. To answer your question: Both models will fit in your pocket.

-Hugh

Re: OpenRPN Hardware Specifications

*Message #7 Posted by **bill platt** on 1 Dec 2005, 12:43 p.m.,*
in response to message #6 by Hugh Evans

So in other words, the electronics are much more compact than they were with the voyagers?

Edited: 1 Dec 2005, 12:44 p.m.

Re: OpenRPN Hardware Specifications

*Message #8 Posted by **Hugh Evans** on 1 Dec 2005, 1:13 p.m.,*
in response to message #7 by bill platt

Indeed.

-Hugh

Re: OpenRPN Hardware Specifications

*Message #9 Posted by **Monte Dalrymple** on 1 Dec 2005, 2:22 p.m.,*
in response to message #6 by Hugh Evans

I am curious about what level of usage you are assuming when you say that the batteries will

last a year. If a AAA has 900mAHr capacity, that allows you 102uA average current drain over a year.

With this device, just keeping the RTC alive will use half of that capacity.

Monte

Re: OpenRPN Hardware Specifications

*Message #10 Posted by **Garth Wilson** on 1 Dec 2005, 3:08 p.m.,*
in response to message #9 by Monte Dalrymple

> With this device, just keeping the RTC alive will use half of that capacity.

Maxim/Dallas' new DS3232 consumes <4uA in battery back-up mode. They claim +/-1 minute per year accuracy and tout integrated crystal, temperature sensor (to keep it accurate over the temperature range), power management, and 256 bytes of RAM, for $2.70 in 1K-pc qty. They have quite a long line-up of integrated RTC products.

Re: OpenRPN Hardware Specifications

*Message #11 Posted by **Monte Dalrymple** on 1 Dec 2005, 3:24 p.m.,*
in response to message #10 by Garth Wilson

I know the Maxim devices. The openRPN hardware spec doesn't say anything about an external RTC, but it touts the one internal to the LH7A400. That one draws 45uA typical. Of course, you can completely power down the device (and lose the time-keeping capability) to save the 45uA. But than you have to deal with the 2 second startup time, which I would consider unacceptable for a calculator.

The point I was trying to make was that batteries aren't going to last anywhere near a year in this thing.

Monte

Re: OpenRPN Hardware Specifications

*Message #12 Posted by **Hugh Evans** on 1 Dec 2005, 7:35 p.m.,*
in response to message #11 by Monte Dalrymple

There was some limited discussion on this topic once. The LH7A400 RTC isn't very well suited to functioning as a timepiece/calendar. If that is a desired feature I would opt to add a separate chip dedicated to that purpose. As a side note, the RTC only consumes 5uA.

The power consumption figure I quoted is achievable thanks to fully static operation. Only a handful of ARM9 devices feature it. In fact the S3C2410 used in the 49g+ is the only other viable choice for our application. Unfortunately it has terrible availability outside of southeast asia. Back to topic: Current draw is somewhere in the neighborhood of 0.675mA/MHz. The MCU has much more processing power than we need, but it is also highly efficient, so by throttling it back to 66MHz or so during execution gets us up to ~45mA for a few ms at a time. During entry very little clock speed is needed at all. Assuming 2 hours of use per day, with execution making up perhaps 5% of that time you can start to see how small the power consumption really is.

Another very useful feature for many of us is the ability to run off an external power supply, temporarily bypassing the batteries and further prolonging their life.

Hopefully that clears things up for you a bit more.

So is a good clock/calendar something that most people here would like to have? That's a very cheap thing to add and I have no qualms with adding one.

-Hugh

Re: OpenRPN Hardware Specifications

*Message #13 Posted by **Monte Dalrymple** on 1 Dec 2005, 7:47 p.m.,*
in response to message #12 by Hugh Evans

Sorry, I meant standby current of ~45uA.

Monte

Re: OpenRPN Hardware Specifications

*Message #14 Posted by **Jeff O.** on 2 Dec 2005, 7:33 a.m.,*
in response to message #12 by Hugh Evans

> Quote:
>
> So is a good clock/calendar something that most people here would like to have?

In my opinion, yes, a clock and some basic calendar/appointment functions would be useful. Something along the lines of the capabilities of the 17B/BII would be adequate.

Re: OpenRPN Hardware Specifications

*Message #15 Posted by **John Ioannidis** on 8 Dec 2005, 2:00 p.m.,*
in response to message #2 by Howard Owen

This is a bloody calculator. Why would you want to run linux on a calculator?

Make it do one thing right, avoid creeping featurism!

Re: OpenRPN Hardware Specifications

*Message #16 Posted by **Howard Owen** on 8 Dec 2005, 5:29 p.m.,*
in response to message #15 by John Ioannidis

I'm not seriously proposing it run Linux. I was looking at the feature set and noticing it had an MMU, which seems like overkill for a calculator.

On the other hand, who knows what will seem like overkill for any partcular device five years from now? Moore's law continues, though they can't easily crank up the clock with current materials and fabs. Maybe a calculator of 2011 will crack public keys with quantum computations, or create ciphertexts impervious to such attacks with related techniques.

So what I really want to know is, what would a QMMU(tm) look like? 8)

Quantum encryption devices will be banned!

*Message #17 Posted by **Marcus von Cube, Germany** on 9 Dec 2005, 2:35 a.m.,*
in response to message #16 by Howard Owen

> Quote:
>
> Maybe a calculator of 2011 will crack public keys with quantum computations, or create ciphertexts impervious to such attacks with related techniques.

I'm pretty sure that such a device would be banned not only from exams but from general usage. Intelligence agencies around the world will neither want everybody to be able to crack any encryption nor to encrypt their private data in an indestructible way.

Marcus

Re: OpenRPN Hardware Specifications

*Message #18 Posted by **Klaus** on 1 Dec 2005, 10:35 a.m.,*
in response to message #1 by Hugh Evans

Congratulations to Hugh and all OpenRPN-people. I thought the project was dead (some functions of the homepage didn't work for a long time, and there were no news). I am now happy to see you are still working at it. Once hardware prototypes are available, the number of contributers on the software side will certainly increase!

Well done and go on! Klaus

Re: OpenRPN Hardware Specifications

*Message #19 Posted by **.** on 1 Dec 2005, 7:27 p.m.,*
in response to message #1 by Hugh Evans

I like the idea of being able to transfers to/from a computer, but don't some of the other specs such as an ARM processor, 16mb flash rom and a compact flash port seem like overkill for a scientific? I understand the importance of using the same board in a graphing model later, but I don't think that the thought of using 4 AAA batteries which last "at least a year" in a scientific will attract much interest.

Re: OpenRPN Hardware Specifications

*Message #20 Posted by **Hugh Evans** on 1 Dec 2005, 8:10 p.m.,*
in response to message #19 by .

There are enough graphing machines on the market right now that I don't even have one on my long-term to-do list. My personal hope is that Hydrix will pull off getting qonos to market. In fact, I won't even consider doing a graphing machine unless they declare qonos dead.

As far as the ARM goes, what do you have against it? It's the most reasonable way to impliment 96-bit BCD, which is what we're using. One of my personal rules in designing these machines is: If it seems like a little bit of overkill, go with it. The compactflash port will be internal. I'll be using mine strictly as a USB mass-storage device to carry around my files.

Also, the lithium AAA batteries I have selected weigh less than standard alkalines (11.5g ea) and have a shelf life of 15 years. My question is, what's the problem using AAAs?

I suspect some users will see battery life of up to 5 years.

Re: OpenRPN Hardware Specifications

*Message #21 Posted by **Eric Smith** on 1 Dec 2005, 10:37 p.m.,*
in response to message #20 by Hugh Evans

> Quote:
>
> I suspect some users will see battery life of up to 5 years.

AAA lithium cells are rated at about 1250 mAh. Assuming that you use a pulse-skipping buck converter to produce 3.3V, and that you get 80% average efficiency, that's effectively 2045 mAh at 3.3V.

Your calculator is likely to draw at least 75 uA in standby, which results in a battery life of 3.1 years only if you never turn on the calculator at all.

The calculator will draw about 250 times more current when on but idle, and about 1000 times more current when active. Assuming that the calculator is used for 30 minutes a day, with an actual running duty cycle of 10%, the battery life would be just shy of three months.

Re: OpenRPN Hardware Specifications

*Message #22 Posted by **Hugh Evans** on 2 Dec 2005, 1:25 a.m.,*
in response to message #21 by Eric Smith

Whoops, you're right on the ~3 years without being used I checked my figures and noticed I was reading off an old calculation I did for an ARM7 core. However, my calculations show that the batteries will last for a bit over a year. We'll see for sure once the first prototypes are tested.

-Hugh

Re: OpenRPN Hardware Specifications

*Message #23 Posted by **Garth Wilson** on 2 Dec 2005, 2:49 a.m.,*
in response to message #22 by Hugh Evans

What voltage range with the processor and other ICs handle? If they're all 3V parts, it might be better to go with a couple of AA's and forgo the switching (or any) regulator between the batteries and the circuit. The reason is that a switcher is only efficient for a comparatively narrow range of current, and the actual time the processor spends thinking (the high-current time) will be a small percentage of the total "on" time. You might need to turn the processor speed down a little to keep it working reliably down to 1.8V when the two AA cells are just about dead, but you'll still have plenty of processing power for a calc. Since most of the time would be spent at a current much too low for the switching regulator to pay for itself in terms of battery life, and you can't justify keeping the voltage at max all the time since you don't need maximum processing speed, I'd just leave the switcher out.

Re: OpenRPN Hardware Specifications

*Message #24 Posted by **Hugh Evans** on 2 Dec 2005, 6:33 a.m.,*

in response to message #23 by Garth Wilson

Our embedded HW designer has mentioned planning to use 3V throughout. The only part I know of that drops out below 3V is USB, but since the machine will be using external juice in that mode it's a non-issue. I don't even remember mentioning a switcher outside of it being mentioned during a discusion once.

I'm still inclined to use 4xAAA due to size. I can't get a AA into the current enclosure unless I increase the thickness to 3/4" or so. If lithium polymer ever becomes standardized I will be inclined to retrofit a pack in, 3-5Ah should be possible in the same space!

-Hugh

Re: OpenRPN Hardware Specifications

*Message #25 Posted by **Eric Smith** on 2 Dec 2005, 1:12 p.m.,*
in response to message #24 by Hugh Evans

> Quote:
>
> If lithium polymer ever becomes standardized I will be inclined to retrofit a pack in, 3-5Ah should be possible in the same space!

VARTA EasyPack. 3.7V, 500, 750, 1000, and 2000 mAh. Available from Mouser, not too expensive. TI (Benchmarq) chips can be used to control charging. Reference design kit costs $259 and includes one of each pack.

The 750, 1000, and 2000 mAh are all 64.5 by 36.3 mm, but vary in thickness, 5.2, 6.4, and 11.4 mm.

For my own purposes, I wish they had a pack with 2000 mAh or greater capacity, but that was wider and/or longer rather than being thicker.

Re: OpenRPN Hardware Specifications

*Message #26 Posted by **Eric Smith** on 2 Dec 2005, 1:19 p.m.,*
in response to message #24 by Hugh Evans

> Quote:
>
> I don't even remember mentioning a switcher outside of it being mentioned during a discusion once.

If you use 4xAAA, and don't use a switcher, you'll be wasting a third of the available battery capacity. A 3.3V linear regulator (or LDO) will take your 4-6V in, and give you 3.3V out, but the voltage difference is being converted to heat. So if the batteries are 1250 mAh at 6V, you get 1250 mAh at 3.3V out.

Some buck-mode switchers that use burst mode or pulse skipping have efficiency above 80% even for low (negligible) loads. With one of those, you get 1818 mAh at 3.3V out.

With a 3.6V lithiun-ion or lithium-polymer rechargeable cell (pack), it makes sense to use an LDO. But then you also need a "fuel guage" chip in order to have a reliable indication of low battery status for the user.

Re: OpenRPN Hardware Specifications

*Message #27 Posted by **Garth Wilson** on 2 Dec 2005, 4:52 p.m.,*
in response to message #26 by Eric Smith

> Quote:
>
> Some buck-mode switchers that use burst mode or pulse skipping have efficiency above 80% even for low (negligible) loads.

I can't say I've looked into ultra-low-power switching regulator use much, but does that include the I(Q)? I have to doubt it. In any case, using more than two AAA's will still require a linear regulator as well to supply the RAM and clock in power-down mode, unless a tap is taken off the first or second battery (which would only give about 1.6V or 3.2V when alkaline cells are brand new). One thing I tried almost 20 years ago for getting the few microamps needed to keep RAM and RTC alive during powerdown is to use a JFET for regulation, with the only I(Q) being what gets through the 2M trimmer used for the voltage divider at the gate. The minor problem with that proved to be that the JFET's pinch-off voltage varied quite a lot across the temperature range. In order to avoid losing data at the cold end, the voltage at the hot end had to be close to the regular operating voltage. I suppose a very high value of thermistor could fix that, if they exist. (I haven't looked.)

If no switcher is used, then four AAA's to end up with 3V would give no real benefit over three AAA's. The energy from the fourth would just go into heating up the linear regulator. Its space might as well be given to something else.

As far as having **both** USB **and** RS-232, I'm all for it. While USB is good for connecting to a PC, RS-232 is much, much easier to cobble together projects to control or take data from things on the workbench.

Re: OpenRPN Hardware Specifications

*Message #28 Posted by **Eric Smith** on 2 Dec 2005, 6:52 p.m.,*
in response to message #27 by Garth Wilson

> Quote:
>
> In any case, using more than two AAA's will still require a linear regulator as well to supply the RAM and clock in power-down mode

No, everything runs on the switcher (though extra stuff like the EIA-232 level shifter might be turned off by a FET). In "power off" mode, everything still gets 3.3V, but the main oscillator is stopped so only the RTC and its oscillator are drawing power. The quiescent current of a modern switcher is around 20 uA.

For example, look at the data sheet for the Linear Technology LTC3405, and particularly at the graph of "power lost vs. load current" on page 10.

Re: OpenRPN Hardware Specifications

*Message #29 Posted by **hugh steers** on 2 Dec 2005, 12:36 p.m.,*
in response to message #1 by Hugh Evans

it looks sensible to me. i have a couple of ideas to add in,

have you got a rough cost estimate of the parts. also the display.

do you need rs232 as well as IrDa as well as USB? i know sometimes interfaces are already in the package, in which case it makes sense to use them. otherwise is more cost justified?

is the ROM memory mapped or do you have to copy into RAM to use it? otherwise you might need more RAM. you might consider adding some DRAM and have less SRAM. the idea being that the DRAM is lost when it sleeps, but it can be used for workspace and to hold stuff copied from ROM if that is necessary.

why compact flash and not SD? this might be a question of cost or availability again.

personally, i agree with the battery choice. it means it can run on regular batteries and also on rechargeable ones. otherwise you have to ship a charger. years ago i had an old handspring palm pilot, it worked fine on rechargeable batteries, but one charge didn't last all that long (by then standards), and when travelling, i used regular batteries since i didn't have to carry a charger. sadly, they are all built-in Li ones now.

on standby you should manage a very low current draw. with dry cells, you ought to have good life expectancy (due to their shelf life and low self-drain).

could it run on 3 AAA cells? if 4 fits comfortably in the package then have 4 as it means it will last longer, but i've seen a lot of home gadgets with 3 (eg cordless phones). some even have 2 now. so i guess they must have some voltage multiplier in them. i'm just wondering about the fitting with 4 and the CF and other connects?

nevertheless a good choice. i think you will actually need the 200Mhz. i know this sounds like madness when compared to calculators of old and their respective speeds, but it will make for a much nicer experience. of course, the unit will sleep when not actually calculating to save power.

just recently i've been playing with the lygea 12c emulator (http://www.lygea.com/pocket12cdetail.htm) i've been running some IIR calculations for cashflows. the real device can take minutes but the emulator is there virtually instantly. for these sorts of thing, i've actually started using it over the real machine despite the fact that it has no real keyboard – which is usually the reason to not use a PDA.

good luck and happy hacking!

Re: OpenRPN Hardware Specifications

*Message #30 Posted by **Bill Wiese** on 2 Dec 2005, 1:19 p.m.,*
in response to message #29 by hugh steers

A few comments...

Probably overkill for 90+% of calc applications - hope you aren't trying to do another 48/49.

- Don't try to do an HP48/49 calc. Those are available and there's a ton on the used market. (I've given away two myself. To me, they're better as wheel-chocks than calculators.) Plus this is a bigger project. Do a smaller more achievable calc to get something right early.

- A moderately fast HP41/42S-style true RPN calc can do perfectly well using a capable 8 or 16 bit microcontroller, esp if CPU has a built-in basic LCD driver. This includes emulation of original HP 'microcode'.

- Emulation of an orig HP calc w/uncopyrighted ROMs can be very very helpful to getting something "right", early. The emulator can have traps in it to break out into real-code world for ease of implementing

new functions or for overall system management. More important than calc operation routines are the actual quality math routines. We'd be hard pressed here to create transcendental functions that match the quality of HP's on even Spice or 11C/12C/15C calcs - let alone that of Solve & Integrate.

- Avoid USB. Expense, etc. Don't use the calc as a USB memory stick, that's a dud application as these sticks are $20 items that fit on keychains and smaller ones are even being given away as promotional items even...

Most PCs can read/write to many types of memory cards (SD/MMC, CF, xD, etc) either directly (or thru a $10 USB dongle) so do the write or read on the card at the PC and move the card to the calc. Less firmware, less grief, no one's bothered.

- Use SD instead of CF cards (and avoid xD!!). CF connectors are more expensive and the speed advantage of CF devices (esp as inplemented in MicroDrives) is not terribly relevant here. Free FAT12/16/32 filesystem open source is available - search SourceForge for EFSL (Embedded FileSystem Library), just write a low level SPI driver to fetch/write n*512 bytes to card sector address...

- Hugh Steers' question/comment about copying ROM to RAM is an important one. In the devices using embedded ARMs, generally attached RAM is faster than ROM, so it behooves one to copy to RAM at boot.

However, I see this as a system integrity issue. Without elaborate realtime continious memory image checks, the paranoid amongst us prefer code in ROM. Wild pointers don't overwrite it, etc. Your car's engine control software and pacemaker software all run directly out of ROM, often uncached.

- Attack power management at very low level. Power mgmt routines should be programmable and configurable for keystroke operation vs running programs at various speeds.

Bill Wiese
San Jose, CA USA

Re: OpenRPN Hardware Specifications

*Message #31 Posted by **Hugh Evans** on 2 Dec 2005, 10:35 p.m.,*
in response to message #29 by hugh steers

The MCU has USB 2.0 full-speed, IrDA, and RS232. USB is well suited to interfacing with PCs, IrDA is ideal for wireless communications, and RS232 will make life much easier for those who like to tinker.

An internal CF II slot would allow support for everything from microdrives to expansion devices (since it is really just a mini-pcmcia controller). It may be going a bit overboard, though. There is also a MMC controller on board and if a bit of extra storage space is all anyone wants we can certainly go that route.

I don't have an answer for you on the ROM. We sorely need more hardware design help, if anyone reading this thread would like to lend their talent please send me an email. 512KBytes of SRAM should be more than enough. If for some reason we need more I would lean towards using PSRAM at $10 for 16MB.

As far as batteries go, the more we can stuff in the better. Since the MCU has a battery monitor interface, I believe we should use it.

Execution speed is a big can of worms. I don't think we can make any decisions until the development boards become available. What we can be sure of is that plenty of control will be necessary.

Re: OpenRPN Hardware Specifications

*Message #32 Posted by **Eric Smith** on 3 Dec 2005, 2:00 p.m.,*
in response to message #31 by Hugh Evans

PSRAM has higher standby current consumption than SRAM. I think you really want low-power SRAM.

I don't know about other people, but I'm not looking for 16 MB of RAM in a 15C/42S replacement. If it has an SD slot, I'll plug in a 2GB SD card if I for some reason need to store lots of programs or data.

And I *much* prefer SD/MMC over CF. The SD/MMC slot can easily be made accessible from the outside. The cards take up much less room, so I can carry several of them around more easily.

Re: OpenRPN Hardware Specifications

*Message #33 Posted by **Howard Owen** on 3 Dec 2005, 3:43 p.m.,*
in response to message #32 by Eric Smith

CF is a generic peripheral bus, but it's arguable whether you need the flexibility in a machine like this. My dream calculator would have WiFi, desktop-equivilant RAM and storage and the fastest processor available. Oh, and it would be solar powered and never need recharging under constant use. Essentially, I want a calculator sized package with a calculator keyboard and power consumption, but a fast grid's computing power and a game machine's graphic performance. But a real calculator doesn't need real-time network connectivity, as long as it has some way of reaching the outside world. It shouldn't need a huge anount of storage, but SD/MMC is there with a smaller form factor and lower power than CF in case it does. And while the fastest possible computation speed would be nice, the trade-off for power consumption is always present.

On the other hand, it makes sense to choose a platform that will scale for other projects beyond the initial two machines. Perhaps something approaching my dream machine, or someone else's, will be feasible in the future. It would be nice not to have to throw out all the hardware and software design work to get to a better platform. Besides saving effort in development, sticking with the same hardware platform could make it possible to have the newer system upward compatible with the older. So I say don't design the CF slot out unless it will cost an awful lot to leave it in.

Regards,
Howard

Re: OpenRPN Hardware Specifications

*Message #34 Posted by **Hugh Evans** on 3 Dec 2005, 5:01 p.m.,*
in response to message #33 by Howard Owen

I believe the second generation of openrpn machines will be the ultimate dream calculators. Several ultra-low power technologies should be available within the next 5-10 years such as: bistable displays (e-ink), non-volatile memory (NRAM, MRAM, FeRAM), and ever more energy-efficient PLDs. However, I don't want to worry about any of that until our first generation devleopment is finished!

No one seems to be clamoring for CF, and the general concensus is clearly in favor of MMC/SD. However, if we can make them both fit we'll use them! This is another good example of why I want to build the mainboard on a DIMM. If all else fails we have 144 pins for easy access to unused goodies in the MCU.

I don't plan to use the same mainboard for the second generation, but I would like to make an upgrade that consists of a simple board swap.

Re: OpenRPN Hardware Specifications

*Message #35 Posted by **Thomas Okken** on 3 Dec 2005, 10:28 a.m.,*
in response to message #29 by hugh steers

> Quote:
>
> personally, i agree with the battery choice. it means it can run on regular batteries and also on rechargeable ones. otherwise you have to ship a charger. years ago i had an old handspring palm pilot, it worked fine on rechargeable batteries, but one charge didn't last all that long (by then standards), and when travelling, i used regular batteries since i didn't have to carry a charger. sadly, they are all built-in Li ones now.

Seconded. I always thought it's a big plus of the HP-48G and its relatives that it can run off standard batteries. You can use disposables when travelling, or dirt-cheap rechargeables otherwise, plus you can recharge them outside the calc.

OT: I, too, mourn the disappearance of AAA-powered PDAs... I ended up settling for a Palm Zire 21: also a non-replaceable built-in Li battery, but the machine uses very little power (no backlight and other such frills) so it will actually run quite a while before it needs recharging.

Re: OpenRPN Hardware Specifications

*Message #36 Posted by **John Ioannidis** on 8 Dec 2005, 1:59 p.m.,*
in response to message #1 by Hugh Evans

This may have been discussed before, but it cannot be overstressed. The two most important features of a calculator are its display and its keyboard:

* Use the HIGHEST contrast display you can find. The main reason i have my 48SX is the low-contrast display. Also, remember that many of us owned HP calculators when they were coming out, and that can tell you something about the state of our eyes :) An option to have a single line of large characters as opposed to two lines of smaller characters `a la HP42 would be nice. The 32SII got it right there.

* While you probably don't have much of a choice on the hardware of the keyboard, you still have much choice on the color scheme. Think HIGH CONTRAST. I suspect someone at HP did a lot of usability research before they settled on the orange ("gold") and blue scheme. It's not perfect, and the choice of colors should depend on the color of the bezel and calculator keys, but the pastel colors in the 48GX and the later 32SII for example were a disaster.

Thanks, and good work!

/ji

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48GX computing delay

*Message #1 Posted by **Steve Jirsa** on 30 Nov 2005, 6:58 p.m.*

I have a 48GX which often has a several second delay when performing basic arithmetic. Has anyone else experienced this and is there anything that can be done?

Re: 48GX computing delay

*Message #2 Posted by **Han** on 30 Nov 2005, 11:00 p.m.,*
in response to message #1 by Steve Jirsa

I have a 48GX (several actually), a 48G (again several) and 48G+ (just one). I also have several 48SX models. I would be willing to test out your calculations on these models and time them for you for comparison. Could you give us some details as to what it is you are calculating?

Han

Re: 48GX computing delay

*Message #3 Posted by **steve jirsa** on 1 Dec 2005, 11:43 a.m.,*
in response to message #2 by Han

It's usually just basic multiplication or division and it seems to happen pretty randomly.

Re: 48GX computing delay

*Message #4 Posted by **Arnaud Amiel** on 1 Dec 2005, 12:06 p.m.,*
in response to message #3 by steve jirsa

Wouldn't it be garbage collection? It would especially happen if you don't have much in memory.

Arnaud

Re: 48GX computing delay

*Message #5 Posted by **Han** on 1 Dec 2005, 4:59 p.m.,*
in response to message #4 by Arnaud Amiel

I believe you are correct. During garbage collection, the calculator will be seemingly slower. The goal of garbage collection is to get rid of temporary objects in memory which are no longer referenced. If you are low on memory, then the HP 48 will try to garbage collect often in an attempt to get more working memory. Is this the case? Do you have very little free memory?

Re: 48GX computing delay

*Message #6 Posted by **Arnaud Amiel** on 2 Dec 2005, 4:51 a.m.,*
in response to message #5 by Han

If you have little memory, the garbage collection will be quite fast as it does not need to tidy much. However, if you have lots of free memory, it will not happen so often but will take much longer.

Basically, it works like this, the hp leaves all its temporary calculation, objects, rubbish in memory until it feels the memory is too full. It then cleans everything and starts again. If less space (memory) is available, it will have to clean more often but will have less work to do each time and you would not notice it.

When the 49 was introduced with 256 K of free RAM there was lots of people complaining about the garbage collection delay. The solution was to store a huge string in memory to have only say 64K left and adjust the size of this string to your memory requirements. Garbage collection was later improved to cope with the 256K.

Arnaud

Re: 48GX computing delay

*Message #7 Posted by **Han** on 2 Dec 2005, 4:27 p.m.,*
in response to message #6 by Arnaud Amiel

Ahh... I truly blundered then. I had assumed that with such little memory, gargabe collection would occur so often that the frequency of gargabe collection was what was noticable. It makes more sense the way you described it.

Just out of curiosity: how did they make the fix for the 256kB of memory?

Edited: 2 Dec 2005, 4:27 p.m.

Re: 48GX computing delay

*Message #8 Posted by **Arnaud Amiel** on 2 Dec 2005, 5:45 p.m.,*
in response to message #7 by Han

I believe that the Garbage collector of the 49G was rewritten completely in a ROM update. It still happens but it is much fatser. On the 49g+ I believe it was directly implemented in ARM

Arnaud

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OT: Sharp PC-1600 documentation in english

*Message #1 Posted by **Gileno - Brazil** on 30 Nov 2005, 4:20 p.m.*

Please i need Sharp PC-1600 documentation in english (PDF) Thank you

Re: OT: Sharp PC-1600 documentation in english

*Message #2 Posted by **Marcus von Cube, Germany** on 30 Nov 2005, 4:53 p.m.,*
in response to message #1 by Gileno - Brazil

The German version can be found on http://esupport.sharp.de.

http://www.manuals-in-pdf.com sells a PDF copy.

Both sites have a working search feature.

Marcus

Re: OT: Sharp PC-1600 documentation in english

*Message #3 Posted by **Gileno - Brazil** on 30 Nov 2005, 7:34 p.m.,*
in response to message #2 by Marcus von Cube, Germany

I need in english (pdf) !!! The two are in German !!!

Thank you

Re: OT: Sharp PC-1600 documentation in english

*Message #4 Posted by **Marcus von Cube, Germany** on 1 Dec 2005, 2:18 a.m.,*
in response to message #3 by Gileno - Brazil

Gileno,

how do you know that the manual from Manuals-in-PDF is in German? I can't find any mention of the language. Did you ask them?

Marcus

Re: OT: Sharp PC-1600 documentation in english

*Message #5 Posted by **Gileno - Brazil** on 1 Dec 2005, 5:47 a.m.,*
in response to message #4 by Marcus von Cube, Germany

yes

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Craig Finseth's site is a must-read!

*Message #1 Posted by **bill platt** on 30 Nov 2005, 2:33 p.m.*

I've been over there many time--but I just had to mention it. For all of you who are insuffereably interested or even obsessed with knowing what all the models were and especially how they differed or bugs, Craig's list is a great asset--as is the museum here. Where the museum has in-depth discussion of great interest and fun to read, Craig has what is approaching a comprehensive database.

A good example, extracted from his discussion of solvers:

> Quote:
>
> Algebraic:
>
> This solver is similar to TVM5, except that it has been generalized to handle any equation.
>
> <name> stores the value in the variable STO <name> stores the value in the variable <name> (2nd in a row), solves for the variable RCL <name> recalls a value from the variable
>
> The solvers on the 17BII, 19B, 19BII, and -27S also have L(et) and G(et) functions.
>
> The solvers on the -17B, 17BII, -18C, 19B, and 19BII do algebraic simplification: this feature was removed from the -27S in order to save space.
>
> The solver on the 17BII / 19B / 19BII is the best one of the set.

Note that there *is* a small difference between the 27s and the 17bii solver--algebraic simplification!

Indeed!!! (N.T.)

*Message #2 Posted by **Vieira, L. C. (Brazil)** on 30 Nov 2005, 4:12 p.m.,*
in response to message #1 by bill platt

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For what it is worth...

*Message #1 Posted by **Jordi Hidalgo** on 30 Nov 2005, 1:47 p.m.*

... my HP39G CAS enabler aplet is downloadable from Eric's site.

Re: For what it is worth??? Are you kidding?

*Message #2 Posted by **Ron Ross** on 30 Nov 2005, 2:03 p.m.,*
in response to message #1 by Jordi Hidalgo

It made the Hp39G worth owning. Without this nice app, the Hp39G is merely a copycat Ti-83. It effectively gave the Hp39G an equation writer (which it lacked). That alone was worth having.

Thanks for that contribution (and I know you have made other contributions as well). Thanks.

I thought the Hp39G should have come standard with CAS as it might as well be loaded up with all sorts of extras and goodies so that the discerning customer would have an edge over his fellow (sheep) students that bought Ti's (add credulence to the Hp marketing slogan, THE HP ADVANTAGE or as I like to say THE HP UNFAIR ADVANTAGE).

If Hp had released the Hp39G with CAS and an RPN mode, they may have made more sales. That it would rob sales from the Hp48/49 was true, but it is much easier to use in algebraic mode (no damn plethoria of flags) than the 48/49 series.

I understand your CAS will not work on the newer Hp39G+ though. I also suspect you cannot confirm nor deny either.

Re: For what it is worth??? Are you kidding?

*Message #3 Posted by **Tim Wessman** on 30 Nov 2005, 2:22 p.m.,*
in response to message #2 by Ron Ross

It won't. They learned any physicaly removed the CAS code from the 39g+. The new 40GS appears to have it back.

I still think it was very dumb to not have the EQW active though. That is a huge feature people love.

TW

Re: For what it is worth??? Are you kidding?

*Message #4 Posted by **Ed Look** on 30 Nov 2005, 11:11 p.m.,*
in response to message #3 by Tim Wessman

What IS this HP 40GS? Obviously it is not sold in the 'States. But I can't even find an informational page on it on the Internet!

Re: For what it is worth??? Are you kidding?

*Message #5 Posted by **Ron Ross** on 1 Dec 2005, 10:48 a.m.,*
in response to message #4 by Ed Look

hpcalc.org has a small photo of it on the main page (shown with the Hp39G section) and may have a larger jpg somewhere on its site. I have seen it for sale (though not yet available, ie pre-sale) at some German calculator site.

It seems that it will only be available to the European market (if it is ever sold), within the next few weeks (or now, I haven't followed up). It is basically an Hp39G+ in a different (and nicer looking) skin with CAS (at the expense of IR, which I don't value all that much, as long as Hp also supplies a cable).

Re: For what it is worth??? Are you kidding?

*Message #6 Posted by **Gene Wright** on 1 Dec 2005, 11:34 a.m.,*
in response to message #4 by Ed Look

Best bet for these types of questions is to google it.

That brings up three pages with "hp40gs" as the search term, including the hpcalc.org page that has a picture.

:-)

Gene

Re: For what it is worth??? Are you kidding?

*Message #7 Posted by **Samuel Heddle** on 1 Dec 2005, 6:51 p.m.,*
in response to message #6 by Gene Wright

> Quote:
>
> Best bet for these types of questions is to google it.
>
> That brings up three pages with "hp40gs" as the search term, including the hpcalc.org page that has a picture.
>
> :-)
>
> Gene

Anyone else wish the 49G+ used that color scheme? Great looking device.

Re: For what it is worth??? Are you kidding?

*Message #8 Posted by **Howard Owen** on 1 Dec 2005, 7:06 p.m.,*
in response to message #7 by Samuel Heddle

I think it's more aesthetically pleasing. I question if it's more legible, though. The orange on slate is very legible, but the white on slate is less so.

Re: For what it is worth...

*Message #9 Posted by **bill platt** on 30 Nov 2005, 2:16 p.m.,*
in response to message #1 by Jordi Hidalgo

Hi Jordi,

Nice to hear from you :-)

Re: For what it is worth...

*Message #10 Posted by **Matt Kernal (US)** on 30 Nov 2005, 2:52 p.m.,*
in response to message #1 by Jordi Hidalgo

Hi Jordi,

I saw your aplet at hpcalc.org on Saturday and downloaded then. As luck would have it, I picked up an HP39G at a Goodwill store on Sunday and installed your CAS Enabler. WORKS GREAT!

I've been meaning to buy a postcard (showing Portland Oregon) because you mentioned your application is "postcardware". Now that you've announced it here, I just wanted to say THANKS!! I still plan to send the postcard :-)

Matt

Re: For what it is worth...

*Message #11 Posted by **Ed Look** on 30 Nov 2005, 5:16 p.m.,*
in response to message #1 by Jordi Hidalgo

Very nice!

Also nice to see you posting here still!

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OT: Sharp PC-1425 documentation

*Message #1 Posted by **Juergen Keller** on 30 Nov 2005, 9:59 a.m.*

I recently aquired a Sharp PC-1425 statistics calculator. Unfortunately, it didn't come with a manual. I know that some of you are not only addicted to HP calculators. So probably, there is anybody out there you can provide me information/documentation about this calulator. Didn't found much on the Web. Any help highly appreciated!

Thank you, Juergen

Me too !! Re: OT: Sharp PC-1425 documentation

*Message #2 Posted by **Valentin Albillo** on 30 Nov 2005, 10:10 a.m.,*
in response to message #1 by Juergen Keller

Me too !! :-)

I've also been unable to get hold of any kind of manuals or instructions for this particular model, even after posting in several forum's classified sections, extensively searching the web, and keeping watch at eBay.

So if someone can offer any instructions or manuals, be they for free or for money, I'd be very glad to hear. It's terribly frustrating owning such fine handheld and not being able to exploit its wonders to the fullest due to an absolute lack of docs.

Best regards from V.

Rare calculator?

*Message #3 Posted by **Juergen Keller** on 30 Nov 2005, 10:24 a.m.,*
in response to message #2 by Valentin Albillo

What do you think is the reason that it is so difficult to find any documentation about this model? Whas the manual so bad that everybody got rid of it, or is this a rare calculator?

Do you know if the various Sharp models use (more ore less) the same BASIC dialect? Is there any documentation about Sharp BASIC?

Valentin, hope we are lucky and find someone who can make us happy again ;-)

Best Regards, Juergen

Re: Rare calculator?

*Message #4 Posted by **Valentin Albillo** on 30 Nov 2005, 11:01 a.m.,*
in response to message #3 by Juergen Keller

Hi, Juergen:

Juergen posted:

"What do you think is the reason that it is so difficult to find any documentation about this model? Whas the manual so bad that everybody got rid of it, or is this a rare calculator?"

> It's an extremely rare calculator. I've only seen it offered for sale three times or so. Got mine in eBay for 44 euros (about US$ 50 at the time).

"Do you know if the various Sharp models use (more ore less) the same BASIC dialect?"

> Yes, pretty much the same with obvious extensions for the dedicated models. So, your SHARP PC-1425 does have the same BASIC "level 2" with statistic functions added, the financial SHARP PC-1421 does have the same BASIC "level 2" with financial BASIC statements added (such as IRR, NPV, etc), ...
>
> There are mainly two flavors of vintage SHARP BASIC. Level 1 is the dialect that came with the original SHARP PC-1211 and several other models. Level 2 is the advanced dialect that came with the newer models, such as the SHARP PC-1350, your PC-1425, etc. This advanced BASIC upgrades the older version with two dimensional arrays, multi-character variable names, and many, many extensions,
>
> Programs written in Level 1 can be keyed in and even read from tape by Level 2 machines with few or no modifications. The reverse isn't true, logically. But the bottom line is there are essentially only two versions of vintage SHARP BASIC and they are upwards compatible.

"Is there any documentation about Sharp BASIC?"

> Yes, tons ! You'll find tons of original SHARP manuals scanned and converted to PDF documents freely downloadable from here, both in German and in English. Regrettably, the one for the PC-1425 is missing, but you can download the German manual for the PC-1421 instead, which will include tutorials and reference for all the functionality of your PC-1425, plus business functions (not present in your machine, of course) and minus the statistical functions (not present in the PC-1421, obviously).

"Valentin, hope we are lucky and find someone who can make us happy again ;-)"

> Let's hope. And if you do before I do, please let me know, and vice versa.

Best regards from V.

Re: Rare calculator?

*Message #5 Posted by **Juergen Keller** on 30 Nov 2005, 2:52 p.m.,*
in response to message #4 by Valentin Albillo

Thank you much for this information, that's a good starting point!

Re: Me too !! Re: OT: Sharp PC-1425 documentation

*Message #6 Posted by **Marcus von Cube, Germany** on 30 Nov 2005, 11:01 a.m.,*
in response to message #2 by Valentin Albillo

The website www.manuals-in-pdf.com sells PDF copies of said manual for about $16.

I'm not affiliated with the company, just found them in Google.

Marcus

Re: Me too !! Re: OT: Sharp PC-1425 documentation

*Message #7 Posted by **Valentin Albillo** on 30 Nov 2005, 11:07 a.m.,*
in response to message #6 by Marcus von Cube, Germany

Thanks, Marcus, but I've tried that link and it doesn't show this model, or price, or anything but "0 results". Can you provide an specific link where it says this manual is available and costs $16 ?

Best regards from V.

Re: Me too !! Re: OT: Sharp PC-1425 documentation

*Message #8 Posted by **Charlie O.** on 30 Nov 2005, 11:19 a.m.,*
in response to message #7 by Valentin Albillo

When I clicked on the link it took me directly to the pc1425 manuals.

Charlie O.

Re: Me too !! Re: OT: Sharp PC-1425 documentation

*Message #9 Posted by **Howard Owen** on 30 Nov 2005, 11:20 a.m.,*
in response to message #7 by Valentin Albillo

It works for me, Valentin. The full URL (what you get if you click on the link, rather than copying the text) is: http://www.manuals-in-pdf.com/advanced_search_result.php?keywords=sharp+pc-1425

Re: Me too !! Re: OT: Sharp PC-1425 documentation

*Message #10 Posted by **Valentin Albillo** on 30 Nov 2005, 12:26 p.m.,*
in response to message #9 by Howard Owen

Thanks a lot to both of you for caring, but it really doesn't work for me. Even if I copy the entire link and paste it in the "URL:" field and make extra-sure it's correct, the page that does appears doesn't feature any manual, calculator, or price at all.

May have to do something with localization, as some texts do appears in Spanish ("FABRICANTE", "DESCRIPCION") intermingled with others in English ("TABLE_HEADING_DOWNLOAD", "TABLE_HEADING_TYPE") in a way that seems to me something did error out. Thanks anyway and

Best regards from V.

Re: Me too !! Re: OT: Sharp PC-1425 documentation

*Message #11 Posted by **Charlie O.** on 30 Nov 2005, 12:33 p.m.,*
in response to message #10 by Valentin Albillo

If you have your computer set to Spanish maybe if you temporarily change to English?

Re: Me too !! Re: OT: Sharp PC-1425 documentation

*Message #12 Posted by **Valentin Albillo** on 30 Nov 2005, 12:38 p.m.,*

in response to message #11 by Charlie O.

Hi, Charlie O.:

Thanks a lot but for a number of reasons, it's not that easy ...

Best regards from V.

Re: Me too !! Re: OT: Sharp PC-1425 documentation

*Message #13 Posted by **Marcus von Cube, Germany** on 30 Nov 2005, 1:52 p.m.,*
in response to message #10 by Valentin Albillo

Valentin,

can you go to their home page and enter the search term "Sharp PC-1425"? Or does it fail in the same way?

Marcus

Re: Me too !! Re: OT: Sharp PC-1425 documentation

*Message #14 Posted by **Dave Shaffer** on 30 Nov 2005, 3:17 p.m.,*
in response to message #10 by Valentin Albillo

Valentin,

What browser are you using? That might be your problem.

I prefer Netscape 7.1 to MS Internet Explorer, and I occasionally find that a web site will not load properly unless I use IE.

(Another example of MS domination!)

I haven't yet tried Firefox or Opera.

Re: Me too !! Re: OT: Sharp PC-1425 documentation

*Message #15 Posted by **Antoine M. Couëtte** on 30 Nov 2005, 4:21 p.m.,*
in response to message #10 by Valentin Albillo

Nov 30, 2005

Valentin,

I recently happend to be in a similar case : a friend could easily access a web site, while I could not. It turned out that he was using Internet Explorer (MS registered software and name)while I was using an early version of OPERA (egistered software too). When I subsequently searched this site with I.E. everything worked just fine.

Maybe this could explain your difficulties in attemting to acces a site which various other peole - including myself a few minutes ago - can easily access !

Just my one (Euro)cent opinion !!!

Best Regards

Antoine

Re: OT: Sharp PC-1425 documentation

*Message #16 Posted by **Etienne Victoria** on 30 Nov 2005, 12:08 p.m.,*
in response to message #1 by Juergen Keller

Hallo Jürgen!

I propose you ask Ulf Wagemann, author of the wonderful Pocketeer site.

Knowing he has the manual in german (Check the /Extra/Literature submenu), maybe he'd be glad to email it to you.

Notice: please only use plain text when emailing him.

He's one of the most knowledgeable Sharpmenschen I know.

MfG from France!

Etienne

Edited: 30 Nov 2005, 12:09 p.m.

Re: OT: Sharp PC-1425 documentation

*Message #17 Posted by **Howard Owen** on 30 Nov 2005, 12:54 p.m.,*
in response to message #16 by Etienne Victoria

Great! This could make dealing with the broken localization software on the pay site avoidable for Valentin!

I just purchased a PC-1500A on eBay. It comes with the user documentation, but I'm intreested in the service manual too. So this link is helpful to me as well. Thanks, Etienne!

Regards,
Howard

Re: OT: Sharp PC-1425 documentation

*Message #18 Posted by **Etienne Victoria** on 30 Nov 2005, 2:20 p.m.,*
in response to message #17 by Howard Owen

Good evening Howard,

I do not know the PC-1500A.

However, you will find the PC-1500 service manual here and the TRM here .

...amongst others.

(Courtesy E. Beaurepaire, merci)

Etienne

Edited: 30 Nov 2005, 2:26 p.m.

Re: OT: Sharp PC-1425 documentation

*Message #19 Posted by **Howard Owen** on 30 Nov 2005, 2:30 p.m.,*
in response to message #18 by Etienne Victoria

Thanks again. Etienne!

The 1500A is a 1500 in a slightly larger package. There's probably lots of overlap between the two, so the given link is very helpful.

That site is also quite interesting! I see lots of one line display format graphical games there. Some of them could probably be translated to run on the HP-71B. 8)

Re: OT: Sharp PC-1425 documentation

*Message #20 Posted by **Etienne Victoria** on 30 Nov 2005, 3:27 p.m.,*
in response to message #19 by Howard Owen

Howard,

I'm getting Yahtzaddict (71B variant)...and it's your fault :-))

So any program you'll design, translate, transmute...will be more than welcome!!

And congratulations for your beautiful site: browsing it is a pleasure.

Best regards from France!

Etienne

Re: OT: Sharp PC-1425 documentation

*Message #21 Posted by **Howard Owen** on 30 Nov 2005, 5:02 p.m.,*
in response to message #20 by Etienne Victoria

It's the musical prompts. Not my fault. 8)

Thanks for your kind words!

Re: OT: Sharp PC-1425 documentation

*Message #22 Posted by **Peter Geiser** on 2 Dec 2005, 3:13 p.m.,*
in response to message #19 by Howard Owen

Howard

The PC1500A and PC1500 are basically the same model in the same package, with the exception of memory: PC1500 has only 2k, while the PC1500A has 8k of user memory.

In terms of chips used, the A version has four 2k chips from Toshiba (if I remember correctly, they were TC5517).

If anyone needs more details, let me know.

Best regards

Peter

Re: OT: Sharp PC-1425 documentation

*Message #23 Posted by **Juergen Keller** on 30 Nov 2005, 2:54 p.m.,*
in response to message #16 by Etienne Victoria

Salu Etienne,

ça va bien? Thank you much for this hint. I've mailed to Mr. Wegemann, let's see if I am lucky. BTW, a *very* nice and interesting web site!

Best Regards, Juergen

Re: OT: Sharp PC-1425 documentation

*Message #24 Posted by **Etienne Victoria** on 30 Nov 2005, 3:41 p.m.,*
in response to message #23 by Juergen Keller

Hello Jürgen!

Nice to read you again! Hope you get the manual.

If this does not work, you might try getting a copy of the french version of the manual from Musepat.

If Pat... accepts to send a Pdf manual, I'll be glad to translate some PC-1425 specific pages if needed.

Friendly regards.

Etienne

[following image is source and copyright Musepat]

http://membres.lycos.fr/musepat/pc1425.jpg

Edited: 30 Nov 2005, 3:42 p.m.

Re: Valentin, Jürgen: Sharp PC-1425 documentation (sorry Dave)

*Message #25 Posted by **Etienne Victoria** on 30 Nov 2005, 4:47 p.m.,*
in response to message #23 by Juergen Keller

Jürgen,

Die Sharp PC-1425 Anleitungen findest Du auch im Deutschland!! auf dieser Seite inklusiv Bedienungsanleitung auf Deutsch und Service Manual (Englisch). EUR 10,59 je Buch.

PC-1425 im "Modell" eingeben

MfG

Etienne

---------- Translation----------

Valentin, Howard, all,

You may also find here the PC-1425 user manual in german and the service manual in English for EUR 10,59 per manual.

Type PC-1425 in the Modell field (and don't try to use the english pages).

Sincerely

Etienne

Edited: 30 Nov 2005, 5:40 p.m.

Thanks to all of you ! (Re: Valentin, Jürgen: Sharp PC-1425 documentation (sorry Dave))

*Message #26 Posted by **Valentin Albillo** on 1 Dec 2005, 4:31 a.m.,*
in response to message #25 by Etienne Victoria

Hi, Etienne:

Yes, that link does work for me and I can see the two manuals offered for the SHARP PC-1425.

Unfortunately, the one I'm interested in, namely the "Owner's Handbook" is only available in German, which regrettably I can't read or translate. As it probably is a PDF consisting in scanned images (thus not in textual form), it seems it will be impossible to use an automatic translator and the prospect of manually typing pages of convoluted German text to have it approximately translated seems impractical.

Well, perhaps at some time in the future I'll get the English manual from eBay or such. Another try would be to offer some valuable HP or SHARP as a trade-in for this manual, but I'm less inclined to follow that way. Meanwhile, my beautiful SHARP PC-1425 will remain safely stored, waiting for better times ...

Best regards from V.

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HP48GX crash problems

*Message #1 Posted by **Jeff** on 30 Nov 2005, 9:07 a.m.*

I read this forum when time permits for me. Since I have a problem that I have not seen discussed, I thought it would be a good discussion topic. My HP48GX (manufactured in 2002 with a version R ROM) crashes on occasion during calculations. It acts abnormally slow during some multiplication and trig functions. (BTW, I am gauging the actions against my 48G+.) When the calculator crashes, the following can occur: 1) pixels are randomly generated on the display (this prompts me to remove the batteries and let the calculator reset) or; 2) the display is cleared and the memory is dumped.

I would rather keep this machine running than turning it into a paperweight. Any ideas? I'm fresh out. Thanks for any suggestions.

Jeff

Re: HP48GX crash problems

*Message #2 Posted by **Ron Ross** on 30 Nov 2005, 9:16 a.m.,*
in response to message #1 by Jeff

After a reset, do you use PINIT to re-initialize you memory cards (if you have any). Memory cards (and garbage collection) are what make the GX much slower than a lower end plain 48G. The G+ only has 128K of RAM to worry about and falls somewhere in between (I don't have a G+ version to compare).

Do you load up your GX with certain types of programs (Utilities or memory managers?). Some of these work well, when they work, but when they don't, well you see exactly what you experience.

Re: HP48GX crash problems

*Message #3 Posted by **Jeff** on 30 Nov 2005, 2:07 p.m.,*
in response to message #2 by Ron Ross

I do not use any memory cards for my GX. The math operations I have don't require them. The machine has crashed when the stack had a few numbers on it but I didn't have that problem with the 48G+. BTW, the GX I keep at the office while the G+ goes with me to class.

Re: HP48GX crash problems

*Message #4 Posted by **Han** on 30 Nov 2005, 11:04 p.m.,*
in response to message #1 by Jeff

How replicable is this crashing? Can you cause it to crash doing the exact same caclulations? Or is it more intermittent? If you can force the crash, could you tell us what the computations are? I'm very curious about this and would like to test this on my own set of HP48G/G+/GX calculators.

Re: HP48GX crash problems

*Message #5 Posted by **Jeff** on 1 Dec 2005, 8:07 a.m.,*
in response to message #4 by Han

It is an intermittent problem. I tried to force a crash by loading up the stack then running trig calculations (as it has in similar circumstances). It did not crash....this morning.

Re: HP48GX crash problems

*Message #6 Posted by **Han** on 1 Dec 2005, 5:05 p.m.,*
in response to message #5 by Jeff

Is there anything running in the background, such as say Eqstack? If you are not running any downloaded software, and use only the built-in commands, then you should not be experiencing these crashes. The fact that your screen is garbled means something is trying to write to random areas in memory, including the memory containing the content of the display area. Can you be more specific about the conditions leading up to the crash?

E.g. commands you used, programs you ran, memory conditions (low ram available, etc), where you run the program (from var, port0, port1, or higher ports) etc...

Re: HP48GX crash problems

*Message #7 Posted by **Jeff** on 6 Dec 2005, 10:13 a.m.,*
in response to message #6 by Han

Sorry for the delay in responding.

The only thing running in the background is the clock. I am using the built-in commands in the machine. No memory or equation cards are inserted into the ports. When the crashes occur, the machine is solving a addition or a mutliplication of a number. There were no low memory prompts. The only area that would have some memory usage would be the stack. I would have approximately 20 to 30 lines of numbers in the stack.

As of this moment, I have not been able to replicate the crash. As always, it will crash when I least need it to.

Re: HP48GX crash problems

*Message #8 Posted by **Alberto Acevedo** on 7 Dec 2005, 9:17 p.m.,*
in response to message #1 by Jeff

hi!

when i tried to turn off the calculator it can't turn off. also when i used the 48 gx as a field book or data collector it freezz or crash.

tell me what i can do for resolve this situations.

thanks!

alberto

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Revisit of "Can't we give HP some credit"

*Message #1 Posted by **ECL** on 30 Nov 2005, 12:57 a.m.*

To HP calc team: I am an engineering student. The 33s is much appreciated!

New display is sharp and easy to read. TI machines will eventually see stiff competition from PDA's as they try to market themselves as the "EVERY COURSE" machine - check their website.(HP makes PDAs...)

Some comments for future 32/33/42 series machines:

1. When time comes for redesign, consider a traditional case/keyboard layout. However, the ENTER key is not a deal-breaker anymore ;)

2. Some "style" can be tolerated, as not every customer is the late 70s purist-engineer (although I am).

3. Basic soft-menu system, short, but multi-char variables, and minimum of 10x10 matrix support.

4. ...Any hope for a 42s anniversary-esque machine?

If these were implemented, the machine would be a *show-stopper*! Laptops do my heavy work, but you still need to carry something small and light in the field.

After browsing that earlier thread, I'd like to make these comments:

The 33s, to me, is a very reliable and useful tool. If RPN is a condition, the $50 33s *really* is very reasonable. I was one of the people in 2002 that LAMENTED not having scooped up some extra 32sii copies.

I have essentially been on a 42s/32sii quest since then. I am limited by student finances, and thus am so happy to walk into my university store and see a WALL of 33s' on display. Otherwise, I'd be using a Ti one-liner, as not *every* couse permits graphing machines.

I *cleaned house* on a recent exam in my numerical methods course, using my 33s. I walked out with over 95% of the people scrambling to perform matrix row manipulations *by hand*. My 33s zipped me through by virtue of two simple programs. Another example is having to compute % approx error 10 times on an exam. A program scoops the two values from the stack, and returns the error. How many keystrokes are saved...

Its a combination of these 'on the fly' time savings, and the ability to develop a few more involved algorithms that make the 1-2 liner RPN/keystroke prog machines such a pleasure to use.

ECL

Re: Revisit of "Can't we give HP some credit"

*Message #2 Posted by **brian healy** on 30 Nov 2005, 9:51 a.m.,*
in response to message #1 by ECL

ECL, I agree with you 100%

To the HP calc team: I am a practicing consulting engineer, and the 33s is also greatly appreciated by me. I echo many of the comments by ECL. For future machines, please make sure they get a full QC so that issues with invisible decimal points and poor keyboards are not repeated. Never abandon RPN. RPN results in a calculator for an engineer that is a tool, not a toy, as I consider machines that are purely algebraic. Also, I don't believe that laptops and PDA's will eliminate the need for a good basic RPN calculator. Each have their places.

Re: Revisit of "Can't we give HP some credit"

*Message #3 Posted by **Arnaud Amiel** on 30 Nov 2005, 10:08 a.m.,*
in response to message #2 by brian healy

The main advantage of a calculator over a PDA is the dedicated tactile keyboard. I have an Xpander and even that is far from perfect as accessing any function requires the stylus so I don't really use the Xpander.

The main differentiator being the keyboard, I believe that if hp or anyone else want to continue making high-end calculator, they have to focus on the keyboard which does not seem to have been the case at the release of the 49g+ (although mine is perfect)

Arnaud

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My First HP!

*Message #1 Posted by **Samuel Heddle (Account Pending)** on 29 Nov 2005, 5:18 p.m.*

Not a bad price for one, especially on ebay. (NOTE: NOT MY ITEM) 32Sii for 150 USD

REAL SUBJECT: Good price for 32Sii

*Message #2 Posted by **Samuel Heddle(Account Pending)** on 29 Nov 2005, 5:23 p.m.,*
in response to message #1 by Samuel Heddle (Account Pending)

Damn autofilling forms.

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HP-71B HP9114

*Message #1 Posted by **Justin Stubbs** on 29 Nov 2005, 4:45 p.m.*

I have a bunch of disks that were written with the HP9114. The drives we had are shot, but theres a bunch of information on those disks. Does anyone know of anyway to get at that data?

Re: HP-71B HP9114

*Message #2 Posted by **Howard Owen** on 29 Nov 2005, 5:36 p.m.,*
in response to message #1 by Justin Stubbs

There's a DOS program called LIFUTIL, available here in the museum FTP site. (LIFARC.EXE is a self extracting executable.) I've been able to get this to run under MS-DOS, and it's supposed to work under Windows 9X, too. The 9114 writes double sided *double* density (not quad density as modern) disks with 256 byte sectors. Modern PC BIOS sometimes have difficulty with this format, but sometimes not. You may have to actually load Win9X or MS-DOS onto a machine to get it to work.

Another alternative is the one I use. I bought an HP=IL ISA card from Cristoph Klug. I use JF Garnier's EMU41 and EMU71 DOS emulators to drive the card. It lets me read and write file to and from a 9114B and LIF images on the DOS drive. These I can read using several utilities available here and elsewhere. This appeals to me because I can make it work under DOSEMU on Linux. It is more complicated, and perhaps more expensive if you have an old PC lying around. But it's just the ticket for a hobbyist.

Regards,
Howard

Edited: 29 Nov 2005, 5:38 p.m.

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Replacing AC + Battery with DC + Capacitor

*Message #1 Posted by **Howard Owen** on 29 Nov 2005, 3:45 p.m.*

I have a 9122B that was modified by Personalized Software to run on AC. They replaced the battery in its shell with a 100 uF capacitor. The input is from an AC/DC transformer with output of 2A at 6V. This is cool, because I don't plan to use the device where batteres are needed.

Now the one working battery pack I had for my Thinkjet 2223B has gone to electrolyte heaven. I disassembled the pack (and another, non working one I have) and figured out that the bateries were 6 "C" sized NiCads wired in series, with a resistor soldered between two of the cells. A rectifier was included on a PCB to produce the required charging current. A quick Google revealed a source for replacement batteries, but not the packs, for $49.95. I'd rather do something like was done for the 9114B, and replace the battery and rectifier with a transformer and a capacitor.

I am mostly ignorant of basic electronics, being a software guy and all. How can I figure the right value for the dummy load capacitor, given the nominal output voltage of the battery pack?

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6S Question

*Message #1 Posted by **Ron** on 29 Nov 2005, 3:29 p.m.*

Please, no tomatoes for a 6S question.

Is the 6S suposed to shut down after no activity for a few minutes in the dark, or does it just stay on until the battery is dead? A friend's seems determined to stay on, even in the dark.

Edited: 29 Nov 2005, 3:30 p.m.

Re: 6S Question

*Message #2 Posted by **Greg Whitfield** on 29 Nov 2005, 5:27 p.m.,*
in response to message #1 by Ron

Are you referring to the HP 6S or the HP 6S Solar?

I have an HP 6S Solar, and it will not turn off. I read some threads here that seem to indicate that being an "always-on" calculator is an advantage. However, I had to replace the battery on mine when I first received it so that it would work in low light.

Cheers, Greg

Re: 6S Question

*Message #3 Posted by **Raymond Del Tondo** on 29 Nov 2005, 5:37 p.m.,*
in response to message #1 by Ron

Hi,

From my experience the unit stays on even in the dark,
maybe until the backup battery is empty.

I got a 6S Solar as a present many years ago,
punched in a few numbers, and these are still in
the calc's display memory after all those years.

After all, it's a throw-away calc,
so if the batteries are empty,
it's cheaper to buy a new 6S (aka Texet ALBERT)
than to replace the batts.

HTH

Raymond

Re: 6S Question

*Message #4 Posted by **GE** on 30 Nov 2005, 6:34 a.m.,*
in response to message #3 by Raymond Del Tondo

Just a quesion : how do you know that an LCD calc is on **in the dark** ??
Probably NOT because the number on display is still there after a period in the dark, otherwise my 42S has been on for the last few years. So ?

Re: 6S Question

*Message #5 Posted by **Norris** on 30 Nov 2005, 9:56 p.m.,*
in response to message #4 by GE

> Quote:
>
> Just a quesion : how do you know that an LCD calc is on **in the dark** ??
> Probably NOT because the number on display is still there after a period in the dark, otherwise my 42S has been on for the last few years. So ?

The 6S Solar has a little solar panel in the corner. You can easily cover up the solar panel, which should have the exact same effect as putting the calc in the dark. If the display stays on regardless -- and I think you will find that it does -- then you can assume that it will stay on in the dark as well.

Re: 6S Question

*Message #6 Posted by **GE** on 1 Dec 2005, 2:54 p.m.,*
in response to message #5 by Norris

Nice one. Thanks.

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Can I transform a 33S into a 17BII?

*Message #1 Posted by **Tom Steiner** on 29 Nov 2005, 9:05 a.m.*

Made you look with my subject line, didn't I? No, seriously, I have been using a 17BII (not the plus one) for several years. I love the SOLVER functionality and use (only) about half a dozen of the built-in financial functions. Now that my 17BII is slowly getting old, I am wondering what I should do:

(a) Buy 2-3 of the 17BII off ebay, or (b) Buy a brand new 33S (with the new display, etc.), and try to program the few financial functions I need into the 33S. Is this feasible? Usable?

I am also interested in a scientific calculator, because I appear to be using more and more trigonometry functions. So currently I end up either searching for a 15-year old Casio or firing up Excel. With the 33S I would avoid all of this.

PS: I hate the 17BII+ (Plus), 12C, and 12CP (new version) - returned all of them after 1 day.

Re: Can I transform a 33S into a 17BII?

*Message #2 Posted by **Mike H** on 29 Nov 2005, 9:28 a.m.,*
in response to message #1 by Tom Steiner

The 33s can handle most of the common business and financial calculations. There are specific learning modules for:

House payments
Property appreciation
Affordable payments
Required down payment
Average sales price
Sinking funds
Present values
Bond prices
Trend line analysis
Cost estimation using linear regression
Percentage and percentage change calculations

Download here: Learning Modules (all of them) or visit hp.com to download just the ones you want.
The 33s Solver is not as intuitive as the 17BII or 27S because it lacks the soft keys, but I find it works pretty well.

Mike

Re: Can I transform a 33S into a 17BII?

*Message #3 Posted by **bill platt** on 29 Nov 2005, 10:30 a.m.,*
in response to message #1 by Tom Steiner

I agree with Mike.

I have both the 33s and the 17bii. The 17bii solver is so cool that I got a 27s so that I could have that solver on a scientific! (but beware, the 27s is old-fashioned algebraic for its regular interface, not RPN.)

However, the combination of the solver and the keystroke programming of the 33s makes the 33s even more powerful. You can program the 33s to do *any* financial function and unlike its predecessor the 32sii, it won't run out of memory.

You can program the 33s in such a way that it prompts you for each variable--and it will show you the existing value, so if it is good, you hit R/S and move on to the next one.

For some financial stuff, you can put it into the "equation list" but for others, you are better off taking advantage of the keystroke programming.

But the solver interface of the 17bii and 27s is just too cool, no doubt!

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A little OT: Guidebook Nonsense (TI BA II Plus)

*Message #1 Posted by **Marcus von Cube, Germany** on 29 Nov 2005, 4:40 a.m.*

I found the following information in the guidebook for the TI BA II PLUS Professional:

> Quote:
>
> ### Universal Power [y^x]
>
> Press [y^x] to raise the displayed positive number to any power (for example, 2^-5 or 2^(1/3)).
>
> **Note:** Because the reciprocal of an even number (such as, 1/2, 1/4, 1/6) is a complex number, you can only raise a negative number to an integer power or the reciprocal of an odd number.

The note is plain wrong. I found the text first in the German translation and already complained to TI; I was assuming a translation error but the translation is perfectly correct: just the same nonsense.

I'm not a native speaker: Is it possible/advisable to place the word "only" in the last sentence after "negative number" instead of before "raise"? In German that would make at least the last sentence correct.

To become a little more on topic: Have you seen similar mistakes in HP manuals?

Edited: 29 Nov 2005, 4:44 a.m.

Guidebook Nonsense (TI BA II Plus)

*Message #2 Posted by **Karl Schneider** on 29 Nov 2005, 6:17 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Marcus --

I'd write the note as follows:

Note: Because the TI BA II Plus does not support complex-valued numbers, it allows a negative number to be raised only to a power that is an integer or is the reciprocal of an odd integer.

Yes, the word "only" is misplaced in the TI documentation. It's a common mistake among our native speakers.

HP manuals from 1978-1985 were outstanding -- highly detailed, well-written, and virtually error-free. Before that period, there wasn't as much to write about (if the HP-35 manual is any indication); after that period, quality started to slide as costs were cut.

-- KS

Re: Guidebook Nonsense (TI BA II Plus)

*Message #3 Posted by **Marcus von Cube, Germany** on 29 Nov 2005, 8:36 a.m.,*
in response to message #2 by Karl Schneider

Karl,

> Quote:
>
> **Note:** Because the TI BA II Plus does not support complex-valued numbers, it allows a negative number to be raised only to a power that is an integer or is the reciprocal of an odd integer.

If TI answers my complaint, I'll reply with your text.

Marcus

Re: Guidebook Nonsense (TI BA II Plus)

*Message #4 Posted by **Gunnar Degnbol** on 29 Nov 2005, 9:54 a.m.,*
in response to message #3 by Marcus von Cube, Germany

> Quote:
>
> Note: Because the TI BA II Plus does not support complex-valued numbers, it allows a negative number to be raised only to a power that is an integer or is the reciprocal of an odd integer.

Does it allow 0.33333333... (whatever the precision is)? Because it can't do that without cheating. Perhaps "the exact reciprocal" would be better.

Re: Guidebook Nonsense (TI BA II Plus)

*Message #5 Posted by **Marcus von Cube, Germany** on 29 Nov 2005, 10:41 a.m.,*
in response to message #4 by Gunnar Degnbol

Gunnar,

> Quote:
>
> Does it allow 0.33333333... (whatever the precision is)?

I can't tell you without the calc (yet). Anybody else?

Marcus

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Blanknuts

*Message #1 Posted by **gifron** on 29 Nov 2005, 1:35 a.m.*

Okay, I haven't used my 41CV on a regular basis for years, and can't remember much. I've recently acquired a halfnut blanknut. What's the easy way to tell if it's a C, a CV, or a CX? It has no HP label, no back label (says, "MADE IN SINGAPORE"), and a 2823S SN. Thanks!

Re: Blanknuts

*Message #2 Posted by **Etienne Victoria** on 29 Nov 2005, 2:00 a.m.,*
in response to message #1 by gifron

Hello,

After a memory lost with

```
ON BACK ARROW
```

1) To check if it's a Cx, Type

```
XEQ CLOCK
```

If you don't get NON EXISTENT, then it's a Cx.
If you get NON EXISTENT, then it's a C or CV, proceed to step 2)

2) Type

```
XEQ SIZE 319
```

If you get TRY AGAIN or ARE YOU JOKING? then it's a C.
If your command is accepted and you get back to the number display, then it's a CV

Best regards from France!

Etienne

Edited: 29 Nov 2005, 2:40 a.m.

Re: Blanknuts

*Message #3 Posted by **Howard Owen** on 29 Nov 2005, 2:47 a.m.,*
in response to message #2 by Etienne Victoria

> Quote:
>
> If you get TRY AGAIN or ARE YOU JOKING? then it's a C.

Interesting easter egg there, Etienne. I don't think I've read about that one. 8)

You must be joking, of course. 8)

Re: Blanknuts

*Message #4 Posted by **Etienne Victoria** on 29 Nov 2005, 8:08 a.m.,*
in response to message #3 by Howard Owen

Yes Howard, It was just a little joke :-)

But I think it's harmless to the whole testing procedure.

I just hate the "TRY AGAIN" message which was put there as if just another try could help solve the problem...

Maybe "PAY AGAIN"(for more mem modules), "DELETE MORE" (useless programs that clutter memory) or even "SQUEEZE CALC" (to re-establish the 41 electrical contacts) would have been more appropriate.

All the best :-))

Etienne

Re: Blanknuts

*Message #5 Posted by **gifron** on 29 Nov 2005, 1:43 p.m.,*
in response to message #2 by Etienne Victoria

Thanks, Etienne. It is a CV.

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49g+ DROP Error (humor)

*Message #1 Posted by **ECL** on 28 Nov 2005, 11:38 p.m.*

My 49g+ fell off my book, and onto the floor. *I know this is coincidental, but therein lies the humor:*

When I picked it up, the display read: **DROP Error**

The machine was on, and likely had an empty stack. It must have struck the <- key. Incidentally, it split the case open, and there are rattling sounds from within. This was a 2.25 foot drop onto linoleum flooring.

This reminds me of an HP ad for the first notebook (HP 100?) which showed it being dropped onto asphalt. Has anyone dropped a 48g? Damage?

ECL

Re: 49g+ DROP Error (humor)

*Message #2 Posted by **Han** on 28 Nov 2005, 11:47 p.m.,*
in response to message #1 by ECL

I've dropped a 48G and 48GX (both were inside their nylon cases) from about where my biceps are (they were sitting atop some books I was carrying). No damage was done. The case to the HP48G had a paint scratch on the zipper. The calculators even bounced on the cement. The 48GX had some RAM cards; neither were nudged out of their slots.

Re: 49g+ DROP Error (humor)

*Message #3 Posted by **Ed Look** on 29 Nov 2005, 12:05 a.m.,*
in response to message #1 by ECL

Actually, I DID suffer minor display damage on my 48G that I use at work. It was still in its gray nylon (soft and man IS it soft!) case and impacted on its upper left corner with the asbestos tiled floor.

That is not such a hard flooring material and it was still in its case. Yet, now, I have a think blank line across my display on the third stack level.

It goes away only if I continuously apply pressure the top end of the calculator shell (squeeze the halves together a bit) and reappears as soon as I let go.

So now, a thick rubber band straddles the top right under the HP logo and I get my full display back.

Moral: the 48G's (G, G+, GX) ARE FRAGILE!! Beware!

Re: 49g+ DROP Error (humor)

*Message #4 Posted by **Han** on 29 Nov 2005, 4:00 p.m.,*
in response to message #3 by Ed Look

The missing pixels can be restored. All that has happened is the contacts on the PCB have be jostled slightly off its original location.

You could try this repair guide.

Re: 49g+ DROP Error (humor)

*Message #5 Posted by **Ed Look** on 29 Nov 2005, 4:43 p.m.,*
in response to message #4 by Han

Why, thank you!

I will most certainly look at it and consider it...

... but I will admit when it comes to opening HP calcs these days, I am faint of heart.

I used to open and try to restore my old 34C, which turned out to be a losing cause, but nowadays, I am quite afraid of accidentally breaking or destroying another part due to static, etc.

But I will consider it!

Re: 49g+ DROP Error (humor)

*Message #6 Posted by **Howard Owen** on 29 Nov 2005, 1:44 a.m.,*
in response to message #1 by ECL

I'm glad you can find something to laugh about in all that! Ouch!

Re: 49g+ DROP Error (humor)

*Message #7 Posted by **unspellable** on 29 Nov 2005, 11:43 a.m.,*
in response to message #6 by Howard Owen

In a previous life I had a Sharp calculator, what passed for a muscle calculator in those days. It had a metal case and a hard plastic slip case so designed that falling out of the slip case was a natural. It got bounced off the pavement many times and had plenty of dings in the metal case but never skipped a beat in operation.

I once layed it down, forgot it, and when I returned it was gone. I then got a fairly powerful sharp scientific which lasted until one day I saw an HP28S. The rest is history.

Edited: 29 Nov 2005, 11:45 a.m.

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Stiffness of newer kbds (49g+)?

*Message #1 Posted by **ECL** on 28 Nov 2005, 11:22 p.m.*

In the recent discussions regarding the later (newer) revisions of the 49g+ and build 80 of the ROM, I haven't read much regarding the stiffness of the keys.

My remaining 49g+ is the earlier (CN40600229) and the keys are fairly hard to depress.

When the keybounce issue is resolved, if the keys are more like the 33s and 48g series in resistance, the 49g+ will be attractive.

ECL

Re: Stiffness of newer kbds (49g+)?

*Message #2 Posted by **Marcus von Cube, Germany** on 29 Nov 2005, 2:40 a.m.,*
in response to message #1 by ECL

My CNA 50201686, ROM 2.00, is stiffer than my other HPs (including the 33s) but the keys are working without problems: no bounces, no missed entries. The red shift key rattles slightly but that doesn't affect its function.

My main issue with the keyboard is the layout: since I only use the 49g+ occasionally I keep looking for basic functions. "What were the shifted/shift hold functions of the arrows?" It's mostly a matter of trial and error to find out.

Marcus

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HP-41CX sun position program.

*Message #1 Posted by **Michel Beaulieu** on 28 Nov 2005, 7:53 p.m.*

Hi. I'm looking for a program that can give me the position of the sun in RA and DEC for a HP-41CX with the curent date and time of the calculator.

Or at least an algorithm that will help me do the program... I just buy a 11" celestron for school with a "GO TO" for 40 000 objects in the sky BUT the sun has not been program and it is often difficult to point correctly the sun. But with RA and DEC from my CX i will just enter them and GOTO!

Thanks Michel Beaulieu Canada

Re: HP-41CX sun position program.

*Message #2 Posted by **Karl Schneider** on 28 Nov 2005, 10:07 p.m.,*
in response to message #1 by Michel Beaulieu

Michel --

I have a program written by Tom Sherman in 1986, which he sent to me within the past several years. It requires an HP-41 Navigation Pac and a 41CX or 41C/CV with Time Module. (A 41C will also require a Memory Module or Quad Memory Module.)

Given the latitude and longitude of a location, plus the date and time from the clock, it will calculate the angles of altitude and azimuth for the sun, the moon, four visible planets, and many navigational stars.

I'd like to make a few refinements to the program, but have not yet done so. I have written the program to magnetic cards.

-- KS

Re: HP-41CX sun position program.

*Message #3 Posted by **Trent Moseley** on 28 Nov 2005, 10:21 p.m.,*
in response to message #2 by Karl Schneider

I know it may seem redundant, however one must be extremely careful when viewing the sun. You MUST have a solar filter that is compatable with your telescope!

tm

Re: HP-41CX sun position program.

*Message #4 Posted by **Dave Shaffer** on 28 Nov 2005, 11:44 p.m.,*
in response to message #1 by Michel Beaulieu

Here is a BASIC program which will give the RA and DEC of the Sun to very high accuracy (a few seconds

of arc) given year, date, and time (hours and minutes) as input. (Note, there are some extra variables printed in this version - helpful for debugging and generally checking what's happening). Note that the parallax of the Sun (which can be up to almost 10 arcseconds) is ignored. The RA, DEC are with respect to the center of the Earth. RA and DEC are in fractional hours and degrees - I'm not sure what your telescope wants.

```
10 DEFDBL A-H,J-Z
20 PI = 3.14159265#: TWOPI = 2# * PI: CONV = TWOPI / 360#
30 YEAR = 2000: MONTH = 8: DAY = 22: HOUR = 2: MIN = 0


     get the time & date from the calculator instead


40 UTC = (TWOPI * (60# * HOUR + MIN)) / 1440#
50 DIM NDAY(12)
60 DATA 0,31,59,90,120,151,181,212,243,273,304,334
70 FOR I = 1 TO 12
80 READ NDAY(I)
90 NEXT I
100 YEARM = YEAR - 1900#
110 KDAY = INT((YEARM - 1#) / 4#)
120 JULDAY = 2415019.5# + YEARM*365# + KDAY
130 JULDAY = JULDAY + NDAY(MONTH) + DAY
140 IF(YEARM/4# - INT(YEARM/4#)) > .2 THEN GOTO 160
150 IF(MONTH > 2) THEN JULDAY = JULDAY + 1#
160 CENTURY = ( JULDAY - 2451545# ) / 36525#
170 STM = 24110.55# + CENTURY* (8640184.812866# + .093104#*CENTURY)
180 STM = STM/86400# - INT(STM/86400#)
190 STM = 2# * PI * STM: PRINT JULDAY,STM*12/PI
200 DAYS = JULDAY - 2451545# + (UTC/TWOPI)
210 SOLLON = 280.46# + .9856474# * DAYS
220 SOLLON = SOLLON - 360# * SGN(SOLLON)*INT(SOLLON/360#)
230 IF(SOLLON < 0) THEN SOLLON = SOLLON + 360#
240 SOLANOM = 357.528# + .9856003# * DAYS
250 SOLANOM = SOLANOM * CONV
260 SOLANOM = SOLANOM + TWOPI * SGN(SOLANOM)*INT(SOLANOM/TWOPI)
270 IF(SOLANOM < 0) THEN SOLANOM = SOLANOM + TWOPI
280 ECLLON = SOLLON + 1.915# * SIN(SOLANOM) + .02# * SIN(2#*SOLANOM)
290 ECLLON = ECLLON * CONV
300 ECLLON = ECLLON + TWOPI * SGN(ECLLON)*INT(ECLLON/TWOPI)
310 QUADRANT = ECLLON / (PI/2)
320 IQUAD = 1 + INT(QUADRANT)
325 PRINT ECLLON,QUADRANT,IQUAD
330 OBLIQ = 23.439# - .0000004# * DAYS
340 OBLIQ = OBLIQ * CONV
350 RA = ATN( COS(OBLIQ) * TAN(ECLLON) )
360 IF IQUAD=2 THEN RA = RA + PI
370 IF IQUAD=3 THEN RA = RA + PI
380 IF IQUAD=4 THEN RA = RA + TWOPI
390 ARG = SIN(OBLIQ) * SIN(ECLLON)
400 DEC = ATN(ARG/SQR(1-ARG*ARG)): PRINT RA*12/PI,DEC/CONV
```

I wrote this as part of the SUNMOON program which was published with my article on calibrating antennas by observing the Sun or Moon in the ARRL UHF/VHF Handbook. It uses a formula from the "American Ephemeris and Nautical Almanac" (published by the US Navy).

If you have questions, you can e-mail me directly.

Dave W8MIF

Re: HP-41CX sun position program.

*Message #5 Posted by **Meindert Kuipers** on 29 Nov 2005, 3:23 a.m.,*
in response to message #1 by Michel Beaulieu

I have a Meade ETX90 and the SUN is not in the controller either, and safety is the main reason for that. The trick I know that has been used is to define a planetary object (if that is possible) that has the same orbit as the earth, but exactly opposite of the sun.

Be very very careful with solar watching. Use a good solar filter!

Re: HP-41CX sun position program.

*Message #6 Posted by **Wilhelm Loidl** on 30 Nov 2005, 7:32 a.m.,*
in response to message #1 by Michel Beaulieu

Hello Michel!

Something to try! I wrote this program for my 41cv.

Good luck!

Wilhelm Loidl

p.s.: sorry for the format!

LBL "SUN" FIX 04 CF 01 XEQ 07 LBL 24 XEQ 08 CLA "? GMT HR.MIN" PROMPT HR LBL 15 15 * STO 02 STO 05 RCL 03 + 365.25 / 118.1 RCL 04 968 / - + .2 P-R 9.58 - * + RCL 04 427 / RCL 04 COS - 8531.5 - 360 / CHS X<>Y -1 P-R RDN P-R R^ R-P RDN X<>Y STO 07 ASIN STO 06 RDN - ST+ 05 RCL 05 RCL 00 - RCL 06 COS P-R RCL 01 STO 06 X<>Y P-R X<> 06 RCL 07 P-R X<> 06 + ASIN X<> 06 - R-P RDN 180 + STO 08 FS? 01 RTN CLA "HRZ " ARCL X AVIEW PROMPT CLA "VRT " ARCL 06 AVIEW PROMPT GTO 24 RTN LBL 07 "LAT ?" CLA "? LAT N+ DEG" PROMPT STO 01 "? LNG W+ DEG" PROMPT STO 00 RTN LBL 08 CLA "? MM.DDYYYY" PROMPT INT STO 06 LASTX FRC 100 * INT STO 03 LASTX FRC 1 E4 * X<> Z 3056 % INT ST+ 03 R^ STO 04 RCL 06 3 X>Y? 1 RCL 04 4 / FRC + 1 X<>Y X=Y? 2 RCL 04 7 - RCL 03 365.25 / + STO 06 20 * STO 04 SIN 4 * 50941 + RCL 06 7 * + 896 / - ST- 03 360 ST* 03 RTN

Re: HP-41CX sun position program.

*Message #7 Posted by **Michel Beaulieu** on 30 Nov 2005, 11:34 a.m.,*
in response to message #6 by Wilhelm Loidl

Thanks for the BASIC and the HP-41 program, i'm just entering them in my 41c and my 75c.

Michel

Re: HP-41CX sun position program.

*Message #8 Posted by **Geir Isene** on 30 Nov 2005, 5:02 p.m.,*
in response to message #6 by Wilhelm Loidl

Like this?

```
001 *LBL "SUN"
002  FIX 04
003  CF 01
004  XEQ 07
005  LBL 24
006  XEQ 08
007  CLA
008  '? GMT HR.MIN'
009  PROMPT
010  HR
011  LBL 15
012  15
013  *
014  STO 02
015  STO 05
016  RCL 03
017  +
018  365.25
019  /
```

```
020  118.1
021  RCL 04
022  968
023  /
024  -
025  +
026  .2
027  P-R
028  9.58
029  -
030  *
031  +
032  RCL 04
033  427
034  /
035  RCL 04
036  COS
037  -
038  8531.5
039  -
040  360
041  /
042  CHS
043  X<>Y
044  -1
045  P-R
046  RDN
047  P-R
048  R^
049  R-P
050  RDN
051  X<>Y
052  STO 07
053  ASIN
054  STO 06
055  RDN
056  -
057  ST+ 05
058  RCL 05
059  RCL 00
060  -
061  RCL 06
062  COS
063  P-R
064  RCL 01
065  STO 06
066  X<>Y
067  P-R
068  X<> 06
069  RCL 07
070  P-R
071  X<> 06
072  +
073  ASIN
074  X<> 06
075  -
076  R-P
077  RDN
078  180
079  +
080  STO 08
081  FS? 01
082  RTN
083  CLA
084  'HRZ '
085  ARCL X
086  AVIEW
087  PROMPT
088  CLA
089  'VRT '
090  ARCL 06
091  AVIEW
092  PROMPT
093  GTO 24
094  RTN
095  LBL 07
096  'LAT ?'
097  CLA
098  '? LAT N+ DEG'
099  PROMPT
100  STO 01
```

```
101  '? LNG W+ DEG'
102  PROMPT
103  STO 00
104  RTN
105  LBL 08
106  CLA
107  '? MM.DDYYYY'
108  PROMPT
109  INT
110  STO 06
111  LASTX
112  FRC
113  100
114  *
115  INT
116  STO 03
117  LASTX
118  FRC
119  1 E4
120  *
121  X<> Z
122  3056
123  %
124  INT
125  ST+ 03
126  R^
127  STO 04
128  RCL 06
129  3
130  X>Y?
131  1
132  RCL 04
133  4
134  /
135  FRC
136  +
137  1
138  X<>Y
139  X=Y?
140  2
141  RCL 04
142  7
143  -
144  RCL 03
145  365.25
146  /
147  +
148  STO 06
149  20
150  *
151  STO 04
152  SIN
153  4
154  *
155  50941
156  +
157  RCL 06
158  7
159  *
160  +
161  896
162  /
163  -
164  ST- 03
165  360
166  ST* 03
167  RTN
```

Re: HP-41CX sun position program.

*Message #9 Posted by **Michel Beaulieu** on 30 Nov 2005, 9:02 p.m.,*
in response to message #8 by Geir Isene

Thanks; with that form i was able to track my error on line 044 -1 i entered 044 - and 045 1. Now the program works great.

By the way, is there a program to convert these coordinate to equatorial one?

Thanks again Michel

Re: HP-41CX sun position program.

*Message #10 Posted by **Jean-Marc** on 30 Nov 2005, 4:54 p.m.,*
in response to message #1 by Michel Beaulieu

Hi, You can use the program listed in the HP-41 software library: "Astronomical Ephemeris" Regards JM

Re: HP-41CX sun position program.

*Message #11 Posted by **Norris** on 2 Dec 2005, 12:31 p.m.,*
in response to message #1 by Michel Beaulieu

The Sokkia company, a manufacturer of surveying equipment, publishes an annual pocket-sized "Celestial Observation Handbook & Ephemeris" for surveyors. It traditionally included professional-grade HP calculator programs for the 41, 42 and 48 series. I haven't seen the latest editions and don't know if the programs are still there; they were in the 2003 edition.

You can find this at surveying supply stores or www.forestry-suppliers.com if interested. It costs about $8.50.

The Sokkia book and programs were written by Elgin, Knowles & Senne, at http://www.rollanet.org/~eksi/softprod.htm . They apparently still offer the "Astro*Card" for HP48GX.

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HP-41 Display and bar code fonts and LaTeX, anyone?

*Message #1 Posted by **Arne Helme** on 28 Nov 2005, 9:54 a.m.*

Anyone out there who have used the HP-41 Display (LCD4.ttf) and bar code TrueType fonts posted earlier on this forum with the LaTeX document processing system? Drop me a note if you have some experience to share.

Arne (at ArneHelme.com)

Re: HP-41 Display and bar code fonts and LaTeX, anyone?

*Message #2 Posted by **Vieira, L. C. (Brazil)** on 28 Nov 2005, 11:47 a.m.,*
in response to message #1 by Arne Helme

Hello, Arne;

one of our contributors sent me a sample (a captured screen) from a McIntosh with some custom fonts, but I m,ust confess (forgive me, please!) I forgot who's the one.

I am actually looking for some ttf to some sort of Metafont-compatible converter. I've been told it exists, and if so, using LaTeX with such converted fonts would be a lot easier.

There is a TexFDP or other environment that allows TeX documents to use TTF ources to generate PDF documents, but I have not yet found this.

It takes me more than one year since the last time I used LINUX as for daily activities (please, do not curse me...) and I feel a little 'rusty' about basic LINUX procedures. Anyway, LaTeX coding is completely possible under MSW® environment. I still have an earlier MikTeX installed in one W98 computer somewhere here...

BTW, do you know about these? I'm just asking because you mentioned LCD4.TTF, that comes with a very well known emulator, and I was not sure if you knew them.

If I have something new I'll surely let you know.

Best regards

Luiz (Brazil)

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HP 32e

*Message #1 Posted by **mike_pah** on 28 Nov 2005, 5:45 a.m.*

Hi, I have just found my old 32e, boxed up from last use. Mint conditionwith orignal manuals and even original packaging.

I there a collectors market for these ?

Re: HP 32e

*Message #2 Posted by **Vieira, L. C. (Brazil)** on 28 Nov 2005, 8:22 a.m.,*
in response to message #1 by mike_pah

Hi, Mike;

you can try here or, if you wish, go to e-Bay and find some guys wanting to make money over collectors choices.

Sorry! I believe you must have the chance to choose. Local *MoHPC Calculator Ads* allows you to get in touch with people that mainly are interested in HP calculators as for personal collection, not necessarily to make money with them.

I hope you succeed.

Cheers.

Luiz (Brazil)

Edited: 28 Nov 2005, 8:24 a.m.

Re: HP 32e

*Message #3 Posted by **db (martinez, ca.)** on 28 Nov 2005, 1:07 p.m.,*
in response to message #1 by mike_pah

Keep it. Use it. Give it to your kid when he goes to college. It's part of your personal history.

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HP 15C Survey Program

*Message #1 Posted by **F Farner** on 28 Nov 2005, 5:39 a.m.*

I got a land survey program when I bought my 15C, around twenty years ago. The program is still in the 15C. I just cannot find the directions any more!

Does anyone have a land survey program to share? OR - does anybody know how I can copy the program out of the 15C? If I could just see it, I think I could run it.

Fred F.

Not an easy task, but....

*Message #2 Posted by **Vieira, L. C. (Brazil)** on 28 Nov 2005, 8:42 a.m.,*
in response to message #1 by F Farner

Hi, F Farmer;

you can actualy see the keycodes and take note of them for later decoding and bringing back the keystroke sequences that generated your program.

Some precautions: while in PROGRam mode, NEVER press [f]CLEAR[PRGM], because this is just going to clear all programs from meomory; also, NEVER press any other keys but [g][P/R] (to get in and out of program mode), [SST] (to go forward a Single STep) and [g][BST] (to go to the previous step; Back STep).

After turning your HP15C ON, locate the [R/S] key right over the [ON] key, and you'll see the [P/R] inscription on it (slanted front face). Press [g][RTN] (beside the [R/S] key) to bring program counter to step 000 in a safer way, then press [g][P/R], so the display shows:

```
[ 000-          ]
```

and the little PRGM indicator becomes active (your HP15C is in PROGRam mode; rememeber the only keys you shoud press, now...)

Press [SST] one time and it should show:

```
[ 001-xx xx xx]
```

The xx xx xx indicates some number code related to the keys that were pressed in the beginning of the program. Chances are you have something like:

```
[ 001-42,21,11]
```

meaning the first program step is:

```
[f]   (4th. line, 2nd. row in the keyboard)
[LBL] (2nd. line, 1st. row in the keyboard)
[A]   (1st. line, 1st. row in the kwyboard)
```

If you take note of all keycodes you see after pressing [SST], you can rebuild the program. If it is a survey

program, I'd expect something less-than or close to 100 steps, maybe some more, depending on which features it shows and how does it handle data.

If you need more advice or extra help translating the program, let us know.

And aways beware of using any other keys but the ones mentioned while in PRGM mode.

Success!

Luiz (Brazil)

Edited: 28 Nov 2005, 8:45 a.m.

Re: Not an easy task, but....

*Message #3 Posted by **GE** on 29 Nov 2005, 3:53 a.m.,*
in response to message #2 by Vieira, L. C. (Brazil)

Apart from the numbers, there can be a 'small U' showing, for User STO / RCL, this must also be taken care of.
Just off the top of my head so please correct if needed.

Re: Not an easy task, but....

*Message #4 Posted by **Vieira, L. C. (Brazil)** on 29 Nov 2005, 6:07 a.m.,*
in response to message #3 by GE

You are perfectly correct, GE. I missed that, and because of the Survey subject, matrices and surely complex numbers are desirable.

Thanks.

Re: HP 15C Survey Program

*Message #5 Posted by **db (martinez, ca.)** on 29 Nov 2005, 10:47 a.m.,*
in response to message #1 by F Farner

Was the program you're talking about> Harvey's Field Angle Traverse - Radiation (sic) Layout? The store i got my 11c from gave me a copy of that and it would of course have worked in the 15c. One part is 25 steps and the other is 109. It pretty basic but let's one work in azimuth OR field angles. If that's it i can send you the instructions.

As an aside; this program had a version for the TI57.

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Uncertainty and accuracy for numerical integration

*Message #1 Posted by **Karl Schneider** on 28 Nov 2005, 3:52 a.m.*

A recent thread involved a *redux* of my "Area between two curves" challenge for RPL. James Prange posted an HP-48 solution in which the uncertainty of the input function was specified by setting the display mode. Valentin Albillo questioned the clarity of this, as opposed to the syntax of "INTEG" on the HP-71B Math ROM:

> Quote:
>
> If you want to specify a particular precision, why, just do it, include the desired precision as a parameter to the integration process, which is just what my BASIC version does. Remember, we're talking about someone who's trying to fathom what the code does, and changing display modes instead of explicitly specifying a desired accuracy seems much more obscure, arbitrary, and less clean to me.

To which James responded,

> Quote:
>
> Now there's a point that I heartily agree with you on! Assuming any association between the current display mode and the desired accuracy is pure nonsense to me.
>
> Interestingly, in the 28 series, the accuracy is a parameter for the integral function, and even the order of the parameters makes more sense to me. What ever possessed them to change this for the 48 series is beyond me.

A bit of background: The method of setting the display mode to specify the *uncertainty of the input function* to be integrated, was introduced on the original implementation of INTEG on the HP-34C, and carried over to other RPN implementations of the INTEG function: the HP-15C, HP-41C Advantage Pac, HP-32S. Although not entirely logical, it was expedient and saved a stack argument or setting function.

This prompted me to consult the respective manuals to see how the input-function uncertainty for INTEG is specified on various models:

34C, 15C, 41C* Advantage Pac, 32S, 32SII, 33S, 48*, 49*:

Use FIX to specify uncertainty in a particular *decimal* digit; use SCI or ENG to specify uncertainty in a particular *significant* digit.

28C, 28S:

Specify uncertainty in a particular *decimal* digit as a numerical parameter to the INTEG function.

42S, 71B Math ROM:

Specify a *relative* uncertainty as a per-unit fraction of the function-value magnitude, as a numerical parameter to

the INTEG function.

The latter (42S, 71B) approach seems to be the ideal one: flexible and scalable, without the possible discontinuities inherent to using SCI for relative uncertainty. Calculation of the estimated error is a bit more complicated.

Excellent and detailed technical documentation on this topic is found in the HP-34C Owner's Handbook (Section 9 and Appendix B). The same material is essentially repeated in the HP-15C Owner's Handbook (Section 14 and Appendix E).

The HP-15C Advanced Functions Handbook (Section 2) contains further in-depth discussions of pitfalls and techniques for numerical integration.

This material makes one appreciate the diligent effort and high quality of HP's product documentation in the late 1970's to mid-1980's. The same topics are not covered or written as well in the HP-28C and HP-42S manuals that followed shortly thereafter.

-- KS

Edited: 28 Nov 2005, 4:14 a.m.

Re: Uncertainty and accuracy for numerical integration

*Message #2 Posted by **Valentin Albillo** on 28 Nov 2005, 6:03 a.m.,*
in response to message #1 by Karl Schneider

Hi, Karl:

Karl posted:

"Although not entirely logical, it was expedient and saved a stack argument or setting function."

> Yes, but using a stack argument or setting function (i.e: STO UNC, say, similar to STO RAN#) would've been preferable in the HP-15C (and absolutely *mandatory* in all RPL models) to the utter preposterousness of having to set a display mode to specify the uncertainty in your integration, with the side effect of arbitrarily changing the user's display setting, which perhaps you *can't* determine in advance in order to restore it later, thus changing it for good, whether the user wanted it or not.
>
> That's called a *side effect* though I'd call it collateral damage instead. Also, some people might be tempted to excuse this unacceptable behavior by saying that, by doing this, you'll be seeing your results in the proper display setting to look only at truly significant digits, so that SCI 5 would have you looking at a result more or less exact to the 5 digits after the decimal point you're seeing displayed.
>
> But adding insult to injury the HP-15C, for example, allows you to specify a *negative* number of digits for SCI, down to and including **-6** (!!), which will affect the uncertainty you get. Now try and argue how the "SCI -6" mode you've just set up affects the display of the results you're seeing, and how that correlates with the number of guaranteed correct digits in the result you're just looking at. How many correct digits do you get with SCI -1 ? And with SCI -6 ? How many correct digits do appear in the displayed results in said "modes" ?
>
> Nonsense. INTEGRAL(a, b, uncertainty, f(x)) or the equivalent in RPN or RPL is the way it should've been from the start, and certainly this abomination should never have been carried on to much more capable models.

Best regards from V.

Re: Uncertainty and accuracy for numerical integration

*Message #3 Posted by **hugh steers** on 28 Nov 2005, 3:20 p.m.,*
in response to message #2 by Valentin Albillo

it should be mentioned that the supplied uncertainty is an error measure and is not guaranteed. that's assuming the quadrature is implemented as some form of sampling – which most numerical ones are.

in fact, there should really be two parameters, an error measure and a confidence eg. the relative error or number of digits and the number of standard deviations for which this error applies.

the excitement of numerical quadrature on the 34c lead the manual to make this mistake in its claim of an upper error bound. this slip-up was later corrected in the 15c manual which states the error bound is only highly probable.

Edited: 28 Nov 2005, 3:41 p.m.

Uncertainty for INTEG on 34C & 15C

*Message #4 Posted by **Karl Schneider** on 28 Nov 2005, 11:29 p.m.,*
in response to message #3 by hugh steers

hugh stated,

> Quote:
>
> it should be mentioned that the supplied uncertainty is an error measure and is not guaranteed. that's assuming the quadrature is implemented as some form of sampling – which most numerical ones are.

The ultimate purpose of the user-supplied uncertainty/accuracy/tolerance/error (call it what you will) is to provide a quantifiable measure that indicates to the calculator how extensively it should perform its quadrature. The more samples it takes, the more accurate the estimate of the integral can become. However, if the incremental change in the integral result after additional intelligent sampling is well within the estimated error based upon the "accuracy" of the input function, then there's not much purpose in continuing the quadrature process further.

On the 34C, 15C, 32S, 32SII, (and 33S), the input-function accuracy is indeed represented as an uncertainty. The user specifies the decimal digit (FIX) or significant digit (SCI/ENG) that is to be treated as *uncertain*. This means that the rounded value of the function displayed in that format is the closest possible to the "actual" value, but that the uncertain digit could actually be up to "half a digit" larger or smaller. An upper bound of the estimated error is calculated accordingly, as described on pp. 245-248 in the HP-15C manual, and pp. 244-247 in the HP-34C manual.

On the 42S and 71B Math ROM, the user specifies an error or tolerance of the input function as a per-unit fractional value. This is probably the ideal solution.

> Quote:
>
> in fact, there should really be two parameters, an error measure and a confidence eg. the relative error or number of digits and the number of standard deviations for which this error applies.

Looks like three "error" parameters to me! :-)

Well, remember that the function being integrated might be an exact mathematical function that has no inherent measurement error or uncertainty. Moreover, to introduce sophisticated statistical analysis into the INTEG function would seem like overkill to me (and probably to most users).

> Quote:
>
> the excitement of numerical quadrature on the 34c lead the manual to make this mistake in its claim of an upper error bound. this slip-up was later corrected in the 15c manual which states the error bound is only highly probable.

Could you specify the page numbers in the respective manuals that contain the verbiage in question? Most likely, it was a case of HP's correcting imprecise verbiage, rather than retreating from unfounded claims.

Only if the integral is calculated intelligently, with samples taken in the right places, can the estimate of the integral be accurate. There is a good example of this on pp. 257-267 of the HP-34C manual, treating $f(x) = xe^{-x}$, as well as a technique (subdivision of the integral) describing how to compute it properly. The same example is given in the HP-15C manual, starting on p. 250, but the "computing technique" was exported to the Advanced Functions Handbook (AFH).

My favorite example is that of integrating

```
f(x) = sqrt(x)/(x-1) - 1/ln(x)
```

between 0 and 1.

It was originally presented in the HP Journal article from 1980 describing the INTEG function on the HP-34C. The example was later presented in the HP-15C AFH, the HP-71B Math ROM manual, and probably others...

Best regards,

-- KS

Edited: 29 Nov 2005, 5:38 a.m.

Some results for different calcs

*Message #5 Posted by **Marcus von Cube, Germany** on 29 Nov 2005, 8:26 a.m.,*
in response to message #4 by Karl Schneider

Hi Karl,

this is an interesting Task!

> Quote:
>
> My favorite example is that of integrating
>
> ```
> f(x) = sqrt(x)/(x-1) - 1/ln(x)
> ```
>
> between 0 and 1.

I tried it on several calcs I own:

The **Simvalley GRC-1000** is a Chinese calc which is obviously a Casio design (but not available from them.) The GRC-1000 fails on the boundary values so that I had to restrict the area to [1E-6,1-1E-6]. The integration function accepts an input parameter N which subdivides the interval in 2^N steps. So it's up to the user to guess the accuracy. There is a default for N but it is not given in the manual. "Accuracy" is awful (never better than 2 digits). Moving the boudaries closer to [0,1] quickly produces "MA Error".

The **Sharp EL-9200** has similar problems, I had to reduce the boundaries to [1E-9,1-1E-9] and the accuracy, even with 512 intervals, is just 2 digits.

My **TI-84 Plus** performs better. It does not stumble over the boundary values and has a separate argument for the tolerance with a default of 1E-5. The manual does not tell anything about the algorithm and what the tolerance exactly means. The TI is fast, even with a tolerance of 1E-8!

The **TI Voyage 200** (and its siblings) has no means of selecting the desired accuracy, the manual tells us that 6 significant digits are the target. The boundaries [0,1] pose no problems. Calculation time depends on whether *nInt* or the integration symbol is used (even in approximate mode.) The TI falls back to numerical integration in either case.

Both the **HP 33s** and **HP 49g+** in approximate mode perform in a similar fashion; they probably share some code. They have no trouble with the boundaries and return the same results. The 49g is much faster than the 33s but still slower than the TI. A display setting of SCI 5 seems to produce the same results as a tolerance of 1E-6 for the TI. If I change the display setting to SCI 8, the 49g+ takes minutes to find a result.

In exact mode the **HP 49g+** returns minus infinity.

Marcus

Re: Some results for different calcs

*Message #6 Posted by **Valentin Albillo** on 29 Nov 2005, 8:53 a.m.,*
in response to message #5 by Marcus von Cube, Germany

Hi, Marcus:

Nice results. Do any of the machines tested come up with the correct 12-digit solution, namely **0.0364899739786+** ?

By the way, though this particular integral is nice and such, Mr. Kahan did not try the hardest examples at all. One of the hardest I know of would be this one:

```
Integral between 0 and 1 of f(x) = Cos(Ln(x)/x)/x

    =  0.3233674316 7777876139 9370087952 1704466510+
```

if in doubt, just try and see how many correct digits do you get.

Best regards from V.

Re: Some results for different calcs

*Message #7 Posted by **Marcus von Cube, Germany** on 30 Nov 2005, 1:42 p.m.,*
in response to message #6 by Valentin Albillo

Hi Valentin,

> Quote:
>
> Do any of the machines tested come up with the correct 12-digit solution, namely 0.0364899739786+

I had an answer prepared but must have managed to *not* post it correctly :-(

Here are some results:

Model	Tolerance	Result
TI-84 Plus	1E-13	0.03648997398
TI-86	1E-13	0.0364899739787
TI Voyage 200	N/A	0.036489973974202
HP 48G / 49g+	SCI 12	0.0364899739831
HP 33s	SCI 9	0.036489974001

Italic digits are correct if rounding is taken into account.

The TIs are much, much faster than the HP models (about an hour for the 48G!). The Manual for the Voyage 200 (which is essentially identical to the TI-89 and TI-92Plus) claims a target accuracy of 6 digits. The results are better than that.

The Casio and Sharp models weren't better than 2 significant digits. They all failed on the boundary values. This holds for the Sharp PC-E500S with its "engineering software", too.

Marcus

Edited: 30 Nov 2005, 2:51 p.m.

Re: Some results for different calcs

*Message #8 Posted by **Karl Schneider** on 29 Nov 2005, 6:42 p.m.,*
in response to message #5 by Marcus von Cube, Germany

Marcus --

The ones that took 2^n or 512 steps (and failed at the endpoints) are probably implementing Simpson's Rule. That's what my old Casio fx-3600P does. Evaluation at endpoints is required by the rule, but is often problematic in practical applications.

I had benchmarked a few HP calculators for this problem, several years ago.

- The less-advanced models (e.g., 15C, 34C, 32SII, 41C Advantage) give an answer outside the estimated solution error at FIX 5, but an answer within bounds for FIX 6.
- The more-advanced models (42S, 28/48/49) give an answer within bounds for the equivalent or approximation of FIX 5, and a slightly more-precise answer for "FIX 6".

I did not have a 71B Math ROM at the time.

-- KS

Re: Uncertainty for INTEG on 34C & 15C

*Message #9 Posted by **hugh steers** on 29 Nov 2005, 10:06 a.m.,*
in response to message #4 by Karl Schneider

hi karl,

i am not interested in the debate of how the uncertainty is input to the machine, but if you think that setting FIX will be sure to give you the same number of accurate digits you are wrong. because it's a sampling problem, and this is what i'm trying to point out in my comments.

i don't like to use the word "certainty" or "uncertainty". i prefer to refer to a measure of error and a measure of confidence. the problem with the word "certainty" is that it is sometimes interpreted as an error and sometimes as a confidence. really, there are three values at work here for the calculators response; its approximation, its estimate of the error and its confidence. i'm saying to have full control over the approximation, you need to have input both an error measure as a tolerance and also a confidence.

let me give you an example, consider the polynomial,

f(x) = [(256x-11)(256x-81)(256x-175)(256x-245)(32x-5)(32x-27)(2x-1)]^2

now, integral(f(x), 0, 1) = 762676910510443067+2224/4095

however, put this into an hp15c and select FIX 9 and integrate between 0 and 1, and you get 0.000000000 with an "error" of 0.000000001. this is clearly wrong. in fact its completely wrong. what went wrong here?? the problem was that there is no means to input confidence and the calculator got itself pretty confident when it figured the function was zero at all sample points and stopped. remember i've already input the error tolerance as FIX 9. if i could enter a confidence as well, maybe i could persuade it to perform a few more samples after which it would find some non-zeros and start the job proper.

also fyi, here are the references you asked for, the hp34c owners handbook, p209 (footnote)

> Quote:
>
> ...the algorithm in your hp34c computes an "upper bound" on this difference, which is the uncertainty of the approximation. bla bla… This means that while we don't know the exact difference between the actual integral and its approximation, we do know that the difference is no bigger than 0.0001

but later in the 15c owner's handbook, p201 (similar footnote)

> Quote:
>
> … But the algorithm in the hp15c estimates an "upper bound" on this difference, which is the uncertainty of the approximation. bla bla... This means that while we don't know the exact difference between the actual integral and its approximation, we do know that it is highly unlikely that the difference is bigger than 0.0001

happy hacking.

Uncertainty, coonfidence.. for INTEG

*Message #10 Posted by **Karl Schneider** on 29 Nov 2005, 6:29 p.m.,*
in response to message #9 by hugh steers

hi hugh

do you have a shift key on your keyboard?? there's not enough effort in your typing, or formulation of your thoughts.

> Quote:
>
> i am not interested in the debate of how the uncertainty is input to the machine, but if you think that setting FIX will be sure to give you the same number of accurate digits you are wrong.

When did I say that (whatever it means)?

> Quote:
>
> i don't like to use the word "certainty" or "uncertainty". i prefer to refer to a measure of error and a measure of confidence. the problem with the word "certainty" is that it is sometimes interpreted as an error and sometimes as a confidence. really, there are three values at work here for the calculators response; its approximation, its estimate of the error and its confidence.

These sound like three *output* values.

> Quote:
>
> i'm saying to have full control over the approximation, you need to have input both an error measure as a tolerance and also a confidence.

If applied to the input function, it sounds like "fuzziness", e.g., "The actual value of function will be within 0.7% of the calculated value, but I'm only 35% confident of that..." What is the calculator supposed to do with that?

> Quote:
>
> `f(x) = [(256x-11)(256x-81)(256x-175)(256x-245)(32x-5)(32x-27)(2x-1)]^2`
>
> now, integral(f(x), 0, 1) = 762676910510443067+2224/4095
>
> however, put this into an hp15c and select FIX 9 and integrate between 0 and 1, and you get 0.000000000 with an "error" of 0.000000001. this is clearly wrong. in fact its completely wrong. what went wrong here??

Well, I evaluated the function, but didn't try to integrate it. The function values f(x) routinely exceed 10^{10} (and even 10^{12}) over most the region of integration, with roots f(x)=0 scattered at points in between. I couldn't expect what result would be obtained.

> Quote:
>
> the problem was that there is no means to input confidence and the calculator got itself pretty confident

I guess the calc came equipped with a lifetime supply of confidence, built right in! :-)

> Quote:
>
> *...the algorithm in your hp34c **computes** an "upper bound" on this difference, ... we do know that the difference is no bigger than 0.0001*
>
> *... the algorithm in the hp15c **estimates** an "upper bound" on this difference, ... we do know that **it is highly unlikely that** the difference is bigger than 0.0001*

The statement in the 15C manual is more precise: it acknowledges that the upper-bound estimate of integral error is contingent upon the ability to evaluate the integral intelligently. They knew full well that poor selection of limits by the user could preclude that, as evidenced by the example of integral ($f(x) = xe^{-x}$ from 0 to 1).

-- KS

Re: Uncertainty, coonfidence.. for INTEG

*Message #11 Posted by **hugh steers** on 29 Nov 2005, 8:13 p.m.,*
in response to message #10 by Karl Schneider

hello again,

perhaps i'm not being clear enough. i'm suggesting that any meaningful measure of the error in a sampling problem like numerical quadrature requires a measure of the confidence. to be clear, there are two other numbers than the resultant approximation. these are an estimate of the error and the measure of confidence.

now depending on your implementation, these two values can be either input, output or both. in the case of hp you have only an input of the error tolerance by indirect means and you couldn't specify the confidence. consequently, this can lead to bogus results (eg. previous example).

alternatively, the confidence could be an output value. for example, my polynomial is zero at the first 7 sample points chosen by the hp algorithm. that's not really much confidence in the function being zero everywhere. thus its statement of the error as 10^-9 is highly uncertain – but it doesn't tell you this.

for my example, if you dont like the large numbers, you could simply scale the coefficients down by dividing them all by 100 or something like that to bring it into line.

i'd like to restate my main thesis for clarity;

the upper bound estimate given by the hp algorithm is not just contingent on the ability to evaluate the integrand but is MATHEMATICALLY MEANINGLESS without reference to a properly defined statistical confidence which is absent in their analysis.

in the hp qualification of their error estimate, what precisely does the phrase "highly unlikely" actually mean. in point of fact, you are never assured the accuracy of *any* of the resultant digits irrespective of the given error estimate.

happy hacking.

Edited: 29 Nov 2005, 8:23 p.m.

Re: More on uncertainty, confidence.. for INTEG

*Message #12 Posted by **Karl Schneider** on 30 Nov 2005, 2:48 a.m.,*
in response to message #11 by hugh steers

hello, hugh --

> Quote:
>
> perhaps i'm not being clear enough. i'm suggesting that any meaningful measure of the error in a sampling problem like numerical quadrature requires a measure of the confidence. to be clear, there are two other numbers than the resultant approximation. these are an estimate of the error and the measure of confidence.
>
> now depending on your implementation, these two values can be either input, output or both.

Well, I think that you'd better choose whether confidence should be an input or an output. If it is an input, the user is virtually compelled to be a statistician just to compute a numerical definite integral. This would not be what H-P had in mind.

> Quote:
>
> in the case of hp you have only an input of the error tolerance by indirect means and you couldn’t specify the confidence.

The HP-42S and HP-71B Math ROM let the user specify a numerical value of calculated input-function tolerance as a per-unit fraction. The "actual" value of the input function is assumed with 100% confidence to be within this margin.

> Quote:
>
> my polynomial is zero at the first 7 sample points chosen by the hp algorithm. that’s not really much confidence in the function being zero everywhere. thus its statement of the error as 10^-9 is highly uncertain – but it doesn’t tell you this.

So that's where it came from! A contrived function that deliberately deceives the algorithm. Based on only seven samples of zero, what else would or could the algorithm tell you?

This illustrates why the Nyquist minimum-sampling rate for correct reconstruction of a waveform is more than twice the highest frequency component. What if a pure sinusoidal waveform were sampled exactly at each zero crossing? The calculated rms value and frequency content would be zero -- a clearly erroneous result.

> Quote:
>
> the upper bound estimate given by the hp algorithm is not just contingent on the ability to evaluate the integrand but is MATHEMATICALLY

> MEANINGLESS without reference to a properly defined statistical confidence which is absent in their analysis.
>
> in the hp qualification of their error estimate, what precisely does the phrase “highly unlikely” actually mean. in point of fact, you are never assured the accuracy of *any* of the resultant digits irrespective of the given error estimate.

Well, gosh. Is a correct answer -- which INTEG will give reliably -- generated by a reasonable and methodical process ever "mathematically meaningless"?

The HP-34C manual that you have contains much discussion about user responsiblities in posing the integration problem. If the function is flaky, the user should structure the problem so that the calculator can handle it properly.

What answer do you get if you integrate the function in sections, between each of its root values of zero? (Use SCI or ENG).

I got $2.80456*10^{17}$ with estimated error $6.61428*10^{11}$ for the first interval of 0 to 11/256 (= 0.0429688), using SCI 5.

That seems reasonable to me. Maybe you could do the other seven intervals...

-- KS

Edited: 30 Nov 2005, 3:11 a.m.

Re: More on uncertainty, confidence.. for INTEG

*Message #13 Posted by **hugh steers** on 2 Dec 2005, 11:55 a.m.,*
in response to message #12 by Karl Schneider

hi karl,

you are right. the example is contrived to be exactly zero at the 7 sample points. if you break it up at all, even into two arbitrary halves, say, you will then get the correct answer from the calculator. this is what you have shown.

Re: Uncertainty for INTEG on the HP-15C?

*Message #14 Posted by **Karl Schneider** on 28 Nov 2005, 5:30 p.m.,*
in response to message #2 by Valentin Albillo

Hello again, Valentin --

You stated,

> Quote:
>
> Yes, but using a stack argument or setting function (i.e: STO UNC, say, similar to STO RAN#) would've been preferable in the HP-15C (and absolutely *mandatory* in all RPL models) to the utter preposterousness of having to set a display mode to specify the uncertainty in your integration, with the side effect of arbitrarily changing the user's display setting, which perhaps you *can't* determine in advance in order to restore it later, thus changing it for good, whether

> the user wanted it or not.

Certainly, from the standpoint of mathematical "directness", it is not ideal to equivalence a display mode to the uncertainty/tolerance/accuracy/error (call it what you will) of an input function. "Utter preposterousness", though, seems rather harsh.

Consider the practical implications of adding a third numerical input to a function on a calculator having a fixed 4-level stack and no menus. The argument would have to be placed and recalled from its own storage register, or on the stack, as you correctly stated.

- If the argument were placed in its own storage register, a place on the keyboard would be needed for it. There just weren't any spare locations on the 34C or 15C keyboard. Moreover, what if the calculator did not prompt for the uncertainty value, or require it in order to complete the INTEG command? (Consider INTEG in a program.) The user would then run the risk of unwittingly running INTEG with a poorly-matched uncertainty value, thus obtaining inaccurate results, and being none the wiser.

- If the argument were placed on the stack, that would make *three* input stack arguments, which would violate what might have been an HP 4-level RPN design principle -- "no function shall require more than two input arguments from the stack, or shall place more than two results onto the stack." Users may find it difficult to remember where the third argument should go -- in the z-level or x-level. Getting it wrong would cause incorrect results -- after waiting up to several minutes for them. Moreover, the third argument could not be preserved on the stack (as the two limits of integration are). FIX/SCI/ENG give a visible indication of input-function uncertainty, and the mode is static.

The "special storage register" approach would have one subsequently-developed analogy -- the "FN=" command on the 32S and 32SII. I admit to having solved or integrated (or attempted to) the wrong program after not having specified the correct one with "FN=". ("FN=" was necessary on the 32S/32SII when the identifier completing SOLVE or INTEG became the *variable*, not the *program label*, as on the 34C and 15C.)

I can think of only one exception to the "two stack inputs, two stack outputs max" rule on RPN models -- "STO g {matrix ID}" on the HP-15C, which has three stack inputs. I admit to having re-consulted the manual to use that one correctly...

Finally, if one numerical argument for input-function uncertainty were to be input, it ought to be the "ACC" value of the 42S, or the error tolerance of the 71B Math ROM. Since the 42S has a named and menu-displayed variable "ACC" for it, and the 71B uses argument-list checking, this input argument is handled well on those models.

The point of my short essay was that HP *thought through the details and practical implications* of doing things a certain way on their calculators, considering how the typical user would utilize them. They didn't make very many mistakes, and -- all things considered -- I don't think they made one here, either.

> Quote:
>
> But adding insult to injury the HP-15C, for example, allows you to specify a negative number of digits for SCI, down to and including -6 (!!), which will affect the uncertainty you get. Now try and argue how the "SCI -6" mode you've just set up affects the display of the results you're seeing, and how that correlates with the number of guaranteed correct digits in the result you're just looking at. How many correct digits do you get with SCI -1 ? And with SCI -6 ? How many correct digits do appear in the displayed results in said "modes" ?

I don't quite follow this. I see no mention of negative arguments to FIX/SCI/ENG in my HP-15C manuals.

The user cannot successfully enter [SCI][CHS][6] or [SCI][6][CHS], and [SCI][I] with a negative value in the I-register seems to yield the equivalent of [SCI][0].

> Quote:
>
> ...INTEGRAL(a, b, uncertainty, f(x)) or the equivalent in RPN or RPL is the way it should've been from the start, ...

Well, I disagree, for the reasons stated above. (This applies only for the models without static menus or alphanumerics -- 34C, 15C, 32S, 32SII). Practical considerations must trump ultra-orthodox mathematical purity, in my book, as long as computational accuracy is not compromised. It's good to do things the "right and rigorous way" and to give users maximum flexibility wherever possible, but the tool must have the necessary capabilities in place first.

> Quote:
>
> ...and certainly this abomination should never have been carried on to much more capable models.

On the 42S, it wasn't. But, the 42S had the named variables, static menus, and more computing power to incorporate "ACC" properly. I agree with you (and James Prange) that the 48/49 should have had "ACC" (or equivalent) as a stack argument for INTEG.

Best regards,

-- KS

Edited: 29 Nov 2005, 5:13 a.m.

Re: Uncertainty for INTEG on the HP-15C?

*Message #15 Posted by **Valentin Albillo** on 29 Nov 2005, 6:17 a.m.,*
in response to message #14 by Karl Schneider

Hi, Karl:

Karl posted:

""Utter preposterousness", though, seems rather harsh."

> Not to me. Having a display mode control a parameter for numerical integration is utterly preposterous. Specially if you're using software not written by yourself that all of a sudden changes your display format for its own purposes and then doesn't restore it to the setting you preferred (because it can't). What a nuisance !

"If the argument were placed in its own storage register, a place on the keyboard would be needed for it. There just weren't any spare locations on the 34C or 15C keyboard.

> Yes they were. In the case of the HP-15C, for instance, you could have STO INTEG, similar to STO #RAN, say. The combination STO INTEG wasn't used for anything, so it was free for this purpose. I'm sure this same sequence could be used for the HP-34C as well. Further, RCL INTEG would recall to the X-register the uncertainty. This would be even better when using INTEG programmatically, as you would be able to manipulate the uncertainty as a *value* with any arithmetic or mathematical functions, such as:

```
X<=0?          enough accuracy ?
GTO C          yes, go on
RCL INTEG      no, recall uncertainty
  2
  /            halve it
STO INTEG      specify new uncertainty
GTO B          recalculate the integral
```

Just try and do the same with 'display modes' and then tell me what you think it's the logical, natural way and what's the preposterous way.

"Moreover, what if the calculator did not prompt for the uncertainty value, or require it in order to complete the INTEG command? (Consider INTEG in a program.) The user would then run the risk of unwittingly running INTEG with a poorly-matched uncertainty value, thus obtaining inaccurate results, and being none the wiser."

Karl, please, we're talking about *HP* calculators of the past, which were bought mainly by knowledgeable engineers and very bright people in general, what with those prices ! So, some brains on the part of the user were taken for granted. Your argument applies equally well to any and all functions requiring some inputs on the stack, and none of them prompted the user as far as I know. Say, for instance, rectangular <-> polar conversions. What if you forgot to include the theta value in Y ? Well, you wouldn't get your results, that's what, and you'd learn how to do it properly, and that's all. Frankly, I can't see what's difficult to remember about the stack sequence:

```
T:  uncertainty
Y:  b
X:  a
```

being set up before pressing INTEG. Or any other other you deem more natural.

"If the argument were placed on the stack, that would make three input stack arguments, which would violate what might have been an HP 4-level RPN design principle -- "no function shall require more than two input arguments from the stack, or shall place more than two results onto the stack."

Your research is incomplete or your memory is faulty, there are quite a number of exceptions, including the one you mention later. Want another very obvious one? That would be the results of SOLVE, if you care to have a look at the manuals: upon termination, SOLVE places the computed root in X, the previous estimate in Y, and the computed value of your function at the computed root in Z. That's *three* results for you.

Also, what's the point in not using three levels for inputs to INTEG on the HP-34C or HP-15C ? Because none of the stack contents makes it alive to your f(x), matter of fact INTEG and SOLVE fill up all 4 stack levels with the current value of X, for your f(x) to act upon it. So all previous contents are utterly lost. And it goes without saying than upon termination, the initial stack contents before calling SOLVE/INTEG can't be saved at all, not even one level, because your f(x) computation would be likely to use them all, right ?

In other words, once you call INTEG/SOLVE, your original stack is absolutely obliterated, so you can use two registers for parameters, or three, or all four, it makes no difference, none will survive when your f(x) is called, not to mention when the process terminates.

"Users may find it difficult to remember where the third argument should go -- in the z-level or x-level. Getting it wrong would cause incorrect results"

I can paraphrase your statement word for word using SOLVE instead and a lot of other stack-using commands. In the world of stack-based RPN, there are a number of things you should remember, and you eventually do, we're talking engineers and power users here. And after all, why do you think HP included the "stack-syntax" of a number of commands (such as polar <-> rectangular) in the back labels ? Having the uncertainty in the stack would be consistent with this

as well.

"They didn't make very many mistakes, and -- all things considered -- I don't think they made one here, either."

I fully disagree, they did. And they did carry this nonsense to INTEG in advanced RPL models ! Unbelievable !

" I don't quite follow this. I see no mention of negative arguments to FIX/SCI/ENG in my HP-15C manuals."

Another example of either faulty memory or incomplete research. Have a look at the big footnote on the subject, which is at page 247 in the HP-15C's Owner's Handbook, at least it is in my Rev. G manual.

"It's good to do things the "right and rigorous way" and to give users maximum flexibility wherever possible, but the tool must have the necessary capabilities in place first."

If by "the tool" you mean the HP-15C or HP-34C, they certainly had the necessary capabilities, namely a 4-level stack, which could easily accommodate three parameters for INTEG, and/or a prefix-capable keyboard, which could accommodate STO INTEG and RCL INTEG easily. And if you're referring to RPL models, with unlimited stack levels, it goes without saying that they could (and should!) too.

Best regards from V.

Edited: 29 Nov 2005, 6:20 a.m.

Re: Uncertainty for INTEG on the HP-15C?

*Message #16 Posted by **Arnaud Amiel** on 29 Nov 2005, 6:27 a.m.,*
in response to message #15 by Valentin Albillo

Quote:

and then doesn't restore it to the setting you preferred (because it can't).

RCLF and STOF are here for that purpose. The following program should not alter your calc in any way.

```
<< RCLF 5 FIX STOF>>
```

Arnaud

Re: Uncertainty for INTEG on the HP-15C?

*Message #17 Posted by **Valentin Albillo** on 29 Nov 2005, 6:33 a.m.,*
in response to message #16 by Arnaud Amiel

Hi, Arnaud:

"RCLF and STOF are here for that purpose. The following program should not alter your calc in any way. "

You don't suppose for a moment that I don't know about them, do you ? The problem is that RCLF and STOF are *particular* functions present in a *particular* model or ROM,

> they **can't** be found on the HP-34C or HP-15C, which are the models where INTEG/SOLVE were pioneered, nor are there equivalent functions or capabilities.

Best regards from V.

Re: Uncertainty for INTEG on the HP-15C?

*Message #18 Posted by **Arnaud Amiel** on 29 Nov 2005, 9:29 a.m.,*
in response to message #17 by Valentin Albillo

Sorry, I was confused and should have looked at the subject and the poster... I will delete the message if requested.

Arnaud

Re: Uncertainty for INTEG on the HP-15C?

*Message #19 Posted by **Valentin Albillo** on 29 Nov 2005, 10:06 a.m.,*
in response to message #18 by Arnaud Amiel

Hi, Arnaud:

Arnaud posted:

"I will delete the message if requested."

> I think it would be better to leave it posted. Though not relevant for this topic, it might be the case that someone would find it useful to know that they can store and later recall some flags this way.

Best regards from V.

RPN-based INTEG, and "intuitiveness"

*Message #20 Posted by **Karl Schneider** on 29 Nov 2005, 5:31 p.m.,*
in response to message #15 by Valentin Albillo

Hi, Valentin --

I see your points, but remain unswayed in my convictions regarding this subject. I'll continue to discuss the specific points, but first, there's a more general point I'd like to make:

You and I both agree that the HP-15C was an utterly remarkable achievement of engineering design -- an extremely sophisticated tool that was nonetheless very accessible and straightforward to use. This was achieved, I believe, because the machine was so well organized, logical, and intuitive. You have emphasized the importance of intuitiveness in previous posts, and I heartily concur.

Even though the manual was extensive, once a user familiarized himself, it was seldom needed thereafter -- even for the advanced functions. The rare items that are not very intuitive on the HP-15C are the ones that get the most questions from users in this Forum, i.e.: "How do I get out of Complex Mode?" [g CF 8]; "How do I change the comma to a decimal point?" [ON/.]

That being said, there's always a *clever* way to do things, and sometimes these must be employed when the more-direct way isn't quite possible. However, doing things "cleverly" but not intuitively may lead users astray, and leave them frustrated or dismayed.

Keeping that theme in mind, here are my responses:

> Quote:
>
> Having a display mode control a parameter for numerical integration is utterly preposterous. ... What a nuisance !

That's a better term, I think: "nuisance", or "annoyance". Display mode is of interest for interactive work, and the user can reset it if needed. It's nice when this is a 3-keystroke combination (e.g., HP-15C) instead of 4 (HP-32SII) or 5 (HP-42S). I use FIX/SCI/ENG frequently.

> Quote:
>
> In the case of the HP-15C, for instance, you could have STO INTEG, similar to STO #RAN, say. The combination STO INTEG wasn't used for anything, so it was free for this purpose.

OK, here's where "intuitiveness versus cleverness" comes into play.

- STO RAN # is intuitive: "Store x-register value as the seed for next random number".
- STO RESULT is intuitive: "Store matrix defined by descriptor in x-register to the designated 'result' matrix."
- STO n, STO I, STO (i), STO MATRIX {}, etc. are all intuitive.

Now, STO S_y^x ("INTEG") would be, what -- "Store the calculated integral"? (Probably wouldn't want to unwittingly use *that* stored value as the input-function error for the next integral.) What if the user mistakenly hit [STO][INTEG], then wondered why subsequent calculated integrals were so coarse?

Sure, STO INTEG would have been a clever way to provide a storage location for a parameter, but it would also provide a potential pitfall for users, even the knowledgeable and very bright ones.

How about placing the tolerance/accuracy on the stack? Well, some users may not be particular about specifying the value, preferring to use a reasonable default. That approach won't work if the value is taken from the stack, because its omission will almost certainly cause garbage results.

However, a FIX/SCI/ENG display setting is <u>always</u> in effect, and is plainly visible in interactive ("RUN") mode. Settings favored by most users will yield a reasonably accurate estimation of the integral, when interpreted as an input-function uncertainty. (For example, FIX 5 says that the uncertainty of f(x) is less than 0.000005 at all points.)

> Quote:
>
> Say, for instance, rectangular <-> polar conversions. What if you forgot to include the theta value in Y ? Well, you wouldn't get your results, that's what, and you'd learn how to do it properly, and that's all.

Again, *intuitiveness*: Any competent user of R->P or P->R conversions knows that they require two inputs and provide two outputs. A diagram and stack table is provided on the back plate to help users get the order correct. The tables also provide references for multi-output functions that are not entirely intuitive.

About those tables on the back plate: Wouldn't it make more sense for "L.R." to also return the correlation coefficient "r" (instead of "y-hat, r" doing so? But that would return three results for a function that required no stack inputs, pushing more of the user's data off the stack. And, notice that no function requires three stack inputs or produces three stack outputs. A *design principle*, maybe?

> Quote:
>
> Frankly, I can't see what's difficult to remember about the stack sequence:
>
> T: uncertainty
> Y: b
> X: a
>
> ...
>
> Also, what's the point in not using three levels for inputs to INTEG on the HP-34C or HP-15C ? Because none of the stack contents makes it alive to your f(x), matter of fact INTEG and SOLVE fill up all 4 stack levels with the current value of X, for your f(x) to act upon it. So all previous contents are utterly lost. And it goes without saying than upon termination, the initial stack contents before calling SOLVE/INTEG can't be saved at all, not even one level, because your f(x) computation would be likely to use them all, right ?

The above is not entirely correct. The *intuitive* user procedure that was implemented (and printed on the keyboard face as S_y^x) is as follows:

lower limit (a)
[ENTER]
upper limit (b)
[INTEG] {user-fcn label}

yielding stack contents of

```
level   input   output
t         --      a
z         --      b
y         a       integ. error
x         b       integral
```

Although the INTEG and SOLVE functions do overwrite a and b on the stack, INTEG restores them upon completion. This is handy for reference, and for proceeding to the next part of a subdivided integral. There's no room to retain the user-function accuracy on the stack.

> Quote:
>
> SOLVE places the computed root in X, the previous estimate in Y, and the computed value of your function at the computed root in Z. That's *three* results for you.

OK, there's an example I'd forgotten about. The "extra" values in Y and Z are useful for evaluating the quality of the solution in X. Since SOLVE is an advanced function that overwrites the input stack, it is not an issue to return three arguments, and it needs only two input arguments, in either order. "Two input/output agruments max" was an apparent *principle*, not a *rule*, and I'm sure there are other exceptions. I didn't scour the manuals to find them.

> Quote:

> Have a look at the big footnote on the subject *(regarding negative arguments to SCI and ENG)*, which is at page 247 in the HP-15C's Owner's Handbook, at least it is in my Rev. G manual.

Ah-ha! I looked right over it earlier, but there it is on p. 247 in my Rev. C and Rev. G manuals. "Big footnote"? That's fine print, man! :-)

There may be unconventional applications for the capability of negative-valued indirect arguments to SCI and ENG for purposes that have no application for display format, but I think it's completely counterintuitive and minimally useful, and should have been omitted.

> Quote:
>
> If by "the tool" you mean the HP-15C or HP-34C, they certainly had the necessary capabilities, namely a 4-level stack, which could easily accommodate three parameters for INTEG, and/or a prefix-capable keyboard, which could accommodate STO INTEG and RCL INTEG easily.

I did, but I firmly believe in this colloquial expression, which is probably universal:

"Just because you *can*, doesn't mean you *should*."

Due to potential pitfalls of implementation that I described, for those models (as well as for the 32S and 32SII), the numerical "accuracy" parameter would not have been a sound idea.

> Quote:
>
> And if you're referring to RPL models, with unlimited stack levels, it goes without saying that they could (and should!)...

I agree on that point. Different story for the RPL-based models, the HP-71B Math ROM, and the HP-42S, which had better-suited operating paradigms for that purpose.

Best regards,

-- KS

Edited: 30 Nov 2005, 2:13 a.m.

Re: RPN-based INTEG, and "intuitiveness"

*Message #21 Posted by **Valentin Albillo** on 30 Nov 2005, 5:27 a.m.,*
in response to message #20 by Karl Schneider

Hi again, Karl:

Just a few comments, as it seems we agree to (politely) disagree:

Karl posted:

"I see your points, but remain unswayed in my convictions regarding this subject."

> The bad thing about personal convictions is that they aren't necessarily backed up by

> rational, objective facts and can't be used as arguments in any rational discussion.

"Even though the manual was extensive, once a user familiarized himself, it was seldom needed thereafter -- even for the advanced functions."

> I disagree. I find myself having to reach for it continuously to find out whether a particular matrix operation leaves its results in the result matrix or not and if so, if said result matrix can be one of the operands or not and if so, if the allowed operand is the matrix in X or the matrix in Y or both. Not to mention the effect of such convoluted matrix operations as the ones invocated by Cy,x and Py,x, which perform matrix manipulations intended to help when dealing with complex matrices. Also, STO and RCL by row/col are usually difficult to remember, etc, etc.
>
> Trust me on this, Karl, I can issue 15 questions about HP-15C operations right now, and you'd need to have a look at the manual to answer most of them, despite the 15C's alleged "intuitiveness".

"The rare items that are not very intuitive on the HP-15C are the ones that get the most questions from users in this Forum, i.e.: "How do I get out of Complex Mode?" [g CF 8]; "How do I change the comma to a decimal point?" [ON/.]"

> Nonsense. These are the kind of questions that absolutely newbies to the HP-15C (or Voyagers in general) would ask. The real difficult questions never arise because these newbies can never think of them in the first place, and expert users actually do RTFM instead of asking them online.

"Now, STO Syx ("INTEG") would be, what -- "Store the calculated integral"?"

> I'm more in favor of placing the uncertainty in the stack, not to specify it with a STO INTEG command. I only mentioned this as a refutation of your statement that there were no free locations in the keyboard for such a function, remember ? You were wrong, right ?
>
> Nevertheless, an hypothetic STO INTEG command would be much more intuitive than, say, Cy,x or Py,x applied to matrices, to name a few non-intuitive matrix key sequences.

"Ah-ha! I looked right over it earlier, but there it is on p. 247 in my Rev. C and Rev. G manuals. "Big footnote"? That's fine print, man! :-) "

> Who's talking about font size ? A **five line** footnote is a **big** footnote by every standard.

"There may be unconventional applications for the capability of negative-valued indirect arguments to SCI and ENG for purposes that have no application for display format, but I think it's completely counterintuitive and minimally useful, and should have been omitted."

> But they're there, and it adds a good measure of counterintuitiveness, unexpected side effects, and sheer "WTF?" to the whole business of specifying uncertainty by setting display modes. I'm sorry if this spoils a little your point but that's the way it is implemented and there's no point trying to dismiss reality when it doesn't fit with one's convictions.

That said, it's been an interesting thread and I appreciate your point of view, of course.

Thanks and best regards from V.

The last word about INTEG?...

*Message #22 Posted by **Karl Schneider** on 2 Dec 2005, 2:30 a.m.,*
in response to message #21 by Valentin Albillo

... but I have sound counterpoints/rebuttals for every one of your points in the last post! :-)

OK, as you wish -- no further discussion about it. I still support H-P's approach for input-function tolerance to INTEG in the 34C/15C/41C Advantage as a practical and adequate approach, given the limitations of those devices.

Best regards from Karl

Re: Uncertainty and accuracy for numerical integration

*Message #23 Posted by **James M. Prange (Michigan)** on 6 Dec 2005, 3:28 a.m.,*
in response to message #1 by Karl Schneider

With Classic RPN's four-register stack, an extra parameter for the integration command would be a problem, so checking the display mode to set an error tolerance has some excuse.

But what about the RPL models? They can have a very deep stack, so it seeems to me that there should be no real problem with making the error tolerance a parameter for the integration command. A complication here is that with RPL, integration can be either numeric or symbolic, and with symbolic integration, no error tolerance is needed. But any RPL command needs the same number of arguments, regardless of how it's being used, and the development team chose to use just one command for both numeric and symbolic integration.

I looked in Bill Wickes's *Insights* books for some clues about why things are the way they are.

In the 28 series, for symbolic integration,the arguments are as follows:

```
3:             integrand (an algebraic)
2:         variable name (a name)
1                 degree (a real integer)
```

But for numerical integration, the arguments are like this:

```
3:             integrand (a procedure, algebraic or program)
2:   { name lower upper} (a list)
1:       accuracy factor (a real number)
```

Or as a variation of numeric integration:

```
3:             integrand (a program)
2:         {lower upper} (a list)
1:       accuracy factor (a real number)
```

In that last example, instead of looking for a name for the variable of integration, the values are kept in stack level 1, so it's faster.

Note that integration in the 28 series always takes three arguments, although the arguments vary, depending on what you're doing.

For the 48 (and 49) series, this was changed. The arguments are always the same, and the integrand can only be an algebraic; it can't be a program, and instead of supplying the accuracy factor as a parameter in the arguments, the current display mode is checked. The arguments are as follows:

```
4:                 lower (a real number)
3:                 upper (a real number)
2:             integrand (an algebraic)
1:         variable name (a name)
```

Personally, I prefer the way it's done on the 28 series.

Regarding the error tolerance, quoting Bill Wickes from *HP 48 Insights Part II: Problem-Solving Resources*:

> Quote:
>
> The numerical evaluation of [integral symbol] produces a series of increasingly accurate estimates of the integral, derived from sampling intervals that are halved at each iteration. The process terminates when three successive iterations differ by an amount less than an error tolerance that you specify, or after a maximum of sixteen iterations have produced no apparent convergance (at this point the integrand has been evaluated 65535 times). The error tolerance is determined by the current real number display setting: *n* FIX (or SCI or ENG) specifies an error tolerance of [Epsilon] = 10^{-n}. This in turn relates to the probable error in the numerical integral:
>
> *error [less than or equal] [Epsilon][integral]|f(x)|dx.*

> Quote:
>
> If the integration results have not converged after sixteen iterations, the number -1 is stored in IERR. The value returned to the stack is the last estimation of the integral.

I presume that when numerical integration is successful, the value stored in IERR is based on how the estimates of the integral are converging, but I don't know the algorithm used for this.

I think it worth noting that having three successive iterations differ by an amount less than the specified error tolerance doesn't guarantee that the last estimate differs from the actual value of the integral by less than the specified error tolerance.

By the way, scans of the *Insights* books, as well as *HP 41/HP 48 Transitions* are available on the latest MoHPC CD set / DVD. For anyone who wants a deeper look into why RPL is the way it is and how to use it effectively, I highly recommend the *Insights* books. Having never used a 41 series, I haven't read *Transitions*, but presumably it's written for those accustomed to Classic RPN who want to learn RPL.

Regards,
James

Integration on RPL machines

*Message #24 Posted by **Karl Schneider** on 7 Dec 2005, 2:34 a.m.,*
in response to message #23 by James M. Prange (Michigan)

James --

Thank you for the informative response regarding integration tolerance, and for clearing some things up about numerical integration on RPL-based machines. Your response would have been helpful for my first RPL "challenge" in late 2003, when I didn't know how to integrate a function defined as a program (rather than as an expression) on an HP-48G. I got only one uninformative reply.

You say that it is possible on the HP-28C/S, but not on the 48/49.

> Quote:
>
> With Classic RPN's four-register stack, an extra parameter for the integration command would

> be a problem, so checking the display mode to set an error tolerance has some excuse.

There is room on the classic 4-level RPN stack for an input accuracy argument, and it wouldn't matter even if all four stack levels were filled with input variables. This is because INTEG fills the stack with the present value of the input variable to the user-defined program, which might use all four stack levels.

However, I believe that to include the function accuracy on the RPN stack as an input would have been unsound, due to potential pitfalls to the user. (Valentin disagreed with me, but I am unconvinced. You may read the posts in this same thread for this discussion.)

The fundamental difference between the RPL stack and the RPN stack (besides depth) is that the RPL stack objects have specific object types, which the calc can check. Thus, if the user omits the function tolerance on the lowest HP-28 stack level as input to INTEG, the calc knows to return an error (or alternatively to use a default tolerance). INTEG on the RPN-based 34/15/41/32/33 models, however, take only floating-point inputs from the stack. If the tolerance is not placed on the stack, unrelated stack contents would be used as input arguments, and possibly the stack contents would be used for the wrong input variables.

I also prefer the HP-28 stack-argument syntax for INTEG; menus are better to use interactively on the 48/49 models.

-- KS

Re: Integration on RPL machines

*Message #25 Posted by **James M. Prange (Michigan)** on 18 Dec 2005, 6:54 a.m.,*
in response to message #24 by Karl Schneider

Hi Karl,

> Quote:
>
> Thank you for the informative response regarding integration tolerance, and for clearing some things up about numerical integration on RPL-based machines.

You're welcome.

> Quote:
>
> Your response would have been helpful for my first RPL "challenge" in late 2003, when I didn't know how to integrate a function defined as a program (rather than as an expression) on an HP-48G. I got only one uninformative reply.

I guess that I thought that Veli-Pekka's response was informative and helpful; he was referring to "user-defined functions". Or maybe I didn't notice your question, or maybe I noticed but didn't find the time to reply.

> Quote:
>
> You say that it is possible on the HP-28C/S, but not on the 48/49.

Unfortunately (in my opinion), that seems to be the case, at least for numerical integration. The 49 series adds a few more commands for integration, but I think for symbolic integration only. Although the integrand can't be a program on the 48/49, this can be worked around. Let me review some things

about UserRPL.

Things that an RPL model can do can be called "operations". Examples of operations include disabling last stack saves, the ROOT command, and the SIN function. Disabling last stack saves can be done from menu 69 (so it is an operation), but can't be done from within a UserRPL program, so it's not a "command" (or a "function"). ROOT can be used (with postfix notation) in a program, so it's a "command" (as well as an "operation"), but it can't be used in an algebraic object, so it's not a "function". SIN can be used in an algebraic with the prefix syntax SIN(X), so it's a "function", and it can also be used in a program using the postfix syntax X SIN , so it's also a "command" (as well as an "operation"). All functions can also be used as postfix commands, although the documentation calls them functions. Some functions require the prefix syntax, such as SIN(X), when used in an algebraic, others require an infix notation, such as A+B, when used in an algebraic.

But what to do when an algebraic is wanted, or even required (such as for the integrand argument for integration), but a command that we'd like to use in the algebraic isn't a function? We can work around the limitation by making our own UDF (user-defined function), that we can use with prefix syntax, such as F(x,y,z), within an algebraic, or for that matter, with postfix syntax such as x y z F.

When used as a postfix command, a UDF takes it's arguments from the stack and binds the values as named local variables that can be used in the "defining procedure", which is either an algebraic or a program. When used within an algebraic, a UDF take it's arguments from a comma-separated (or period-separated, if the "fraction mark" is a comma) or semicolon-separated, parenthetical argument list instead of from the stack.

The following assumes that the "fraction mark" is a period.

Suppose that I want the (3-dimensional) distance between points [x1 y1 z1] and [x2 y2 z2]. I can write a UDF using an algebraic procedure as follows:

```
%%HP: T(3)A(D)F(.);
\<<
  \-> x1 y1 z1 x2 y2 z2
  '\v/(SQ(x2-x1)+SQ(y2-y1)+SQ(z2-z1))'
\>>
'F3DISTA' STO
```

Now, either 'F3DISTA(0,0,0,3,4,12)' EVAL
or the sequence 0 0 0 3 4 12 F3DISTA
returns 13.

I could do much the same using a program for the defining procedure:

```
%%HP: T(3)A(D)F(.);
\<<
  \-> x1 y1 z1 x2 y2 z2
  \<<
    x2 x1 - SQ y2 y1 - SQ + z2 z1 - SQ + \v/
  \>>
\>>
'F3DISTP' STO
```

Suppose that I want to sum the cubes of the numbers within a range. I can write a UDF as follows:

```
%%HP: T(3)A(D)F(.);
\<<
  \-> l h
  \<<
    0.
    l h
    FOR n
      n 3. ^ +
    NEXT
  \>>
\>>
```

```
'FSCUBES' STO
```

Now 'FSCUBES(2,5)' EVAL returns 224. Of course the sequence 2 5 FSCUBES also returns 224.

Here's a UDF that takes the square root of a number less than 1, and squares a number equal to or greater than 1, although I don't know why anyone would want to do that.

```
%%HP: T(3)A(D)F(.);
\<<
  \-> x
  \<<
    x
    DUP 1.
    IF
      <
    THEN
      \v/
    ELSE
      SQ
    END
  \>>
\>>
'FSQSQR' STO
```

Now 'FSQSQR(.25)' EVAL returns .5, and 'FSQSQR(5)' EVAL returns 25.

ROOT seem to be a particularly difficult case. The arguments for ROOT can be any of the following:

```
3: procedure (program or algebraic)
2: global name
1: guess or guesses. (1 number or a list of 1, 2, or 3 numbers)
```

At first glance, it looks as if we could simply define an function, named say, 'FROOT', that we could use in an algebraic using the syntax FROOT(procedure,global name,guess). The first complication is that a prefix function argument list can't include a program, so the first argument will have to be an algebraic (we may have to make another user-defined function for the first argument). The next is that a prefix function argument list can't include a quoted name, so we have to be sure that the name doesn't already exist (otherwise the contents instead of the name of the variable would be used). Finally, the last argument can be 1, 2, or 3 guesses, and list delimiters can't be used within a prefix function argument list.

To work around that last argument, I'll make three separate UDFs:

```
%%HP: T(3)A(D)F(.);
\<<
  \-> p n g
  \<<
    p n g
    ROOT
  \>>
\>>
'F1ROOT' STO


%%HP: T(3)A(D)F(.);
\<<
  \-> p n g1 g2
  \<<
    p n
    g1 g2 2. \->LIST
    ROOT
  \>>
\>>
'F2ROOT' STO


%%HP: T(3)A(D)F(.);
\<<
  \-> p n g1 g2 g3
  \<<
    p n
```

```
    g1 g2 g3 3. \->LIST
    ROOT
  \>>
\>>
'F3ROOT' STO
```

Now, suppose that I want to find the root near 3 of the function SIN(X), in RAD mode. I can do any of the following:

```
RAD HOME 'X' PURGE 'F1ROOT(SIN(X),X,3)' EVAL

RAD HOME 'X' PURGE 'F2ROOT(SIN(X),X,3,4)' EVAL

RAD HOME 'X' PURGE 'F3ROOT(SIN(X),X,2,3,4)' EVAL
```

Any of the above will return 3.14159265359. Of course, if the calculator is already in Radians mode, then RAD can be omitted, and if I know that 'X' won't be found on the current path, I can omit the HOME 'X' PURGE part of the sequence. Note that a new 'X' will be stored in the home directory.

In the above, I stored the UDFs as global variables, but note that I can also store them as local variables. For example:

```
%%HP: T(3)A(D)F(.);
\<<
  RCLF PATH
  RAD HOME
  'X' PURGE
  \<<
    \-> p n g1 g2 g3
    \<<
      p n
      g1 g2 g3 3. \->LIST
      ROOT
    \>>
  \>>
  \-> f3root
  \<<
    'f3root(SIN(X),X,2,3,4)' EVAL
  \>>
  EVAL
  STOF
\>>
'F3LROOT' STO
```

Here, the UDF is f3root, and F3LROOT will return 3.14159265359, and overwrite any variable 'X' in the home directory. It also restores the original directory and angular unit mode.

In the 49 series, at least with recent ROMs, the PUSH and POP commands can be used to save and restore the current flags and directory.

Of course, I don't have to store all of the arguments to a command in the UDF as local variables, although at least one argument has to be a local variable for the program to be a UDF. For example:

```
%%HP: T(3)A(D)F(.);
\<<
  \-> g
  \<<
    'SIN(X)' 'X' g
    ROOT
  \>>
\>>
'F1SINROOT' STO
```

Now, 'F1SINROOT(3)' EVAL returns 3.14159265359,
'F1SINROOT(6)' EVAL returns 6.28318530718,
'F1SINROOT(9)' EVAL returns 9.42477796077,
and so on. All of these overwrite any variable 'X' in the current directory. Since I can quote X in the

program, the 'X' PURGE isn't needed.

I hope that helps.

I wrote above that disabling last stack saves isn't a command, but on the 49 series, the KEYEVAL command offers a way to make many operations programmable. Exceptions are operations that require holding down the ON key while pressing another key. I've sometimes wished for KEYEVAL on the 28 and 48 series.

Of course, SysRPL makes possible many things, and SysRPL entry points can be called from UserRPL with the commands SYSEVAL, LIBEVAL, and FLASHEVAL. But use these with care, as it's easy to cause a memory clear by improper use.

> Quote:
>
> There is room on the classic 4-level RPN stack for an input accuracy argument, and it wouldn't matter even if all four stack levels were filled with input variables. This is because INTEG fills the stack with the present value of the input variable to the user-defined program, which might use all four stack levels.
>
> However, I believe that to include the function accuracy on the RPN stack as an input would have been unsound, due to potential pitfalls to the user. (Valentin disagreed with me, but I am unconvinced. You may read the posts in this same thread for this discussion.)

Okay; my 12C and 16C don't seem to include integration and I really don't care to read all of the documentation for other Classic RPN models, so I shouldn't've even commented on that issue.

> Quote:
>
> The fundamental difference between the RPL stack and the RPN stack (besides depth) is that the RPL stack objects have specific object types, which the calc can check.

And in fact, every built-in UserRPL command that requires any argument checks that the number of arguments required is available, then checks the types of these arguments and proceeds appropriately. If arguments that it can use aren't available, then it will error out.

> Quote:
>
> Thus, if the user omits the function tolerance on the lowest HP-28 stack level as input to INTEG, the calc knows to return an error (or alternatively to use a default tolerance). INTEG on the RPN-based 34/15/41/32/33 models, however, take only floating-point inputs from the stack. If the tolerance is not placed on the stack, unrelated stack contents would be used as input arguments, and possibly the stack contents would be used for the wrong input variables.

Which brings up another difference. With Classic RPN, all of the stack registers are always available; even after clearing, they're zero-filled. On an RPL model, after clearing the stack, the stack levels simply don't exist, and attempting to use a non-existent level will cause an error.

Another difference is that typically, more stack levels are displayed on the RPL models. As far as I know, the Classic RPN models display at most two registers, so what's in the other registers isn't so obvious.

Regards,
James

Edited: 18 Dec 2005, 7:54 a.m.

Re: Integration on RPL machines

*Message #26 Posted by **Karl Schneider** on 19 Dec 2005, 11:47 p.m.,*
in response to message #25 by James M. Prange (Michigan)

Hi, James --

Thank you for making the effort to post such a detailed response. I'll quite likely try a few of those ideas, for the sake of experimentation...

Regards,

-- KS

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One, count it, one 67/97/41C mag card

*Message #1 Posted by **Howard Owen** on 28 Nov 2005, 2:48 a.m.*

Only one buck, plus another for postage. If someone doesn't outbid you, that is. 8)

eBay auction for one mag card

I gave about 40 of them away, yesterday!

*Message #2 Posted by **Marcus von Cube, Germany** on 28 Nov 2005, 7:13 a.m.,*
in response to message #1 by Howard Owen

Klaus just helped me to get my HP 41 card reader working again (BTW, it was a nice afternoon!) I gave him about 40 of those cards as a reward.

Did I overpay him? I could have sold all these in eBay auctions (perhaps as a power seller with a quantity in one auction, BuyItNow $10 each?)

Marcus ;-)

Re: I gave about 40 of them away, yesterday!

*Message #3 Posted by **Howard Owen** on 28 Nov 2005, 12:55 p.m.,*
in response to message #2 by Marcus von Cube, Germany

You certainly are missing a trick there, Marcus!

We, the members of the Coburlin Admiration and Philatelist Society have an even better plan: cut the cards in half! Charge only fifty cents, but leave the postage at one dollar. 150% profits! Charge in euros for even greater exploitaton!

RARE!! 1/2 HP Card Reader Card, only 50c! L00K!!!!

Cleaning card for $5.99 + $2.00 shipping!!

*Message #4 Posted by **Howard Owen** on 28 Nov 2005, 4:01 p.m.,*
in response to message #1 by Howard Owen

Don't know how I missed this one:

Cleaning card on eBay for $5.99 + $2.00 shipping!!

So, half of one of *those* sold for $4.99 plus $2.00 shipping would yield very juicy profits! Oh boy! Coby will be jealous!

Edited: 28 Nov 2005, 4:02 p.m.

One, count it, one 67/97/41C mag card

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48G(X) serial number vs. ROM version

*Message #1 Posted by **Bo B(Sweden)** on 27 Nov 2005, 6:00 p.m.*

Hi, Is the mapping between serial number and ROM version documented somewhere? I'm most interested in when the change from ROM-P to ROM-R happened. The only thing I've found is an old post by Dave Arnett over at comp.sys.hp48 which says "...I released Rev R to production in late 1993". So, presumably the change happened late -93 or early -94 but does anyone know for shure?

Re: 48G(X) serial number vs. ROM version

*Message #2 Posted by **Gerson W. Barbosa** on 27 Nov 2005, 7:59 p.m.,*
in response to message #1 by Bo B(Sweden)

You may find this info in one more recent comp.sys.hp48 FAQ you can get at:

http://www.hpcalc.org/hp48/docs/faq/

I remember my first 48GX (Made in Singapore), purchased brand new in Aug/93, still had the Rev P ROM.

Regards,

Gerson.

Re: 48G(X) serial number vs. ROM version

*Message #3 Posted by **Bo B(Sweden)** on 28 Nov 2005, 6:39 a.m.,*
in response to message #2 by Gerson W. Barbosa

Thanks for the reply! But no, I can't find the answer in the comp.sys.hp48 FAQ (the latest version seems to be v4.62, 14 April 2000). One could put the question a little different, like this: what is the highest known serial number with ROM version P (or the lowest known number with ROM version R)?

Thanks,

Bo

Re: 48G(X) serial number vs. ROM version

*Message #4 Posted by **tomcee** on 28 Nov 2005, 1:49 p.m.,*
in response to message #3 by Bo B(Sweden)

I too am curious about the mapping of Serial Number to OS Version number and Display type (at least two types were used in the HP48G series). Also, when were double-shot injected keys done away with?

TomC

Re: 48G(X) serial number vs. ROM version

*Message #5 Posted by **Bo B(Sweden)** on 28 Nov 2005, 3:58 p.m.,*
in response to message #4 by tomcee

Some information about the display change (green to black) can be found here:

HP-48GX of black character

And about the keys: to the best of my knowledge all Singapore made HP-48 have double-shot injected keys, while the Indonesian made have painted keys. So the timeline regarding these issues is something like this:

```
1994-xx-yy - Change from ROM version P to R
1997-xx-yy - Manufacture moved from Singapore to Indonesia
2001-xx-yy - New "black" LCD introduced
```

But it really would be nice to have these dates more precise.

Bo

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14B Calculator - change # of decial places

*Message #1 Posted by **T.Ulch** on 27 Nov 2005, 3:13 p.m.*

Does anyone know how to increse the number of decimal places on a 14B Business Caluculator. I'm using the HP caluculator that I had in high school for business school now and can't figure out how to increase the decimal points. THANKS!

Re: 14B Calculator - change # of decial places

*Message #2 Posted by **Vieira, L. C. (Brazil)** on 27 Nov 2005, 5:05 p.m.,*
in response to message #1 by T.Ulch

Hi, T. Ulch;

please, locate the "close paenthesis" key [)] in your calculator and you'll see [DISP] printed in orange (gold?) over the key, in the keyboard faceplate. To access the DISP menu, press the shift key, wiht a small orange (golden?) square printed on it, over the ON/[C] key; you'll see that a menu with four options apper:

```
[FIX  ALL  .  ,]
```

If you press [PV] key, the calculator will show all significant digits of the mantissa of the number in the display till the last non-zero to the right side of the fraction part. You can check:

```
2  [SHIFT]1/x   ->   [ 0.5         ]
8  [SHIFT]1/x   ->   [ 0.125       ]
[C]             ->   [ 0           ]
```

If you choose a fixed number of decimal places, [SHIFT][)] again and [FIX]; then you´ll see:

```
[ FIX _         ]
```

so you can specify how many digits you want, frm 0 (only integer part) to maximum of 11. Rounding occurs according to the last not-shown digt: if less than 5, last visible digit remains; if greather than of equal to 5, last visible digit is increased one unit. To specify a number of digits of the fraction part, simply press any number key from [0] to [9] after seeing

```
[ FIX_        ]
```

If you want 10 or eleven fixed digits, press [.] (dot) key to change from

```
[ FIX _       ]
```

to

```
[ FIX 1_      ]
```

then [0] or [1]. Try this:

```
[SHIFT][DISP][N][4] ->   [ 0.0000     ]
2  [SHIFT]1/x       ->   [ 0.5000     ]
8  [SHIFT]1/x       ->   [ 0.1250     ]
[C]                 ->   [ 0.0000     ]
```

Hope this helps.

Cheers.

Luiz (Brazil)

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HP-38G Emulator for the HP-48GX ?

*Message #1 Posted by **Joe D.** on 27 Nov 2005, 10:03 a.m.*

Hello,

do you know of any 38G emulator for the 48GX (I mean for the real calculator, not Emu48)? At hpcalc.org I've found an emulator for the 39G, but it's only for the 49G.

Or do you have some other ideas to run some aplets on an 48GX?

Many thanks in advance!

Re: HP-38G Emulator for the HP-48GX ?

*Message #2 Posted by **Mike H** on 28 Nov 2005, 9:20 a.m.,*
in response to message #1 by Joe D.

I am not aware of any 38G emulators for the 48GX, but for the price, why not just get a new 38G. They can be found on ebay for under $20.

Mike

Re: HP-38G Emulator for the HP-48GX ?

*Message #3 Posted by **Joe D.** on 28 Nov 2005, 3:26 p.m.,*
in response to message #2 by Mike H

Thanks!

I'm aware of the low prices at eBay, but it's not a question of money. I just wanted to know if the 48GX can do it too.

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Heads up: 9815 9825 paper on ebay

*Message #1 Posted by **John Ioannidis** on 26 Nov 2005, 4:22 p.m.*

Item number 5833578480

I'm happy with the substitute I've found at Staples, but some die-hards here (and I mean this in a good way!) may want the real thing.

/ji

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Analysis of Coburlin

*Message #1 Posted by **Bill (Smithville, NJ)** on 26 Nov 2005, 12:39 p.m.*

I have generally reframed from replying to any of the comments that have been made concerning Coburlin and his E-bay practices. But I have been wondering about his success ratio. So I decided to do a totally unscientific analysis using the past deals as reflected in his existing Feedback.

I found the results very interesting.

The period covers Feedback from Sept 29 thru Nov 25. During this period, he bought 50 items for $1925 plus shipping. He also sold 13 items for $2900. Not a bad profit you might say. He still has 37 more items to sell at a highly marked up price.

What is the most interesting is the following:

Of the items bought, 17 were true Buy It Now, 9 were sold early BIN, and 24 were full period bids of 5 to 10 days in length.

The True Buy It Now included:

Three Hp-200LX for $50 each.

HP-41CV W/Survey Module for $60.

HP-41CX for $100

HP-15C for $60.

Each of these Items were available for a short time for ANY ONE OF US to purchase at these prices. He just did it before we did. That's the way it works.

The items that went for the full period included the following:

HP-15C for $61.25 (10 Days)

HP-35 for $13.83 (7 Days)

HP-41CV for $95 (5 Days)

HP-41C X-Func Module for $4.99 (7 Days)

HP-15C for $100.88 (7 Days)

HP-35 for $52 (5 Days)

HP-15C for $86 (7 Days)

Again, ANY ONE OF US could have also bid on any of these items and probally bought them for a faily resonable

price.

I realize there are many here that do not like the fact that he will attempt (and the key word is attempt) to re-sell these items at a very high mark-up. And the fact that he is also quicker to purchase low BIN offers, but any BIN is available for any of us also.

I have to admit that I have bought items extremely cheap at yard sales, flea markets and then re-sold them or traded them at the higher going rate. I'd be willing to bet that most of us here have done that also. But isn't that how most of us fund our hobby? I have picked up items cheaply at flea markets, etc, that I really didn't want just for the purpose of trading or selling it for something I really want. I think most hobbies work this way. I guess the phase "going rate" might make a difference, but I did re-sell or trade at a profit. Of course there are those many items I have bought over the years that I ended up giving away because I was the only person who thought it was a bargain at the time I bought them.

The main difference is that Coburlin does all his buying and selling in a very public way and the mark-ups seem extremely high to most of us and that irritates us.

I guess my main reason for writting this is to try to put some perspective on it. Any one of us could have also bought a fairly cheap HP-15C, 41CV, 41CX or 200LX if we had been quicker. I'm sure that many of us HAVE bought items using BIN that has also irritated Coburin when we were quicker than he was.

Several years ago, I was at a Ham Radio Ham Fest (Flea Market) and the table I was at had several TI calculators on it for sale. I wasn't interested in the TI's, but the person behind me was astute enough to ask the dealer if he had any other calculators for sale that he hadn't put out on the table. Turned out the dealer had 15 HP-41CV's with cases, modules, and other accessories. The person who had asked, ended up buying the lot for $5 each ($75 total) while I could only look on in envy. I learned a valuable lesson that day.

Time to Quit Rambling. I'm not trying to stir anyone up, so please no flames.

Thanks, Bill 12345

Re: Analysis of Coburlin

*Message #2 Posted by **I, Claudius** on 26 Nov 2005, 1:40 p.m.,*
in response to message #1 by Bill (Smithville, NJ)

A very poor analysis, because it misses the whole point of what ticks people off about this Coburlin. No one here has ever said Coburlin can't buy and sell to make a profit. What has been said is Coburlin's attitude towards his own customers is atrocious. He feels they're a bunch of dumb nerds who deserve to be taken. He even said at one point his customers were stupid. Ready to buy?

Re: Analysis of Coburlin

*Message #3 Posted by **Namir** on 26 Nov 2005, 2:21 p.m.,*
in response to message #1 by Bill (Smithville, NJ)

How many aucions where bought back by Cobubba (through other accounts) so he could drive the price of calculators up????

Edited: 26 Nov 2005, 2:22 p.m.

Re: Analysis of Coburlin

*Message #4 Posted by **Bill (Smithville, NJ)** on 26 Nov 2005, 3:49 p.m.,*
in response to message #1 by Bill (Smithville, NJ)

Just re-read my post and realize the last sentence might be mis-understood:

"Time to Quit Rambling. I'm not trying to stir anyone up, so please no flames."

The phase "Time to Quit Rambling" was made to myself, not to anyone else. I felt I had started to ramble in my post so I wrote a direction to myself. I should Ihave type "Time for me to stop rambling".

Bill 12345

Re: Analysis of Coburlin

*Message #5 Posted by **Don Shepherd** on 26 Nov 2005, 6:17 p.m.,*
in response to message #1 by Bill (Smithville, NJ)

Bill, excellent analysis. You are right, any of us could do what he does. He may be obnoxious, so what. If I see a calc I really want on Ebay, I know that serious bidders will raise the price and he will dropout. I'll bid up to my max, and that's it. Coburlin is no different than lots of professional Ebayers who have software that scans for new items and gobbles up low BINs. Que sera sera.

Re: Analysis of Coburlin

*Message #6 Posted by **Peter Geiser** on 27 Nov 2005, 5:03 a.m.,*
in response to message #1 by Bill (Smithville, NJ)

Bill

Great analysis! Thank you very much. This shows a bit about the "market" for used calculators.

> Quote:
>
> The period covers Feedback from Sept 29 thru Nov 25. During this period, he bought 50 items for $1925 plus shipping. He also sold 13 items for $2900. Not a bad profit you might say. He still has 37 more items to sell at a highly marked up price.

I think this is a very low profit for the time spent.

Assuming that shipping would take away another USD 300 - 600, net profit is around USD 400 to 700. And this is defintely low for two months. Also, storage is not yet taken into account.

Let's assume that each buy and sell takes about 1 hour. This would result in a "salary" of USD 6 - 12 per hour. Not exactly thrilling. Varying the assumptions might result in an hourly rate of up to USD 30, which still is low for self-employment.

In addition, there is always the risk associated with collector's markets. Items may go out of fashion, and you may end up with a lot of "dead capital".

What we can learn here is that buying and selling old calculators, even HPs, is not really profitable. From an economic point, there are definitely better opportunities (well, this probably depends on your level of expectation.)

In my opinion, old calculators are a matter of the heart, not an economically sound and profitable business.

Best regards
Peter

Re: Analysis of Coburlin

*Message #7 Posted by **Gonzalo Fernandez (Spain)** on 27 Nov 2005, 6:52 a.m.,*
in response to message #6 by Peter Geiser

I would like to know if he uses special software to keep the track of the auctions, because, if not, he would spend many hours in front of a computer to track the auctions, make offers of BIN,..

Re: Analysis of Coburlin

*Message #8 Posted by **Geir Isene** on 27 Nov 2005, 6:59 a.m.,*
in response to message #7 by Gonzalo Fernandez (Spain)

BIN stands for...?

Re: Analysis of Coburlin

*Message #9 Posted by **Namir** on 27 Nov 2005, 7:15 a.m.,*
in response to message #8 by Geir Isene

BIN = Buy It Now

Re: Analysis of Coburlin

*Message #10 Posted by **Namir** on 27 Nov 2005, 7:18 a.m.,*
in response to message #7 by Gonzalo Fernandez (Spain)

It see he spends much time on the PC, since he does the first bidding on many items and contacts the sellers askng them for an informal BIN value so hecan end the auction early. Cobubba is cheap! I recently outbid him on an HP71B with 32K RAM and three manuals. It was an easy win, because he was tooooo cheap in his bidding.

Edited: 27 Nov 2005, 7:19 a.m.

Re: Analysis of Coburlin: money laundry?

*Message #11 Posted by **Rafael Ramos** on 27 Nov 2005, 9:05 a.m.,*
in response to message #1 by Bill (Smithville, NJ)

a little bit of Illuminatti:

have you ever thought he might be a cop or something and is washing some "dark profits" in this way?

or may be a smugler of any kind and infortunatly choose our dear hobby to make his covert operations.

by what you told, he was able to clean up or "pass" a good amount in a fairly short time.

if he declares it, would it be good money? yes.

so, may be he never bought anything or sold anything. it´s all fake.

is it absurd?

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HP-41 Ultimate Alarm Clock v.0.6

*Message #1 Posted by **Geir Isene** on 26 Nov 2005, 12:21 p.m.*

Finally, after a massive storm of users marching in the streets for a few months and shouting "We want a new release!", we have gathered the forces of Good and accommodated our beloved users.

New release: Change log:

Added support for the WKA (WeeK Alarms) module to get daily alarms throughout the week (separate program).
Added autosnooze/double-alarms.
Switched Lbl A/a and B/b for less keypress errors in the dark.
Improved sound-feedbacks for some functions.
Added way of hearing time since alarm went off.
Several minor improvements.

Documentation and program listings are available here:

Home page: http://www.isene.com/artweb.cgi?article=009-hp41alm.txt
Project page: http://sourceforge.net/projects/hp41uac/

Re: HP-41 Ultimate Alarm Clock v.0.6

*Message #2 Posted by **Namir** on 26 Nov 2005, 2:10 p.m.,*
in response to message #1 by Geir Isene

Is there a link to download the .raw version of the 41C code?

Re: HP-41 Ultimate Alarm Clock v.0.6

*Message #3 Posted by **Geir Isene** on 26 Nov 2005, 3:28 p.m.,*
in response to message #2 by Namir

Nope.

Would you supply the .raw-files so I can put them up on the site?

Re: HP-41 Ultimate Alarm Clock v.0.6

*Message #4 Posted by **Namir** on 26 Nov 2005, 3:52 p.m.,*
in response to message #3 by Geir Isene

Give me a few days. I will try to convert the source file into a .raw file.

Re: HP-41 Ultimate Alarm Clock v.0.6

*Message #5 Posted by **Howard Owen** on 26 Nov 2005, 9:01 p.m.,*
in response to message #2 by Namir

UAC.RAW
UAC.txt
WKA.RAW
WKA.txt

The ".txt" files are the text I created the .RAW files from. I created those from the original sources by making the following edits:

- Strip line numbers and leading spaces.
- Strip asterisks from the beginning of LBLs
- Add space between "LBL" and "'blah" (Also in "GTO'blah")
- Close quotes as appropriate around alpha labels and strings
- Add space between "X<>" and "01" in "X<>01"

These changes made the source suitable for feeding to Leo Duran's 41C User Code Utility, which did the translation to .raw format.

I haven't tried to ensure that no errors crept in during the translation, so it wold be good to check that yourself before you rely on these files.

Regards,
Howard

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VAT calculations with RPN-calculator

*Message #1 Posted by **Kalevipoeg** on 26 Nov 2005, 4:51 a.m.*

I like to tell you how I became more familiar with % function of the HP12c.

VAT = Value Added Tax (in the European Union)

```
NET = GROSS/(1+(VAT RATE/100))
VAT = NET*(VAT RATE/100)
```

I wanted to write a short program which a) calculates NET amount into Y register and b) calculates VAT into X register. In this case VAT RATE is stored in R0-register. Usage: Key in the GROSS amount and press [R/S].

First I wrote the following program (16 steps)

```
01  RCL 0
02  1
03  0
04  0
05  /
06  1
07  +
08  /
09  ENTER
10  ENTER
11  RCL  0
12  1
13  0
14  0
15  /
16  *
```

Then I realized my calculator has a % function and I wrote my program again (now 7 steps)

```
01  1
02  RCL 0
03  %
04  +
05  /
06  RCL 0
07  %
```

The % function of the RPN-calculators is more useful function than I believed!

% vs. delta-%

*Message #2 Posted by **Karl Schneider** on 27 Nov 2005, 1:55 a.m.,*
in response to message #1 by Kalevipoeg

Kalevipoeg --

Good thinking! Of course, "per cent" *means* "per 100", so those are logical simplifications.

Among Voyagers, only the HP-12C and HP-10C have a "%" key as an unshifted function. I believe that "%" is much more useful in business than in science and engineering, in which "delta-%" is more useful. It makes

sense to me that the 12C would have "%" unshifted.

However, the basic scientific 10C *omitted* "delta-%", while providing "%" unshifted. Not good thinking...

Re: VAT calculations with RPN-calculator

*Message #3 Posted by **tony(nz)** on 28 Nov 2005, 1:05 a.m.,*
in response to message #1 by Kalevipoeg

Hello Kalevipoeg. Nice to see you again.

Today I learned from Wikipedia that you must be the son of Kalev :-)

Indeed it can be very handy the way % preserves Y. I once had fun using i,PV and FV (with n=1 and PMT=0) to do all shopkeeper markup/markdown calculations, which parallel VAT/normal_tax(eg income tax) calculations. The markdown and income tax percentages need to be entered as negative. It takes a bit of getting used to as PV and FV have opposite signs, but we usually know which is the larger. And then PV+FV gives the amount of the tax for example. Yes, I remember now, last year in Datafile V23N2P14/15, I wrote about this - also showing how to calculate markup given markdown, and vice-versa.

So you could set FV=GROSS, i=VAT RATE. Then solving for PV gives -NET. You can input any two, and solve for the third - not that this is very useful, except if you are a tax consultant or a shopkeeper :-) But it is fun to try and do many calculations, actually seen in daily life, with one equation: PV*(1+i/100)+FV=0.

BTW I have submitted some 12C games to HPCC Datafile and I mention your name in bold when presenting lunar lander, referring folk to your Moon Landing Simulator as published here early last month. I hope you don't mind - I never thought to ask!

Cheers, Tony

Re: VAT calculations with RPN-calculator

*Message #4 Posted by **Kalevipoeg** on 28 Nov 2005, 1:45 a.m.,*
in response to message #3 by tony(nz)

Thank you Tony. I'm happy you mentioned my name. Thanks.

About VAT calculations

Why did I want to calculate NET amount into Y register and VAT into X register?

Answer: Now I can use Sigma+ to calculate totals if necessary.

Edited: 28 Nov 2005, 7:41 a.m.

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HP Codes for other countries

*Message #1 Posted by **Bill Lafferty** on 26 Nov 2005, 12:13 a.m.*

On reading the manual for my HP 82240B infrared printer, it says to use a HP 82241Ax AC adapter "where x is a letter designating various models for other countries."

Does anyone know what the letter for our Australian 240 V AC power supply is? I think it is "G", but would like to confirm this. Is there some sort of table available listing all the letters used by HP for other countries? Thanks.

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New root-seeking algorithm

*Message #1 Posted by **Namir** on 25 Nov 2005, 11:21 p.m.*

I presented this new root-seeking algorithm (I call it the Quartile algorithm) at the HHC2005 conference It isa root-bracketing method that improves on the Bsection method:

```
Given: Root bracketing guesses A and B
       Tolerance Tolr


P-Code:


Let alpha = 0.25
Let FA = F(A)
Let FB= F(B)
Do
  If ABS(FA) < ABS(B) Then
    Xm = A + alpha * (B - A)
  Else
    Xm = A + (1 - alpha)*(B - A)
  End


  Let Fm = F(Xm)
  If Fm * FA > 0 Then
    A = Xm
    FA = Fm
   Else
     B = Xm
     FB = Fm
   End
 Loop Until Abs(A - B) < Tolr
 Root = (A + B) / 2
```

J. P. Moreau has implemeted the Quartile algorithm in BASIC, C++, and other languages. The BASIC code is found here

Re: New root-seeking algorithm

*Message #2 Posted by **Marcus von Cube, Germany** on 26 Nov 2005, 5:05 a.m.,*
in response to message #1 by Namir

Namir,

> Quote:
>
> ```
> Do
>   If ABS(FA) < ABS(B) Then
> ```

I assume you mean:

```
Do
  If ABS(FA) < ABS(FB) Then
```

Can you elaboreate a little about the heuristics behind the algorithm?

Marcus

Re: New root-seeking algorithm

*Message #3 Posted by **Namir** on 26 Nov 2005, 7:22 a.m.,*
in response to message #2 by Marcus von Cube, Germany

You are correct. Here is the correced p-code:

P-Code:

```
P-Code:


Let alpha = 0.25
Let FA= F(A)
Let FB= F(B)
Do
  If ABS(FA) < ABS(FB) Then
    Xm = A + alpha * (B - A)
  Else
    Xm = A + (1 - alpha)*(B - A)
  End


  Let Fm = F(Xm)
  If Fm * FA > 0 Then
    A = Xm
    FA = Fm
  Else
    B = Xm
    FB = Fm
  End
Loop Until Abs(A - B) < Tolr
Root = (A + B) / 2
```

Re: New root-seeking algorithm

*Message #4 Posted by **Namir** on 26 Nov 2005, 2:08 p.m.,*
in response to message #3 by Namir

The most common two root-braketing methods are:

1. The Bisection method.This method compares the sign of function values.
2. he Reguli alse method uses the function values are weights to determine the new guess.

The Quartile method compares the absolute funcion values to determine the next guess. Thus, its approach lies somewhere in between the above two methods. If you look at the p-code an change alpha to 0.5, you get the Bisection method.

Thus, the Bisection method is a special case of the Quartile method, where the new guess is systematically taken as the middle of the root-bracketing interval.

Edited: 26 Nov 2005, 2:09 p.m.

Re: New root-seeking algorithm

*Message #5 Posted by **Patrick** on 3 Dec 2005, 10:59 p.m.,*
in response to message #4 by Namir

Sorry, Namir, I don't mean to be impolite, but so what?

It is relatively simple to develop umpteen variations on a theme, the question is whether or not one

of these variations is actually better in some way.

Are there any analyses which motivates the choice of alpha = 0.25? In what categories of problems does this algorithm work better than others? How much better? Does it converge more frequently than others? Is it faster?

Re: New root-seeking algorithm

*Message #6 Posted by **Namir** on 10 Dec 2005, 9:24 a.m.,*
in response to message #5 by Patrick

The Bisection method is a reliable method despite it's slowness. Often, complex root-seeking implementation use a combination of Newton (or similar/better methods) with he Bisection as a backup plan in case Newtons method yield guesses that stray away.

The Quartile method is a root-bracketing method that is better than the Bisection. The value for alpha can be in the range of 0.25 and 0.3. Th Quartile algorithm uses a slightly different approach--compares the absolute values of the functions at interval [A. B]. The Quartile methd is not a variant of Bisection. Te Bisection is a special case of the Quartile method (setting alpha to 0.5).

The method of False-Position is the next higherup root-bracketing method that uses the function values as weights. This algorithm does not systematically shrink the interval containing the root. To stop iterating, you compare the current new guess with the last new guess.

If you are going to resort to the Bisection method as the main or backup method, then you can replace it with the Quartile method to have fewer iterations. The reduction in iterations depends on the function and the initial root-bracketing interval.

Newtons method is popular in root solving. It uses calls to teh functio and it's first derivative. The Haily method is generally better than Newton's. It calls the function and its first two derivatives. The Householder method is even faster, but calls n he fucntion and it's first three derivatives! By using function calls to approximate the derivatives, I found that Haily's method is in general the optimum method (considering iterations and function calls).

Parick, I welcome your suggstions for root-seeking algorithms (both variants of other methods or original algorithms). I think the subject is fascinating and I am interested in all sugegstions.

Namir

Edited: 10 Dec 2005, 9:28 a.m.

Re: New root-seeking algorithm

*Message #7 Posted by **ECL** on 10 Dec 2005, 10:26 p.m.,*
in response to message #6 by Namir

Namir,

I too am interested in root methods. I am not familiar w/ Householder method.

I am dealing with simple methods (modified false position, newton-raphson..). I prefer non-symbolic derivative evaluation due to using primarily the 33s. Although this can be overcome with use of divided difference approach.

Re: New root-seeking algorithm

*Message #8 Posted by **Namir** on 10 Dec 2005, 10:39 p.m.,*
in response to message #7 by ECL

```
Th Householder method is relatively new. Like Newton's and Haily's
methods it is based on te Tayler's expansion. The Householder methods
includes up to the third derivative.


Atributes of method:


+ Very fast convergence rate
+ Requires first, second, and third function derivatives!
+ Using derivative approximation methods results in five function calls
per iteration
+ Compared to other methods, this method has fewer iterations but a high
number of function calls
+ Basic Householder iteration uses:


X = X - f(X){[f'(X)^2 - f(X) f''(X) / 2]/[f'(X)^3 - f(X) f'(X) f''(X) -
f'''(X) f(X)^2 / 6]}


where f(x) is target function (f(x) = 0)
f'(x) is the first derivative
f''(x) is the second derivative
f'''(x) is the third derivative


Pseudo-code:


Obtain initial guess x and Tolerance
Obtain or set value to MaxIterations
Clear Diverge flag
Set IterCount = 0
Loop
        Increment IterCount
        If IterCount > MaxIterations Then Set Diverge flag and exit loop
        h = 0.01 * [1 + |x|]
        f0 = f(x)
        fp1 = f(x+h)
        fp2 = f(x+2h)
        fm1 = f(x-h)
        fm2 = f(x-2h)
        D1 = (fp - fm) / (2h)
        D2 = (fp - 2f0 + fm) / (h*h)
        D3 = (fp2 - 2 * fp1 + 2 * fm1 - fm2) / 2 / h ^ 3
        diff = f0 * ((f0^2 - f0 * D1 / 2)/(f0^3 - f0 * D1 * D2 - D3 *
f0^2 / 6]}
        x = x - diff
Until |diff| < Tolerance


Return root as x and Diverge flag
```

Edited: 11 Dec 2005, 8:38 a.m.

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Escape the NCEES grip via Aero?

*Message #1 Posted by **ECL** on 25 Nov 2005, 11:09 p.m.*

With regards to NCEES and the calc policy, it appears that aerospace engineers are exempt from licensing.

As much as I like the 33s for its daily utility, I am partly employing it to remain unspoiled when it comes time for the EIT exam. My work experience as a student has been entirely aerospace/structures related. I intend to remain in this area, but my BS is in mechanical engr.

I find it interesting that the PE is required to contract in most cases even in aerospace. I can't help but envy my aero-colleagues...no EIT -> no HP ban.

Then again, our applicability as MEs' is broader. ECL

Re: Escape the NCEES grip via Aero?

*Message #2 Posted by **Norris** on 26 Nov 2005, 1:24 a.m.,*
in response to message #1 by ECL

NCEES currently offers PE exams in 16 engineering disciplines, plus the PS exam for surveyors. Individual states may offer any or all of these NCEES exams. In addition, some states develop their own PE exams in disciplines not addressed by NCEES.

However, NCEES does not offer a PE exam in aerospace engineering, and I don't think that any state has one either. Aerospace engineers would typically work under the "industrial exemption", and would therefore not need to be licensed. An aerospace engineer that did pursue licensure would most likely take the ME PE exam.

For most US engineers -- with the exception of civils -- licensure exams and NCEES calculator rules are optional. Only about 20% of US engineers will ultimately become licensed, and the majority of those will be civils. For non-civils, the percentage of licensed engineers would be even lower, probably less than 10%.

Re: Escape the NCEES grip via Aero?

*Message #3 Posted by **Bob** on 26 Nov 2005, 10:50 a.m.,*
in response to message #1 by ECL

> Quote:
>
> With regards to NCEES and the calc policy, it appears that aerospace engineers are exempt from licensing.

I beleive that Aeros are exempt from licensing only if they work for a company under the industrial exemption.

If an aero plans on starting a business offering their services to the public or working as a consultant while holding themselves out as an engineer, I am pretty sure that they will need the P.E.

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49g+ Costco deal

*Message #1 Posted by **Bobby** on 25 Nov 2005, 8:15 p.m.*

I saw this deal on Costco.com, the Hewlett Packard 49G+ Graphing Calculator & **free** 512MB SD Memory Card bundle Item # 801548 for ~$115. It think it only runs from the 25-27th. Note: I don't work for Costco etc... appologies if this is mistaken for a shameless plug.http://www.costco.com/images/content/misc/PDF/801548.pdf

Re: 49g+ Costco deal: The 49+ Still Has Reported Problems

*Message #2 Posted by **I, Claudius** on 25 Nov 2005, 9:23 p.m.,*
in response to message #1 by Bobby

Google group comp.sys.hp48 still has reports of key problems even with the latest hardware and ROM:

http://groups.google.com/group/comp.sys.hp48/browse_frm/thread/72ae5af6c53b4a68/c82861c133a201a8#c82861c133a201a8

I wouldn't touch another 49+ until these problems are completely cured.

Re: 49g+ Costco deal: The 49+ Still Has Reported Problems

*Message #3 Posted by **ECL** on 25 Nov 2005, 11:14 p.m.,*
in response to message #2 by I, Claudius

I Claudius,

I have the recently posted ROM upgrade installed on my 49g+.

My initial complaint was the 'missed keystroke' issue.

Now, my problem appears to be some form of key bounce. I have set KEYTIME at 4097 (appears to be the max), yet I can still frequently get too many hits on just one stroke.

My machine is the earlier one, however:

CN40600229

Just some cents.

I'd love to get involved with this machine, but its got a little bit further to go before I give a new one a shot. ECL

Re: 49g+ Costco deal: The 49+ Still Has Reported Problems

*Message #4 Posted by **Arnaud Amiel** on 26 Nov 2005, 3:47 a.m.,*
in response to message #3 by ECL

The KEYTIME does not have any effect (is not implemented) on the 49g+.

Arnaud

Latest hardware has problems? Show us please.

*Message #5 Posted by **Matt Kernal (US)** on 26 Nov 2005, 1:37 p.m.,*
in response to message #2 by I, Claudius

Hi,

I must be missing something. Per "I, Claudius"'s previous link, I don't see any posts referring to problems with the new hardware. If anything, I read that missing keystrokes have been fixed, but duplicate keystrokes may now be a issue with ROM >= 2.00. I'm sorry, but I don't see any reference to the new hardware having problems. I've read, and re-read the thread. I don't see it.

Here is another thread that refers to a new plastic material being used in the keyboard construction:

[link:http://groups.google.com/group/comp.sys.hp48/tree/browse_frm/thread/10226908ccc3edb7/6b55da5033219860?rnum=1&q=plastic+cyrille&_done=%2Fgroup%2Fcomp.sys.hp48%2Fbrowse_frm%2Fthread%2F10226908ccc3edb7%2Fd943ce9ff42d9de9%3Fq%3Dplastic+cyrille%26rnum%3D2%26#doc_3085126a7372fbd9]Link[/link]

This is good news. The firmware can be addressed.

Bye, Matt

The Resultant Product Has Still Has Problems

*Message #6 Posted by **I, Claudius** on 26 Nov 2005, 1:51 p.m.,*
in response to message #5 by Matt Kernal (US)

It has never been completely determined if the keyboard problems were hardware, software, or a combination of both. KinHPo's approach has been somewhat shotgun, hit 'em both. If there are continuing keyboard problems, they may be hardware related. Ultimately, the resultant product still has problems, and no one should have to pay money to be a KinHPo guinea pig, which is really my point.

Re: The Resultant Product Has Still Has Problems

*Message #7 Posted by **John Limpert** on 27 Nov 2005, 12:27 p.m.,*
in response to message #6 by I, Claudius

I'm on my second HP-49G+, a warranty replacement for an early production model with a flakey keyboard, with the latest ROM, and it still has keyboard problems. I don't trust it and I rarely use it.

The Original 49 Is Better

*Message #8 Posted by **I, Claudius** on 27 Nov 2005, 5:02 p.m.,*
in response to message #7 by John Limpert

How interesting! It won't bother a bit if I never get another 49+.

I've come to really like the original HP49, so well in fact I've bought several new in box old stock units off eBay. The rubber keys, while a bit goofy, work just fine. The redundant upper screen is easily removed and replaced with a piece of wallboard insulation cut out with an exacto blade. Paste on some HP decals, and it looks quite good. Store a copy of all your files/programs in Port 2 and you have a crash proof calc. It has more built-in, out of the box commands than a TI89. The CAS, while not perfect, is darn good for a handheld. The equation and matrix writers are outstanding. Since it's basically a 48 with rewritten software and more memory, battery life is excellent. Any engineer is well-armed with one.

Original 49 Is Better?

*Message #9 Posted by **Howard Owen** on 27 Nov 2005, 6:31 p.m.,*
in response to message #8 by I, Claudius

I'm on my first and only 49G+. With ROM 2.0, it works great. The serial number is CNA 51000... I didn't have the 1.X ROM on it long enough to know whether there was a problem there or not.

It seems some machines do well, while others don't. I can sympathize with someone thinking about buying one, given the uncertainty. I bought mine in blissful ignorance, and got away with it. I don't know if I'd take the plunge now, if I hadn't then, since I use these machines for fun.

But while I think my 49G looks nicer, with a more pleasing color scheme, I have to say it isn't very legible when compared to the 49G+ The color scheme on the + may be lacking in designer flair, but it is certainly easier to read. The larger display is a nice ergonomic touch, too. The nice speedup in some (but not all) functions is welcome as well. I also like USB file transfer, or SD card sneaker net as compared to the 48G's slow kermit at 96K. All of these things are easy to appreciate - if you have a working machine.

Regards,
Howard

HP-49G vs. KinHPo 49G+

*Message #10 Posted by **Karl Schneider** on 27 Nov 2005, 7:24 p.m.,*
in response to message #8 by I, Claudius

I bought a new HP-49G at full price from Fry's in 2002, when the rumors on this Forum were that HP would discontinue its calculator product line, with uncertain future plans. I detested the appearance of the 49G, and knew I could get a better deal on eBay. However, I wanted to secure a complete, latest, and fully-functional example of what might have been HP's last-ever calculator model, and to reward one retailer that continued to carry the advanced HP scientifics. (I had also bought one of the last five HP-32SII's they had in stock, not too long prior).

It must be acknowledged that the appearance, speed, and some features of the 49G+ represent a substantial improvement over the 49G. However, a 49 in any flavor is still an over-complicated, user-unfriendly design, with inadequate in-package printed documentation, and which will never be more than a collector's toy to me. I'd never use one at work, or in a collegiate or professional exam (even if the rules allowed me to).

Even though the 49G has some annoying minor bugs (even in the lastest ROM version), it generally works as expected. I would never buy a calculator with an unreliable keyboard, and am disinclined to buy one that is based upon an unsound design.

-- KS

Re: HP-49G vs. KinHPo 49G+

*Message #11 Posted by **Howard Owen** on 27 Nov 2005, 8:11 p.m.,*

in response to message #10 by Karl Schneider

Well, you know what *I'd* like in a high-end HP calc. But I'm unlikely to get a return of keystroke programming on the high end from HP. So there the 49G+ sits, at the top of HP's line of calculators, just daring the gadget head in me (right around 75% of the total!) to ignore the problems and plunge in. It's a siren's song, and I just can't resist. Perhaps when I get good at SysRPL, some time in the next couple of decades, I'll write what I consider to be the definitive integration of keystroke programming with the existing RPL models. However that turns out, I'll keep playing with the 49G+ for now, if only to keep my hand in for the next high-end machine.

Regards,
Howard.

Re: HP-49G vs. KinHPo 49G+
*Message #12 Posted by **I, Claudius** on 28 Nov 2005, 12:01 p.m.,*
in response to message #10 by Karl Schneider

I went through several 49+s, all bad. A friend of mine was a beta-tester of the original 49, I got to play with it a lot, so I know the machine pretty well. I can understand your not liking it, the case was/is ugly, the documentation was abysmal, and the responses to bug reports from the development team were rude. I can remember threads of nothing but flames between disappointed users and the developers on comp.sys.hp48. Over time most of the bugs were taken care of. Sales were not as expected, some 180,000 total units worldwide, but that is nothing compared to sales of the 12C and 48. By that time HP was disenchanted, fired everyone, and basically dismantled the whole division.

My schooling isn't that distant from your era, but I abandoned basic scientifics when more advanced ones such as the 48 came out. I loved my old 48SX, did a lot with it. But it's now retired too. I always use the best possible tools for whatever task is at hand. Life's too short to go poorly equipped for anything.

Re: HP-49G vs. KinHPo 49G+
*Message #13 Posted by **bill platt** on 28 Nov 2005, 6:15 p.m.,*
in response to message #12 by I, Claudius

> Quote:
>
> Life's too short to go poorly equipped for anything.

which is exactly why spending time to figure out the 48/49 seems a waste..when what it offers above a basic scientific programmable is all better handled on a real computer.

(I have a couple 48gx and a 49 but mostly out of curiosity and a once-strong desire to learn them--a desire which has faded mostly.

The most useful thing about the 48 is that I can emulate a 41 with it thanks to Hrastprogrammer)

Apparently from what I can gather, the 48/49 is still an apex tool for civil engineering type survey work--so I know that for some, it is the *best* possible tool.

Edited: 28 Nov 2005, 6:18 p.m.

Re: HP-49G vs. KinHPo 49G+
*Message #14 Posted by **I, Claudius** on 29 Nov 2005, 8:53 a.m.,*
in response to message #13 by bill platt

<The most useful thing about the 48 is that I can emulate a 41 with it

The 41 was a fine machine in its time, and many loved it, including my dad. But to use a 48 as an emulator for a 41... do you emulate an Underwood typewriter on your pc?

Re: HP-49G vs. KinHPo 49G+
*Message #15 Posted by **bill platt** on 30 Nov 2005, 12:09 p.m.,*
in response to message #14 by I, Claudius

Well, that's not a fair comparison.

The reason for emulating a 41 is that it has a "language" that I already know (well, I know the voyager "language" which is very close). The keystroke approach is more than adequate for a lot of stuff, and so I don't have to waste my time learning something else that is only a tool. I can put my efforts into learning more important things instead.

In the case of the typewriter, the "language" has not changed--only the hardware.

I already spent too much time trying to learn RPL and I decided it is more efficient for me to "cut and run" on that.

Edited: 30 Nov 2005, 12:10 p.m.

Re: HP-49G vs. KinHPo 49G+

*Message #16 Posted by **I, Claudius** on 30 Nov 2005, 12:23 p.m.,*
in response to message #15 by bill platt

< That's not a fair comparison.

It's a very fair though tongue in cheek analogy. You set yourself up for it and I just couldn't resist poking at you, but I meant no offense. Your reasoning is perfectly valid: you like what you know. And it's your right to do whatever you wish with your machines. It's almost December, Christmas is getting close, my favorite time of year. Have a happy Holiday season.

Re: HP-49G vs. KinHPo 49G+

*Message #17 Posted by **Howard Owen** on 30 Nov 2005, 1:35 p.m.,*
in response to message #16 by I, Claudius

> Quote:
>
> < That's not a fair comparison.
>
> It's a very fair though tongue in cheek analogy.

Let's see:

```
          Underwood (manual)          PC Computer (Laptop, Thinkpad T40)


Power            Muscle               AC and/or DC
Characters       ~200                 Multiple 1000s (unicode)
Display          Paper                1400x1080 LCD, external XVGA
CPU              Brain (speed varies) Mobile Pentium IV @ 2+ GHz
OS               Brain                Windows, Linux. Solaris, BeOS etc.
Applications     1                    Unlimited
```

Comparable? Sort of. How about the calculators?

```
                 HP41-CX              HP48-GX
Power            4 "N" cells/AC       3 "AAA" cells
Characters       <128 (ASCII subset)  Multiple 1000s (unicode)
Display          1 line LCD           Multiline LCD
CPU              "Nut" @ 638 KHz      "Saturn" @ 2MHz
OS               HP prop. RPN         HP prop. RPL
Applications     Unlimited            Unlimited (bigger infinity)
```

The 48 comes off well in this comparison. That's because the comparison isn't laughable, like the first one.

Merry Christmas to you as well, Claudius Drusus. 8)

Re: HP-49G vs. KinHPo 49G+

*Message #18 Posted by **bill platt** on 30 Nov 2005, 1:52 p.m.,*
in response to message #16 by I, Claudius

> but I meant no offense.

None taken :-)

Re: HP-49G vs. KinHPo 49G+

*Message #19 Posted by **ECL** on 28 Nov 2005, 5:19 p.m.,*
in response to message #10 by Karl Schneider

Karl,

I presume you'd lean toward the 33s if required to use a now-in-production model. The only functional issue as I see it is the inclusion of matrix capabilities. How do you handle this? ECL

HP-33S and matrices

*Message #20 Posted by **Karl Schneider** on 28 Nov 2005, 9:39 p.m.,*
in response to message #19 by ECL

ECL --

I do have an HP-33S (with bugs and bad display). I also have an HP-15C and HP-42S, which I would use for matrix operations. I don't think it's really worth the effort to develop matrix functions for

the 33S, although it could be done.

-- KS

Re: HP-33S and matrices
*Message #21 Posted by **Ed Look** on 29 Nov 2005, 12:06 a.m.,*
in response to message #20 by Karl Schneider

Weeellll...

... is that so, Karl? There is a fair bit of memory even if a tad short on labels and registers...

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Nice 71 for sale on Ebay - anyone interested?

*Message #1 Posted by **Jim Creybohm** on 25 Nov 2005, 12:33 p.m.*

No, this is not my 71 for sale. It does look very nice, and it is complete with manuals, etc. I would also like to see the current high bidder not win (corrbubba - or whatever).

I am unable to bid because I live outside the US.

http://cgi.ebay.ca/ws/eBayISAPI.dll?ViewItem&item=5832632881

My apologies in advance if anyone finds this offensive, but there has been a lot of complaining about this person's ethics, etc. I think this might be one way to address said ethos.

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Another Great Coburlin Deal

*Message #1 Posted by **I, Claudius** on 24 Nov 2005, 11:06 a.m.*

Buy It Now for $229 and you can be the proud owner of this for parts quality machine:

http://cgi.ebay.com/HP-11C-Scientific-Calculator-with-Case-Manual_W0QQitemZ5831018142QQcategoryZ58039QQrdZ1QQcmdZViewItem

And for just $329 you can have a Buy It Now 15C with a bad key:

http://cgi.ebay.com/HP-15C-Scientific-Calculator-with-Case-Manual_W0QQitemZ5832868211QQcategoryZ58042QQrdZ1QQcmdZViewItem

Edited: 24 Nov 2005, 11:20 a.m.

Re: Another Great Coburlin Deal

*Message #2 Posted by **Namir** on 24 Nov 2005, 12:16 p.m.,*
in response to message #1 by I, Claudius

I am a bit confused so pleaase bear with me! Is Cobubba **ASKING** to be paid or is he wlling to **PAY THE STATED AMOUNTS** so you can hall the piece of trash in the auctions??

In either case, you will get a mouse instead! That's morphing for you!!!

Edited: 24 Nov 2005, 12:18 p.m.

Re: Another Great Coburlin Deal

*Message #3 Posted by **inaki** on 24 Nov 2005, 4:06 p.m.,*
in response to message #1 by I, Claudius

The question is: is anyone buying these items ? Coburlin is selling at these prices for months so I guess someone is buying.

Edited: 24 Nov 2005, 4:07 p.m.

I'd guess....

*Message #4 Posted by **Vieira, L. C. (Brazil)** on 24 Nov 2005, 4:32 p.m.,*
in response to message #3 by inaki

... that it is easy to do business like this. Find a couple of friends anywhere in the US and have a fair arrangement with them:

(Coduba all the way) "I announce an item and you all go higher and higher bids all along; at the moment a duck gets into the circuit, you all leave the trail and let the duck alone. Otherwise, have any of you won because no duck was in, I'll send you a payment order in the corresponding value, from someone else´s

bank account. Or we can arrange another item so the one amongst you that won the last one will announce this so-called new item and I'll bid back till I reach the previous item´s value. Well, if a duck falls in this time, better for us! He, he, he... All of the ducks around will think: 'If these guys pay so much money for these items, they must be special!' And we will rise their prices till no one else buys them, so we can reduce them a bit so the circle closes on itself. And for as long as we keep doing it smoothly, the closer to reality it will be."

Any other idea?

Cheers.

Luiz (Brazil)

Edited: 24 Nov 2005, 4:35 p.m.

Re: I'd guess....

*Message #5 Posted by **Namir** on 24 Nov 2005, 5:03 p.m.,*
in response to message #4 by Vieira, L. C. (Brazil)

Luiz,

Several years ago I came to realize that my life should revolve around two simple principles--love myself (and others)and respect myself. Part of this principle that applies to this website is enjoying the information about programming that other fine folks post here. Also, it's using that information to develope and improve on algorithms and/or programs in various languages and for various machines and OSs.

Right now, I am having fun (re)learning how to program in RPL and especially for the HP-49G+. I hope to submit some of these programs to Dave Hicks for publishing. I hope that folks on this web site can emjoy them too.

As for Cobubba's rambling about hs auction ... **I COULD NOT CARE LESS!**

So I say let's focus on sharing our love and dedication for algorithms, RPN. RPL, and other development tools. Life is too short to be wasted it on idiots.

Namir

Could not agree more...

*Message #6 Posted by **Vieira, L. C. (Brazil)** on 24 Nov 2005, 10:05 p.m.,*
in response to message #5 by Namir

... and Namir, thanks for calling me back. Sometimes you hear so much noise that you feel compelled to cry out loud as if you need to hear some sound coming out of your own mouth.

Thanks again.

About your programs, I'll surely enjoy reading the listings. You see, programmable 'anything' behaves the way programmers want (when they know how to) without physically changing. This is beautiful, whatever language or paradigm we use ('ll stop here before starting new daughter-threads...)

Cheers.

Luiz (Brazil)

Edited: 24 Nov 2005, 10:31 p.m.

Re: I'd guess....

*Message #7 Posted by **Peter Geiser** on 24 Nov 2005, 5:27 p.m.,*
in response to message #4 by Vieira, L. C. (Brazil)

Well, it's pretty simple.

He just bought a HP80 in good working condition, in original hard case, with manuals etc. for USD 51. Nobody else was willing to buy at that price. Too bad (and yes, I also missed the auction :-(

If you mourn that you didn't buy, you can now buy it from Coburlin for USD 349 adn USD 475, respectively.

It's plain business: Coburlin buys low and sells high. You could have bought the hp80 for USD 60 (or 70, or whatever Coburlin was bidding), and now (try to) sell it for USD 500. It's your free choice.

Whether someone buys or not, that is another question.

As for buying at Coburlin's prices: depending of your goals, it may actually be a very good deal. If you are very short of time, and get paid by the hour as a consultant or a lawyer, it may be worth not spending several hours for an inexpensive machine, but rather shell out the big bucks and get the goods delivered immediately. Again, it's a matter of personal preference (although not mine.)

Best regards
Peter

Re: I'd guess....

*Message #8 Posted by **blurdybloop** on 25 Nov 2005, 2:47 p.m.,*
in response to message #7 by Peter Geiser

It isn't just "buy cheap and sell dear." It's everything else that he does.

He evidentally has considerable social engineering skills to convince people to sell to him without allowing the auction to run its course. It's one thing if the seller was foolish and posted a ridiculously low BuyItNow price; it's quite another when he talks a naive seller into setting such a price or to close the auction early.

He cheats. Many of us have noted how he changes his auctions at the last moment to a cheap mouse in order to avoid paying the listing fees for his overpriced items.

I wouldn't be surprised if he also cheats the IRS and the California Franchise Tax Board. Someone should alert these agencies that he may not be reporting all his profits.

Last (and least) he openly states his contempt for the community.

Pissing into the community well pollutes the water for everybody else. Draining the well of much of its clean water before pissing into it makes the pollution worse. Even if the well renews its water and presently becomes clean again, there is only so much abuse that it can take.

Coburlin is a well-pisser. He undercuts the good will that is necessary for any hobbyist community. I've seen too many hobbyist communities die because of well-pissers; or worse, they react by

becoming closed secret communities with nearly-impossible barriers to entry.

MOHPC is a wonderful resource to defend the well and its water. Nevertheless, I see the bad signs. The moment we stop caring that someone is pissing in our well is the moment we stop caring about newbies.

Hopefully, this particular well-pisser will eventually move on and piss in someone else's well.

Re: Coburlin Reveals Himself Here

*Message #9 Posted by **I, Claudius** on 25 Nov 2005, 9:33 p.m.,*
in response to message #8 by blurdybloop

In reading the ad I found I found one phrase interesting: his description of the item being "worned" shows at least some lack of education. His admitted disdain for engineers and his pricing seems to be almost revenge oriented. Yet, he seems to have enduring interest in old HPs. I think Coburlin is one of those who failed to become an engineer, indeed, probably failed to get any sort of degree. So, he strikes back with an almost bizarre series of eBay sales of overpriced junk. Life is crazy sometimes...

Edited: 25 Nov 2005, 9:34 p.m.

"Coburlin-gua"

*Message #10 Posted by **K** on 25 Nov 2005, 10:27 p.m.,*
in response to message #9 by I, Claudius

> Quote:
>
> In reading the ad I found I found one phrase interesting: his description of the item being "worned" shows at least some lack of education...

Another characteristic of "Coburlin-gua" is the omission of conjunctions: For example, battery contacts are described as "clean shiny" instead of "clean *and* shiny".

Of course, all of his calculators "work great as shown", even though only a static display can be shown in a photo, giving very limited evidence of functionality.

-- KS

Re: I'd guess....

*Message #11 Posted by **Coburlin** on 27 Nov 2005, 1:10 p.m.,*
in response to message #8 by blurdybloop

> Quote:
>
> I wouldn't be surprised if he also cheats the IRS and the California Franchise Tax Board. Someone should alert these agencies that he may not be reporting all his profits.

So buy one of my mice and report me to the IRS, see where it gets you.

Re: I'd guess....

*Message #12 Posted by **Cobubba** on 27 Nov 2005, 1:33 p.m.,*
in response to message #11 by Coburlin

That's my "good" twin talking. Don't believe a word he says!

Edited: 27 Nov 2005, 1:33 p.m.

How many people have bought items from Coburlin

*Message #13 Posted by **Chris Dean** on 29 Nov 2005, 1:39 p.m.,*
in response to message #12 by Cobubba

Although everybody berates this person but how many people in this 'community' have purchased items from him? I am no lover of, excuse me, 'well-pissers' but he did bid on one of my items which I did not consider to be junk.

Edited: 29 Nov 2005, 1:40 p.m.

Re: How many people have bought items from Coburlin

*Message #14 Posted by **I, Claudius** on 29 Nov 2005, 2:27 p.m.,*
in response to message #13 by Chris Dean

You got a Coburlin bid? That and a buck will get you a cup of coffee at 7-11. Let me guess, he was his typical low-bid self...

Re: How many people have bought items from Coburlin

*Message #15 Posted by **Chris Dean** on 29 Nov 2005, 2:33 p.m.,*
in response to message #14 by I, Claudius

It was a low bid and then no more!

Re: How many people have bought items from Coburlin

*Message #16 Posted by **coburlin** on 29 Nov 2005, 4:00 p.m.,*
in response to message #14 by I, Claudius

Many people find my bids worth taking. It just you calculator nuts that get annoyed. I can live with that.

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HP41CX halfnut circuit diagram

*Message #1 Posted by **Christoph Klug** on 24 Nov 2005, 3:15 a.m.*

Dear HP41 enthusiasts,

I am looking for the circuit diagram for the HP41CX halfnut version.

Searching an electrolythic condensor which is wired in parallel to the +UBatt terminals. I want to supply the upper housing shell of the halfnut on the workbench - without using the original battery holder

I use this setup for replacing the internal silicium battery cell from a HP41CY (HP41CX halfnut with internal RAM-Box)....

Regards - Christoph Klug

Re: HP41CX halfnut circuit diagram

*Message #2 Posted by **Tony Duell** on 24 Nov 2005, 6:31 a.m.,*
in response to message #1 by Christoph Klug

I certainly have it (I have the full 41 service manual which seems to cover all versions, fullnut and halfnut). I thought it was on TOS.

However, there are no PCB layouts in said manual (component-level repair was not supported by HP), so it's not going to be a lot of help in finding the battery connections. I have powered up a halfnut by connecting wires to the logic PCB, I seem to remember tracing the connections from the contacts for the I/O flexiprint.

It's been a long time since I did this, so check this carefully, but I seem to remember that the -ve battery contact is the -ve side of the largest capacitor on the board, and the +ve side goes to one of the connections to the 2 diodes soldered together near that capacitor.

Re: HP41CX halfnut circuit diagram

*Message #3 Posted by **Christoph Klug** on 24 Nov 2005, 7:43 a.m.,*
in response to message #2 by Tony Duell

Dear Tony,

thanks for your answer - I hoped that I get an input from your side :-)

On which page of the HP41C/CV/CX service manual I will find the wiring diagram for the 41CX halfnut ? Please give me this number - than I am able to download this page from TOS.

Regards - Christoph

Re: HP41CX halfnut circuit diagram

*Message #4 Posted by **Tony Duell** on 24 Nov 2005, 8:05 a.m.,*
in response to message #3 by Christoph Klug

I should learn to check before posting...

While the service manual is on TOS, for some reason the halfnut diagrams are missing. I am sure they are in my paper copy...

Let me check and get back to you...

Hope this helps for now...

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 25 Nov 2005, 12:46 a.m.,*
in response to message #4 by Tony Duell

Hi, Christoff;

I once dismantled an HP41CV halfnutt and powered it with an external battery arrangement. I was able to produce some good images with my scanner (had no digital camera t that time), as you can see:

http://www.logeng.com.br/images/halfnut_mainboard.jpg
http://www.logeng.com.br/images/capacitor_halfnut.jpg

If the big capacitor is the main capacitor, it is identified as a 470uF by 6 dot something volts. The DC wiring is also visible in the upper part of the bigger image (red - positive; black - negative).

I have no other picture for now, just let me know if you need some extra images.

Best regards.

Luiz (Brazil)

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Help with charging HP 75D

*Message #1 Posted by **Bill Lafferty** on 23 Nov 2005, 10:35 p.m.*

I've recently acquired a 2nd hand HP-75D - unit only, no accessories. There is nothing in the handbook to stipulate the charger/adapter to plug into an Australian (240 AC) power supply to charge it. Can anyone advise the input/output required, in other words can we use a HP 82068B AC adapter/recharger to charge the HP-75D.

Re: Help with charging HP 75D

*Message #2 Posted by **Howard Owen** on 23 Nov 2005, 11:13 p.m.,*
in response to message #1 by Bill Lafferty

Yes, that's the one. The US equivilant is the 82059B. They used that adapter with a huge number of computers, calculators and peripherals, including the HP-75C/D.

Edited: 23 Nov 2005, 11:14 p.m.

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PRM-85 boards for HP-85/87 now shipping

*Message #1 Posted by **john** on 23 Nov 2005, 7:12 p.m.*

Hi,

Thanks to Bill Kotaska the first PRM-85 board (a clone of the Series 80 Programable ROM module) has been sold to an HP-85 user in the UK, and those people who replied first (from the USA and France) will be pleased to know their boards are nearly ready to be shipped. E-mails will go out in a week or so to confirm.

Bill actually plans to have two boards more than the number already reserved, so I am delighted to ask if anyone is interested in buying one for $100 (US) or €100 (Europe) or £60 (UK) please drop me an e-mail to be added to the waiting list. Please note the board comes with a SuperROM with 8 ROM images for the HP-85 as standard, I am also putting together a similar ROM for the HP-87 but this will have slightly fewer ROM images.

Here is my web page describing the PRM-85: http://www.vintagecomputers.freeserve.co.uk/hp85/prm85.htm

Thanks for your interest, Regards, John

Re: PRM-85 boards for HP-85/87 now shipping

*Message #2 Posted by **Nelson M. Sicuro (Brazil)** on 24 Nov 2005, 10:32 a.m.,*
in response to message #1 by john

Is this unit capable of program the EPROMS or I'll need an EPROM burner?

Best regards,

Nelson Sicuro

Re: PRM-85 boards for HP-85/87 now shipping

*Message #3 Posted by **John** on 25 Nov 2005, 7:41 p.m.,*
in response to message #2 by Nelson M. Sicuro (Brazil)

Hi,

No the PRM-85 does not have the capability to burn EPROMs, neither does the original HP Programmable ROM Module on which the PRM-85 is based.

There are plenty of people on this forum who would be able to help you for the cost of postage, if you have blank EPROMs and have appropriate data files.

Regards, John

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Trading calculators

*Message #1 Posted by **Jim Creybohm** on 23 Nov 2005, 6:24 p.m.*

Hi all.

I was wondering; in the museum classifieds there is a section of Buy/Sell/Trade. Well, I know how to Buy/Sell, but I really don't know of anyway to Trade calculators. Has anyone ever done this?

The reason I ask is I am interested in trading one type of (common) older HP for another. There are some variables to consider however; my description vs. theirs, and should disappointment/dishonesty creep in, how does one seek redress? It seems like trading is not an option. An escrow seems like a great idea, but an escrow for calculators?

Looking for thoughts/ideas on this. Maybe its just a pipe dream...

Re: Trading calculators

*Message #2 Posted by **Forrest Switzer** on 23 Nov 2005, 7:15 p.m.,*
in response to message #1 by Jim Creybohm

I have traded one HP-42S for another of equal quality. The purpose was to provide the other person with a specific ROM version. I really didn't care which ROM version I had as long as the calculator was of equal (mint+) quality and one of the older versions.

Re: Trading calculators

*Message #3 Posted by **Stephen Easterling** on 23 Nov 2005, 9:39 p.m.,*
in response to message #1 by Jim Creybohm

I'm a big fan of trading. In fact, I have a new in box 48G+ and some extra cases (for most models) and an extra HP25 I'd like to trade. I'm looking for an excellent-mint 16C for my collection. I think I have everything else I wish to collect at this point.

Re: Trading calculators

*Message #4 Posted by **db (martinez, ca.)** on 23 Nov 2005, 10:40 p.m.,*
in response to message #1 by Jim Creybohm

Trading calculators is great. I've done it a bunch, both for hp and non hp units, to Canada, Germany and the US. All but one (someone who posted here about 5 years ago) was a positive experience for both parties. In fact; with two of them we just send each other stuff. We have different interests and it seems to even out. It's just difficult to find someone that wants what i have and has what i want. The escrow idea would be great, if someone had way too much time and could do that for all of us. Another idea would be to keep two lists somewhere: a bad guy list and a good guy list. The problem there is; who has time to keep that current?

Re: Trading calculators

*Message #5 Posted by **ECL** on 23 Nov 2005, 11:19 p.m.,*

in response to message #4 by db (martinez, ca.)

db,

What, if you don't mind, do you wish to locate, and would you consider posting models that you may be interested in releasing?

ECL

Re: Trading calculators

*Message #6 Posted by **db (martinez, ca.)** on 24 Nov 2005, 11:11 a.m.,*
in response to message #5 by ECL

ECL;
This isn't the right forum to post a trading list on. I've got about a dozen spare HPs. Theres only 3 i want - bet you don't have one. I also want several non hp RPNs. Bet you don't have them either. Email me if you want, so we don't clutter up this space. - d

Re: Trading calculators

*Message #7 Posted by **ECL** on 24 Nov 2005, 4:19 p.m.,*
in response to message #6 by db (martinez, ca.)

db,

> Quote:
>
> ...so we don't clutter up this space.

That is fine.

If this forum can tolerate discussions about the newer HP 49g+, recurring rants regarding the infamous "c" fellow, and flame wars over RPN vs RPL, I am a bit surprised at being checked for something relating to OLDER HP's.

You could have used your own advice and emailed me that comment. It would have prevented*further cluttering of this space*.

ECL

Re: Trading calculators

*Message #8 Posted by **db (martinez, ca.)** on 25 Nov 2005, 1:17 a.m.,*
in response to message #7 by ECL

ECL;
I tried to email you by clicking the blue ECL at the top of your post but this came up:
"ECL didn't provide an email address. ECL is not a registered user."
I'm registered and have an email address in the fourm's automated system so i said "Email me if you want".
There have been complaints about both excessive new hp bashing and coburlin rants along with other off topic threads. Most complaints are about postings that should go in the classified ad section, like for-trade lists. It is common to finish off topic or narrow interest conversations by email.

- d

Re: Trading calculators

*Message #9 Posted by **R Lion (Spain)** on 24 Nov 2005, 2:52 a.m.,*
in response to message #1 by Jim Creybohm

I've traded hp calcs several times. There were emails with big high resolution pictures and descriptions but I'd returned the calc I received if the other part were disappointed with the calc I sent

Raul L

Edited: 24 Nov 2005, 2:53 a.m.

Re: Trading calculators

*Message #10 Posted by **Jim Creybohm** on 24 Nov 2005, 4:04 p.m.,*
in response to message #1 by Jim Creybohm

I appreciate all who have responded, and your input. Thanks! However my next question has to do with the mechanics of the trade. Did you send your calculator away first? Did you use registered mail? What steps did you take to protect yourself? Has anyone ever been disappointed or ripped off? Do you only deal with known entities?

If I were to trade said very common HP, I would not hesitate to trade with any one whose name normally appears on this board - and, because I lurk, I am familiar with most of the people and would not hesitate to trade with them. (except for "corrosion", or whatever his name is)

But I am still very interested in this side of the equation as it seems a very unique aspect of the collecting culture. Normally, one can trade at flea markets, etc. Doing this via the 'net changes things a little bit.

Re: Trading calculators

*Message #11 Posted by **db (martinez, ca.)** on 25 Nov 2005, 1:51 a.m.,*
in response to message #10 by Jim Creybohm

Jim;
If it is a trade then i almost always use insurance or registration. I just sent two boxes of treasures to Germany and Canada uninsured. These are the two people who i have traded so much with that we have kind of lost track of where the ballance point is. I hope that we all came out ahead.
No one is a *known entity* the first time. Your idea of trading with folks who regularly post here is a good one but there is no real "protection" this side of the grave. One guy that i traded with in British Columbia took way over a month to get a calc i sent him insured and signature required. The Canadian Post had delivered it to the wrong address and a woman expecting a package signed for it. It took a month for her to find him. Lucky she is honest. If that had been ebay he would have had to put in negative feedback by 30 days and then we'd have had to pay them $20 bucks to retract it.
-d

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Technical manual for 82240B

*Message #1 Posted by **inaki** on 23 Nov 2005, 5:44 p.m.*

Is there any technical manual for the 82240B printer ? I mean, about commands, IR signal format, etc.

Re: Technical manual for 82240B

*Message #2 Posted by **James M. Prange (Michigan)** on 23 Nov 2005, 6:20 p.m.,*
in response to message #1 by inaki

Maybe the HP82240B Technical Interfacing Guide PDF is what you're looking for? Other than that, a scan of the owner's manual is on the MoHPC CD set/DVD.

Regards,
James

Re: Technical manual for 82240B

*Message #3 Posted by **tomcee** on 28 Nov 2005, 2:06 p.m.,*
in response to message #2 by James M. Prange (Michigan)

Are there schematics/internal pics/pcb layouts available?

It seems I had seen some at one time, but can't find them now.

TomC

Re: Technical manual for 82240B

*Message #4 Posted by **tomc** on 29 Nov 2005, 5:07 p.m.,*
in response to message #3 by tomcee

Also, there was a detailed article in the HP Journal which is on the Museum disks. It may be available online here too.

TomC

Re: Technical manual for 82240B

*Message #5 Posted by **Tony Duell** on 30 Nov 2005, 3:43 p.m.,*
in response to message #3 by tomcee

There should be reverse-engineered schematics for both the 82240A and 82240B on the HPCC CD-ROM. They're pretty simple inside, an 8048 microcontroller, the IR receiver chip, and a driver chip for the printhead/motor.

From what I remember, if you want to take one apart, there are 2 case screws (4 under the feet, 2 in the

battery compartment).

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Swap Disk Database Dump

*Message #1 Posted by **Howard Owen** on 23 Nov 2005, 4:39 p.m.*

I've been using a SQL table I made of the contents of the swap disks for some time. I just answered a question using the database, and it occurred to me that others might appreciate having access to it. The swap disk images are available from the Museum site here. My database dump is here. It's in phpMyAdmin dump format, which is basically a set of SQL statements to create the table in an existing MySQL database. It should be readily adaptable to other database types with a little Perl code, or even just hand editing.

Here's a typical query I run against this table. (This is in fact the one I used to answer the recent question.)

```
SELECT * FROM FILES WHERE TYPE LIKE '%71" AND NAME LIKE 'MATH%';
```

This told me that the 71B math rom in a lex file was on the ATCHO swap disk, in the file called "MATHROM'.

Regards,
Howard

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New "v.80" 49g+ ROM

*Message #1 Posted by **James M. Prange (Michigan)** on 23 Nov 2005, 3:10 p.m.*

Here.

Regards,
James

Re: New "v.80" 49g+ ROM

*Message #2 Posted by **Howard Owen** on 23 Nov 2005, 3:51 p.m.,*
in response to message #1 by James M. Prange (Michigan)

An odd shift in numbering, isn't it? Version 2.0 to version 0.80 strikes me as strange. Also this version is said to add the equation library, but that came in with 2.0, I believe.

Re: New "v.80" 49g+ ROM

*Message #3 Posted by **Matt Kernal (US)** on 23 Nov 2005, 4:44 p.m.,*
in response to message #2 by Howard Owen

Version 2.00 had build "50". This new ROM is Version 2.01-2 with build "80".

FYI, you can type "VERSION" to see the "2.01-2" version, then press <ON> & <D> to see the build number "80". Press <ON> & <C> to exit the self-test screen.

Matt

Re: New "v.80" 49g+ ROM

*Message #4 Posted by **Howard Owen** on 23 Nov 2005, 4:53 p.m.,*
in response to message #3 by Matt Kernal (US)

Ah, thanks for that explanation. The only thing visible on the download site was the build number.

Re: New "v.80" 49g+ ROM

*Message #5 Posted by **Ed Look** on 23 Nov 2005, 11:55 p.m.,*
in response to message #2 by Howard Owen

What new features or functional improvements came in with this new version?

I took a quick peek at EQLIB and COLIB; it looks kind of the same... no built in periodic table yet. (It's hard to beat Arnold Moy's periodic table available on Eric Reichlin's HP48 site.)

Do any of you think it might be redundant to have an Equation List like on the 33S or 32SII?

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evolving attitude towards HP 33S

*Message #1 Posted by **brian healy** on 23 Nov 2005, 12:28 p.m.*

It seems that impressions regarding the 33s are starting to become less negative, perhaps even favorable. That is true for myself. It seems that with the display and keyboard issues addressed, this calc is getting a second chance. Any comments?

I will Eat Crow

*Message #2 Posted by **bill platt** on 23 Nov 2005, 12:32 p.m.,*
in response to message #1 by brian healy

Many of us bashed the 33s to death.

The only person I am quite sure will never eat crow on this one is Wayne.

more eating crow

*Message #3 Posted by **bill platt** on 23 Nov 2005, 12:32 p.m.,*
in response to message #2 by bill platt

And Valentin :-)

Edited: 23 Nov 2005, 12:33 p.m.

Re: more eating crow

*Message #4 Posted by **Valentin Albillo** on 23 Nov 2005, 1:01 p.m.,*
in response to message #3 by bill platt

Yup ! You're right ! :-)

Besides, being the proud owner of three HP-15C, two HP-11C, HP-41CX/Advantage/PPC/Cardreader, HP32S, HP32SII, HP42S, and last but not least three HP-71B/MathROM/HP-IL/160K/CardReader, not to mention a bunch of HP-12Cs, HP-16C, HP-10C, HP-25, ..., and not to mention my equally wonderful, quality SHARP handhelds ... who needs or wants this KinHPo thing ??

Not me, that's for sure. I won't eat crow, not while I have the finest gourmet-class meals at my disposal, not ever.

But I can understand people that wants or needs it. To each his/her own, horses for courses.

Best regards from V.

Edited: 24 Nov 2005, 11:32 a.m.

Re: more eating crow

*Message #5 Posted by **bill platt** on 28 Nov 2005, 11:36 a.m.,*
in response to message #4 by Valentin Albillo

Hi Valentin,

The great thing about the 33s is that for $50 you can have a piece of equipment that you can take on the road, in the field, down in the bilges, that will funtion in a mostly familiar way (RPN and programmable) and have pretty good tactile feedback and be reliable and able to take the basic abuse of field work, and all for only $50.

I use my "classics" when I am in the home office. But the 33s can take it, in the field.

I tried using some really cheap machines--including the 30s---in the field, but they were unreliable. The 30s has the bad habit of losing its memory if the case gets twisted, even while you are in the middle of a calculation. The 33s, for all its strange design, is a good machine for being out in the field.

Re: more eating crow

*Message #6 Posted by **Valentin Albillo** on 28 Nov 2005, 11:59 a.m.,*
in response to message #5 by bill platt

Hi, Bill:

Bill posted:

"I use my "classics" when I am in the home office. But the 33s can take it, in the field."

> Agreed, but then I used and abused my HP-11C for a year in a desertic environment, very near from Sahara Desert matter of fact, and it withstood heat, cold, dust, and frequent trepidation with nary a hitch, to the point that 25 years later it's still my cosmetically best HP-11C.
>
> Not that I would do that to it nowadays, of course ! Too valuable and a real "friend" ... :-)

Best regards from V.

Re: more eating crow

*Message #7 Posted by **Ron Ross** on 28 Nov 2005, 12:08 p.m.,*
in response to message #5 by bill platt

I agree. I did not think I would buy the Hp33s, but when I took the NCEES exam earlier this year, the exam had again changed to reducing the allowed calculators down to a select few. Well, I bought the Hp33s feeling that I would use it only for the exam and then dump it in a drawer (well, I have kinda done that, but it sets in a desk drawer at work, where it does see some use).

It is not a bad calculator. And at $50, is not overpriced for what it offers (in comparison to all other offerings, by everyone else). There is no other pocket programmable calculator available by anyone else (there are low end models with solvers, but these only offer one eq solvers, no real memory).

Could it have been better? YES!, could it have been a LOT BETTER? Yes, again. But then it may not have been allowed in the ALL IMPORTANT NCEES EXAMS either. The NCEES

specifically banned the Hp41 and Hp42s along with graphics when they started banning calculators. With that thought in mind, Hp had to immediately reduce its offering to mearly an Hp32s clone or risk having this calculator banned (and embrace all the limitations of the Hp32s as well). But the Hp32s has been enormously popular (ebay auctions often have the HP32s outsell the far more cablable Hp41 and 42s).

My own opinion is that while the Hp32s and now the Hp33s are okay calculators, they are not in the same league as the Hp 41/42s line. But I am a 1% customer and the price/performance ratio and sales of the Hp42s with I/O might need a price of $80-100 and sell only 1 compared to 100 sales of the Hp 33s. Even the less than brilliant marketing group at Hp can make a good case to forget about little old me. And that 1 sale to me would be made anyway, with that fancy Hp49G+ anyway (Yeah, I own one of them too). But I would have rather had a re-vamped Hp43s with 32k (or 1 Meg) and a serial I/O (just provide me with an Hp48G+ w/o graphics and the size of a pioneer and you would have sold one or three to me).

nuff said, I'm sure.

Can the critics give HP at least a *little" credit?

*Message #8 Posted by **Gene Wright** on 24 Nov 2005, 10:54 a.m.,*
in response to message #2 by bill platt

Can we at least hope that the crowd who complain about HP never responding to complaints will be a little less quick to chime in next time? :-)

HP, with much smaller resources than they used to have, have now 1) updated the 12c platinum to have parentheses and a much faster i-solve routine, 2) updated the display of the 33S and fixed some bugs, 3) updated the ROM of the 49g+ to fix all bugs of which I am aware AND addressed the keybounce issues, and 4) issued an up-to-date AUR for the 49g+, and 5) what's next? Who knows?

We can discuss all day long whether these issues should ever have been seen in a shipping product, but the modern corporate world is a difficult place to say "No, we won't ship this yet" to superious. Witness the apparent issues with the new Xbox!

HP listens and HP responds where they can. I hope they listen MORE, but rants may not be the best way to get what we all want. :-0

Gene

P.S. I don't, however, think that we'll ever see a BIG enter key again. That appears to be a non-starter. :-(

Re: Can the critics give HP at least a *little" credit?

*Message #9 Posted by **Arnaud Amiel** on 24 Nov 2005, 11:57 a.m.,*
in response to message #8 by Gene Wright

> Quote:
>
> I hope they listen MORE

I hope they'd talk more.

I really appreciate the work that has been going on to update the imperfections and support the latest products. However, I would like to see more interaction with hp, some sort of forums where the user base would be more involved. I am sure some projects to make this calculators better would be

supported by more members of the community; what is missing is leadership. I would have volonteered to help on the AUR if I had been asked. I would volonteer to help developping some useful programs that could be downloaded from hp or hpcalc.org, I just need some guidance as I am not a leader and don't have many ideas or they are too hard for just me. I believe such guidance could easily and cheaply be given by hp. Here and on comp.sys.hp48 lots of able people would be glad to help. If hp was able to create a vibrant community, this would I belive have some positive impact on their sales.

The way I see it these days, hp listen and implement but the user is not really involved.

Arnaud

Re: Can the critics give HP at least a *little" credit?

*Message #10 Posted by **Gene Wright** on 24 Nov 2005, 8:45 p.m.,*
in response to message #9 by Arnaud Amiel

Actually, one of the ways the user community and HP interact is through the user conferences, the latest of which, HHC2005, was held in Chicago in September. HP was there and made a presentation.

Those present this year saw a prototype not yet introduced and the AUR nearly 6 weeks before it was public.

I know for a fact that HP reads this forum, so things said here addressed to HP will be seen. Non-rants will usually be read more thoroughly. :-)

Legal aspects might restrict the ability HP has of offering programs directly on their website. As to the AUR, email me. :-)

Re: Can the critics give HP at least a *little" credit?

*Message #11 Posted by **GE** on 25 Nov 2005, 5:13 a.m.,*
in response to message #10 by Gene Wright

Are those words "saw a prototype not yet introduced" actually blinking in huge letters in that message ?
HP has done some things, and the good news is that they are still in the race. However, why no big ENTER key ? Who forced them into such a bad keyboard design for the 33S ? They could have done it cheaper *and* better to my taste with a more classic design. Recall the function placement on the keyboard is mind boggling.
I just say that they should not take extra steps to make a model less usable. Granted, the work done is nice compared to the small team producing it.

Re: Can the critics give HP at least a *little" credit?

*Message #12 Posted by **Gene Wright** on 25 Nov 2005, 9:38 a.m.,*
in response to message #11 by GE

Well, the "not yet introduced" item has been mentioned already on comp.sys.hp48, so don't get TOO excited.

The small enter key is to make it similar to the TI units, I'm sure. If the true market that buys these things are students, then making sure the unit is familiar to the student appears to be very important.

I would guess someone in marketing either thought the chevron keyboard was a good idea or they had a focus group of young people who thought that.

I remember my first reaction to the 33s (spoken to HP) was "why are the keys shaped this way?" Unfortunately, by then it was too late. :-)

So, I do think given their small resources, they are working very hard to address problems and improve their products. They are learning and trying to improve.

So, we can either encourage or rant. I vote to encourage! :-)

Re: Can the critics give HP at least a *little" credit?

*Message #13 Posted by **Ed Look** on 26 Nov 2005, 1:41 p.m.,*
in response to message #8 by Gene Wright

Mr. Wright, I sincerely support your sentiments regarding giving HP a little credit. Granted it really isn't your professor's old HP (or even yours, with Compaq, DEC, and all that, with Agilent spinning off), but whoever they are, they have, at least to me, bent over backwards to put out a good, solid, ... dare I say it?... superior calculator product.

The 49G+ is a very complex machine as all you electronic and electrical engineers can attest to. These days, how many high-technology products are perfect right out of the box? Most of us have a more flawed out-of-the-box experience. My brother bought one of those Star Trek light-up Christmas tree ornaments, from an old, reputable brand name. The transparent sticker on the deflector dish was annoyingly misaligned. Okay, this is a petty example, but go talk to HP's, Dell's, Gateway's, Sony's, even ABS' or Alienware's customer service departments and if you get a straight answer, there isn't always gaiety among customers. Or, we can talk to Ford, GM, Toyota, Nissan, Volkswagen, etc. How about Airbus or McDonnell Douglas??

Back on the ranch, even their support of the 33S is quite good! They are available, responsive, and generally knowledgeable... and fairly accomodating!

Does anyone know (seriously) if TI, Casio, Sharp, (or worse, the no-names) has good customer support?

At least with their calculator and PC and printer departments, their customer support is very good, in my opinion... and the products at the very least competitive with everyone else's, just to be very laid back about it.

(Edited for grammar, of all things!)

Edited: 26 Nov 2005, 1:43 p.m.

Re: Can the critics give HP at least a *little" credit?

*Message #14 Posted by **Gene Wright** on 26 Nov 2005, 5:26 p.m.,*
in response to message #13 by Ed Look

Thanks, Ed.

Group, please don't get me wrong. I still think HP has room for improvements, perhaps even lots of them!

However, if they really didn't care, there wouldn't be that much of a reason to upgrade the 12cp, the 33s, or produce such a massive volume as the AUR.

I would suggest giving appreciation where appropriate. That's all. :-)

Now, what's next for them to do?

Re: Can the critics give HP at least a *little" credit?

*Message #15 Posted by **Paul Fox** on 27 Nov 2005, 3:15 p.m.,*
in response to message #8 by Gene Wright

No - I can never give them credit again. The HP49+ is a con in every sense of the word. The fact that they took over a year to fix such a deficiency on the classiest calculator in the world? Give us a break.

The HP48GX was a beautiful and brilliant calculator, the HP49+ a pure and unadulterated con. The most expensive calculator beaten in quality control by a $5 highstreet noname brand.

And dont say to compare apples to oranges - they had it right 15 years ago and more, but now they just want to rape their customers.

I will hold them in high esteem when their best calculator lasts more than a few poultry weeks on battery power and/or has signficant usability improvements.

I dont want to detract on the quality of the s/w for the HP, but the hardware sucks badly. So they deserve zero credit after taking my money for a useless paper weight (and a very ugly one at that).

Re: Can the critics give HP at least a *little" credit?

*Message #16 Posted by **Gene Wright** on 27 Nov 2005, 6:21 p.m.,*
in response to message #15 by Paul Fox

What you seem to be unaware of is that:

1) HP had hundreds of people working on calculators when they made the 48gx.

2) None of them are working on calculators now - they have perhaps 30 people total, but certainly not hundreds.

3) And, they had to change the models - the technology had moved on and was no longer available.

Let me ask you a question:

Why didn't YOU fix the problems with the 49g+ in a quicker time?

Let's see...you probably didn't have the time, resources or know-how, did you? :-)

HP calculators are probably in a similar boat.

They could either:

a) Not focus on any other products and fix the 49g+. That probably wouldn't do them any good, since their sales would fall and they could get the axe.

b) work on fixing the 49g+ as they could, while continuing to update their other products. This keeps the sales revenue coming in and puts off the questions from corporate about their ROI and allows them to continue producing calculators.

Alternative a is just a non-starter. All we would have if they did that is the memory of HP calculators with no hope at all for any future ones. I prefer hope and encouragement to HP to improve rather than using language such as you have done. The type of language you use is guaranteed to have HP not take you seriously.

Then again, for individuals such as yourself (and I know there are more than just you), there is a solution.

Keep buying 48gx calculators off ebay at higher prices than a new 49g+. Use them while they last. Take longer to do your calculations.

Sounds a tiny bit like people I know who are still using DOS and won't come to the windows world.

If you are unhappy with your HP product, rather than complaining here, call HP support and tell them. How else will they learn?

Sigh. Gene

Re: Can the critics give HP at least a *little" credit?

*Message #17 Posted by **Garth Wilson** on 27 Nov 2005, 11:54 p.m.,*
in response to message #16 by Gene Wright

> Quote:
>
> 3) And, they had to change the models - the technology had moved on and was no longer available

Not being an HP insider but being in electronic product development myself (I'm our company's entire engineering department), I'd have to say it's more likely that the older technology's price wasn't falling fast enough to keep up with the new.

> Quote:
>
> 1) HP had hundreds of people working on calculators when they made the 48gx.
>
> 2) None of them are working on calculators now - they have perhaps 30 people total, but certainly not hundreds.

The only way I can imagine it would take 30 people a year to correct problems with a calculator is if the correction required re-writing the software. Otherwise only a few of them would need to put some of their time into it for a couple of months. As for the key-debounce problem correction you mentioned above, that's a very, very minor thing to take care of in software. I always do key debouncing in my embedded software. It's almost trivial. That HP failed in something so basic is inexcusable.

Re: Can the critics give HP at least a *little" credit?

*Message #18 Posted by **Howard Owen** on 28 Nov 2005, 2:06 a.m.,*
in response to message #16 by Gene Wright

> Quote:

> Alternative a is just a non-starter. All we would have if they did that is the memory of HP calculators with no hope at all for any future ones. I prefer hope and encouragement to HP to improve rather than using language such as you have done. The type of language you use is guaranteed to have HP not take you seriously.

I think people tend to give corporations too much credit *and* too little. On the one hand, corporations, particularly multinationals like HP, are seen by some as either the salvation or the damnation of the world in general. Corporations have power, but so do people, if they will but use it. On the other hand, we expect corporations to act as if they have interests other than making the quarterly numbers, and we excoriate them when it becomes clear that they don't. Even people who work in corporations aren't very comfortable with that one, but it's generally true.

And corporations are made up of human beings. But that doesn't mean that a corporation acts like an ordinary human person, the legal fiction of its personhood notwithstanding. Toeing the bottom line doesn't mean you will always make short-sighted, selfish decisions. Often a corporation's interest coincides with something that is recognizable as "moral" or "community minded" or even "philanthropic" or "noble." More often though, corporate actions are described as "crass" or even "stupid" and "heavy handed." Either way, the labels are misleading, because they tend to make you think of the corporation as a person, rather than a highly organized hive intelligence.

It seems to me that HP, like IBM before it, purged itself of an older culture that valued people inside the corporation over customers outside. The organizations "had" to do this because the competition had made the transition, or else was born with the customer centered focus. In human terms, the transition at HP was famously painful and difficult. A lot of "crass," "stupid" and "heavy handed" decisions got made along the way. One of these, a very small one of these, consigned HP's in-house calculator division to near oblivion.

So that left many of us who loved the old machines, and who admired the old culture that produced them, scratching our heads, wondering where the hell the "customer focus" was in all of that. Well, it's another painful and difficult thing to swallow, but people like us, in our role as calculator enthusiasts, aren't HP's customers, at least in terms of the market research and sales figures.

I'm not saying there aren't good and committed people inside HP working to deliver the best machines they can given realities. I work for a giant corporation too, so I'm not unsympathetic to people who struggle to deliver quality with a human touch in what simply can't avoid being a dehumanizing context. But I do have two criticisms.

The first is aimed at critics of giant corporations. Don't act like the huge hive mind is an individual who has wronged you. It's silly, and more importantly, it's factually wrong.

And the second is directed at individuals within HP's calculator division. If you can't hear criticism like some of the more dramatically stated stuff in this thread, then you really are falling down on your "customer focus." Even if this crowd doesn't represent the target demographic du jour, our sensibilities matter. Our sons and daughters are going to school now, and some of them will be influenced by our opinions about whether or not HP is worth buying.

Regards,
Howard

Re: Can the critics give HP at least a *little" credit?

*Message #19 Posted by **Gene Wright** on 28 Nov 2005, 10:36 a.m.,*
in response to message #18 by Howard Owen

Howard, I don't disagree with much of what you are saying.

However, discourse accusuing HP of "raping" their customers goes beyond the pale, IMO.

That sort of language is not helpful.

I am in no way wishing to discourage ANYONE who has an issue/problem with HP or HP's products from expressing their opinion.

Yet, it often seems that improvements when made, and there have been many, get ignored.

Somewhat like wondering why your 5th grader hasn't received their Ph.D yet when they are showing you a 100 on a spelling test.

Re: Can the critics give HP at least a *little" credit?

*Message #20 Posted by **Ed Look** on 28 Nov 2005, 12:03 p.m.,*
in response to message #19 by Gene Wright

Mr. Wright, to be totally fair, I don't see any language or even allusion of the sort in his post. In fact, it appears that Mr. Owen was largely saying the OPPOSITE of that!

Edited: 28 Nov 2005, 12:03 p.m.

Re: Can the critics give HP at least a *little" credit?

*Message #21 Posted by **Howard Owen** on 28 Nov 2005, 1:32 p.m.,*
in response to message #20 by Ed Look

I think he was referring to the post he originally criticised, Ed. Not mine.

Re: Can the critics give HP at least a *little" credit?

*Message #22 Posted by **Gene Wright** on 28 Nov 2005, 1:36 p.m.,*
in response to message #20 by Ed Look

I never meant to say that Mr. Owen had used that language.

Mr. Fox did earlier in this thread. If you do a search on that word, you'll find it.

Apologies to everyone, including Mr. Owen, if anyone thought I was implying his language was inappropriate. Not my intent at all.

Gene

Re: Can the critics give HP at least a *little" credit?

*Message #23 Posted by **Ed Look** on 28 Nov 2005, 1:43 p.m.,*
in response to message #22 by Gene Wright

And my turn to eat a little humble pie, if not crow: I guess I was a little too fast on the draw, and am not really used to this "new" forum post display structure yet.

I must say, we ARE a civilized little group! ;)

Re: Can the critics give HP at least a *little" credit?

*Message #24 Posted by **Wayne Brown** on 28 Nov 2005, 12:13 a.m.,*
in response to message #8 by Gene Wright

No. No credit, none at all.

Gene, you (and most others here) seem to think of HP as an old friend who's made a few mistakes but should be encouraged to do better and given the benefit of the doubt. I used to feel that way, but no longer. For the last several years my attitude toward HP has been much like that of a hardened, cynical parole officer toward a repeat offender. It's not a matter of *if* but *when* his parolee will screw up again. He's just waiting for the parolee to make some little slip-up, because it's a case of "perfect behavior or back to jail."

That's just how I look at HP. They would have to make a *lot* of changes (and not just in the calculator division), **and** make a public apology for nearly everything they've done for at least the past decade, **and** be on their best behavior with *no* mistakes for at least the *next* decade before I'd begin to trust them again. Of course, I know they will *never* meet even a portion of my requirements, so I am resigned to never being pleased by HP or wishing them anything but ill, ever again. Nothing they do now or in the future could begin to "make up" for what they've done unless they first go back and undo much of what they've already done.

Re: Can the critics give HP at least a *little" credit?

*Message #25 Posted by **bill platt** on 28 Nov 2005, 10:50 a.m.,*
in response to message #24 by Wayne Brown

Hi Wayne,

You are forgetting that HP is a corporation, not a human being. Your requirement for a corporate "apology" amounts to anthropomorphism.

Corporations change as the people who work for them and run them retire, as market conditions change etc. Asking htem to "apologize" is not meaningful in any real sense.

Basically, if you want or need a calculator with keystoke programming, or one with RPN, or both, or one with a similar set of features to the legacy 32sii, then the 33s, marketed by HP, is the *only* product out there.

That you don't like it is your own opinion--but note that you would not have the luxury of holding that opinion if there were not a large supply of reliable used machines out there.

HP is not a "parolee," it is a corporation.

Edited: 28 Nov 2005, 10:52 a.m.

Re: Can the critics give HP at least a *little" credit?

*Message #26 Posted by **Gene Wright** on 28 Nov 2005, 5:17 p.m.,*
in response to message #25 by bill platt

To me, it's a bit like demanding that Bill Hewlett rise from the grave and personally explain these decisions.

It's certainly something that will never happen.

It also shows (for good or ill) a fantasy-like picture of corporations and the US (and foreign) legal system.

Living in reality as we do, these requirements will never be done.

Re: Can the critics give HP at least a *little" credit?

*Message #27 Posted by **Wayne Brown** on 28 Nov 2005, 5:50 p.m.,*
in response to message #26 by Gene Wright

> Quote:
>
> It also shows (for good or ill) a fantasy-like picture of corporations and the US (and foreign) legal system.

As I've said many times before, and as you never seem to understand, I don't expect HP to behave like any other corporation. I expect them to behave with a completely different set of rules, motivations, goals and attitudes. I see HP as a sort of pie-in-the-sky engineers' playground and expect it to behave accordingly. So saying "corporations aren't like that" or "corporations don't do that" is about as relevant to my opinions about HP as saying "a piece of caramel-flavored sunshine weighs more than that."

Re: Can the critics give HP at least a *little" credit?

*Message #28 Posted by **bill platt** on 28 Nov 2005, 6:03 p.m.,*
in response to message #27 by Wayne Brown

But Wayne,

Why or how do you come to the position that HP was, and forever shall be, an utopic "engineer's playground?" That just does not sound reasonable. Not at all. I just don't quite get that--it's one thing to say that once upon a time, HP *appeared* to be a Utopia; it is an altoghether different thing to expect or demand that a corporation be held to some higher than reasonable or legal standard.

Like, that just becomes an unreasonable position that makes any discussion pointless.

I also have a hard time believing that it was a utopia. People were hired and fired there; products soared or bombed, most of their calculators had bugs or deficiencies of one sort or another. Heck, they had a board of directors!

Re: Can the critics give HP at least a *little" credit?

*Message #29 Posted by **Wayne Brown** on 28 Nov 2005, 6:20 p.m.,*
in response to message #28 by bill platt

> Quote:
>
> Why or how do you come to the position that HP was, and forever shall be, an utopic "engineer's playground?"

While it was never an engineer's Utopia, it used to be a lot closer to that ideal than it is now. I used to know HP employees who delighted in the fact that many product decisions were made more on the basis of "this will impress other engineers" than on how well they would sell. That may not have been the *official* position of the company but it was at least *tolerated* when some of the employees practiced it. But as the rest of corporate America became more and more focused on profits and less on technical excellence, HP went along with the crowd, rather than going further and further in the opposite direction as a reaction against the mainstream. That's primarily how I saw HP -- as a rebel that thumbed its nose at the way the rest of the technology industry did business. I can remember reading the works of business columnists in the '70s and '80s who criticized HP for this very attitude and it was one of the things that most endeared the company to me. But they've swung around in the other direction and fallen into line with the rest of the corporate world, and I'll never forgive them for that.

Re: Can the critics give HP at least a *little" credit?

*Message #30 Posted by **bill platt** on 28 Nov 2005, 6:44 p.m.,*
in response to message #29 by Wayne Brown

Well, the problem with this hindsight is that it tends to gloss over all the deficiencies. Bug in early 32sii fraction implementation; 32sii annoying "unary minus" different from sutraction bug is one that stands out. Look at where the "technical playground" led---straight to hell in a handbasket. Straight to the 48 series--and ultimately to hiring the c.s.hp48 crowd to develop the 49. What a disaster.

Sometimes it takes some business sense to say, "this is crap" or "this will not sell" or " this is cool but not useful".

I work in a technical field--I develop technical solutions--practical technical work--quality is important because that is what your customers want and expect. I understand what qualitiy means, from a technical standpoint. We would not be *in business* if we did not mind our quality. But we would also be out of business if all we thought about was "technical prowess." There never was a conflict between quality and good business decisions. But there were quality problems all along at HP--even in the near-utopia--which is such an important thing to remember.

Why do we like their stuff? Becasue it had higher quality than Ti. But that does not mean that they were as good as they could have been at the price.

Re: Can the critics give HP at least a *little" credit?

*Message #31 Posted by **Howard Owen** on 28 Nov 2005, 7:23 p.m.,*
in response to message #30 by bill platt

This isn't aimed at anyone personally. I'm just stirred up by the idea of living in the past.

To be fair, the world was paying HP's price back then, whereas they were less willing to later. That HP lost the calculator market wasn't enirely HP's fault. There was intense competition from TI, with Casio right on its heels. TI delivered low-cost and simple machines for the burgeoning education market, and marketed them to the hilt. HP kept designing for engineers, when

that segment had moved on to cheap PCs on every desktop, then in every briefcase.

So sad. HP of old lost the calculator market. HP got rid of the "HP Way." The nineties consumed corporations large and small, new and old like a ravening beast. HP survived the 90s to become the tottering giant in PCs it is today. So sad. So completely irrelevant.

How about trying to recreate a human-friendly culture in the corporations of today? How about latching on to the upcoming age of micro-manufacturing to deliver custom hardware to people with nearly the same flexibility that software is delivered today? Talk about room for creativity and engineering "cool!" The future has got a lot to offer. But it won't be possible to transplant yesterday's values directly onto tomorrow. We have to be smart and flexible, if we want to preserve what we think is valuable about the bygone era.

For me, the old HP calculators embody several things that are worth preserving, and even (*gasp*) improving on. In their particulars, these qualities are numerous, but I think they all stem from a deep understanding of and caring for the engineering calculator user. These folks truly were designing for themselves, and they knew their own needs very well indeed. And as long as a significant share of the engineering world looked like them, well they were successful at selling their product.

So what I would preserve is not so much this or that particular feature, although several would make my personal list, but that deep understanding and care for the user. I know that quality is rare in any field of endeavor. I also know it stands out with startling clarity whenever it's present. If we really are moving toward an age of small-scale, decentralized manufacturing, then products are going to proliferate. There will then be an even stronger business need to stand out from the crowd than there is today. Given that the old HP quality embodied an approach that can confer that sort of differentiation, perhaps something of the old style will come back into vogue. Wouldn't *that* be cool? 8)

Re: Can the critics give HP at least a *little" credit?

*Message #32 Posted by **Wayne Brown** on 29 Nov 2005, 12:11 a.m.,*
in response to message #30 by bill platt

> Quote:
>
> Well, the problem with this hindsight is that it tends to gloss over all the deficiencies. Bug in early 32sii fraction implementation; 32sii annoying "unary minus" different from sutraction bug is one that stands out.

I never claimed the older products were perfect. But those problems were honest technical mistakes. I think I can guarantee that the fraction bug was not introduced because someone in Marketing thought it would make the 32sii less "intimidating" to non-technical users. I'm sure they didn't add the "unary minus" problem to make it more appealing to people who didn't want to look too "geeky" while using an HP calculator. But what other conceivable reason is there for the chevron keyboard of the 33s, if not to appeal to the

"fashion sense" of the average user? (Whether it succeeds in that respect is immaterial; the *attempt* is what I find offensive.)

I was thinking about this subject on the drive home from the office tonight, and I realized that I could explain my viewpoint on this in fewer words than I used earlier. Essentially, this is it: In the battle between techies and non-techies, the war of geeks and nerds (or as we said in my day, "eggheads") against the rest of the world, I always considered HP to be on "our side." But that's no longer true, and *that* is what makes me so hostile to the "new" HP. They no longer project the image of "pocket protectors are more valuable to us than stock portfolios" that they once had. They've sold out to the "normal" crowd and abandoned those of us who are proud of our "Poindexter" image.

Re: Can the critics give HP at least a *little" credit?

*Message #33 Posted by **Howard Owen** on 28 Nov 2005, 6:18 p.m.,*
in response to message #27 by Wayne Brown

I think we all understand your position quite well. We just don't agree with it.

The HP of old has been dismanetled and carried away piece by piece. And besides that, it never was as good as our fondest hopes made it seem. I've been offered a stool at the local barbershop where I can spend the rest of my life complaining about how debased the world of today seems; how much better things were back in my youth. The idea turns my stomach! I'm still a part of life *today*. I'm still looking for value and meaning *right now*. Screw the past!

ahem Sorry for the outburst.

Re: Can the critics give HP at least a *little" credit?

*Message #34 Posted by **brian healy** on 29 Nov 2005, 6:39 a.m.,*
in response to message #27 by Wayne Brown

If they behaved according to your post they would be out of business, plain and simple.

Re: I will Eat Crow

*Message #35 Posted by **Wayne Brown** on 27 Nov 2005, 11:54 p.m.,*
in response to message #2 by bill platt

> Quote:
>
> The only person I am quite sure will never eat crow on this one is Wayne.

Absolutely right. Not only do I think the 33s should be discontinued, but HP should offer a public apology for ever introducing it in the first place. It could have 10,000 times the features and 100,000 times the speed of anything else on the market, and retail for 10 cents, and that keyboard *still* would make it an insult.

Re: evolving attitude towards HP 33S

*Message #36 Posted by **Richard Garner** on 23 Nov 2005, 12:33 p.m.,*
in response to message #1 by brian healy

The main issues for me are still the "V" shaped keypad and the Enter key size and placement.

Re: evolving attitude towards HP 33S

*Message #37 Posted by **brian healy** on 23 Nov 2005, 1:48 p.m.,*
in response to message #36 by Richard Garner

I'm not saying that there aren't any issues with the thing, but I dont' consider it the total piece of cr@p that I used to think it was. Once I accepted the fact that the golden age of HP calculators is long long gone and aint coming back I found this calculator more palatable. I had once vowed never to use it but now I use it every day. It's not great, but it aint bad either.

Anyone with a pic of the new display?

*Message #38 Posted by **Rick** on 23 Nov 2005, 2:09 p.m.,*
in response to message #37 by brian healy

Just curious, since I have two with the old display.

Re: Anyone with a pic of the new display?

*Message #39 Posted by **Ed Look** on 23 Nov 2005, 2:23 p.m.,*
in response to message #38 by Rick

Yes, right here in this forum! Here's the thread:

Larry McClellan's post

(Warning: it may load slowly depending on your computer.)

I actually have one now with the new display and it IS MUCH better.

Oops.

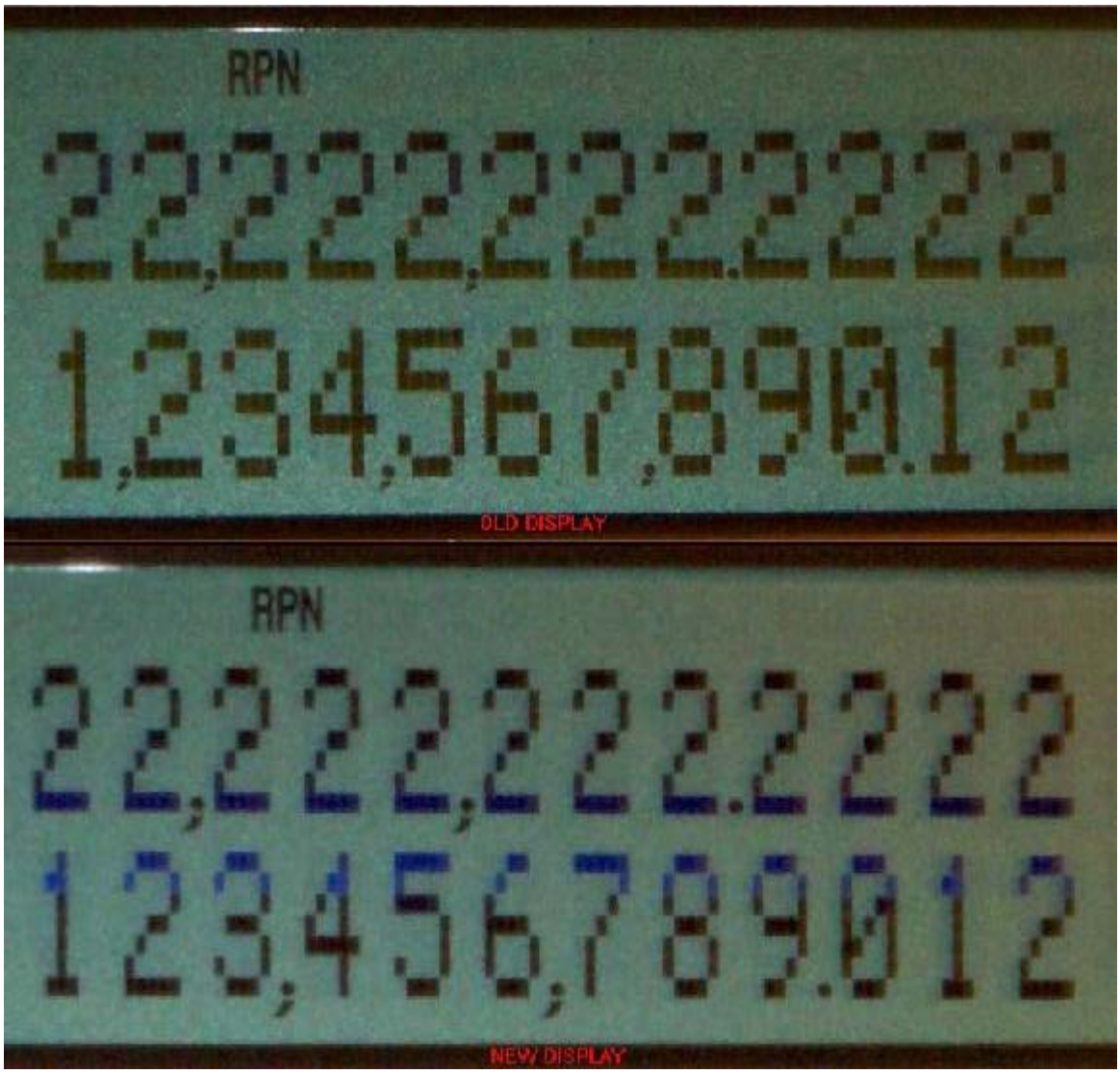
The pic does not exactly show too well how much better the new decimal point is. But I'm sure one day very soon someone will post a comparison.

Edited: 23 Nov 2005, 2:29 p.m.

33S Old vs New Display Picture (was Anyone with a pic of the new display?)

*Message #40 Posted by **Jeff O.** on 23 Nov 2005, 10:37 p.m.,*
in response to message #38 by Rick

Well, yes, just took one today. I was hoping for better quality, but this shows the difference pretty well:



The discoloration in some of the characters in the new display is an artifact of the imaging process. In person, all pixels are nice and dark. As Ed states, the new display is much nicer. The characters seem "crisper", and the background is slightly less green which looks better to me, although this does not really show up in the above image.

Re: 33S Old vs New Display Picture (was Anyone with a pic of the new display?)

*Message #41 Posted by **Ed Look** on 23 Nov 2005, 11:03 p.m.,*
in response to message #40 by Jeff O.

The only other thing I might add is really rather subjective: I sort of preferred the aspect ratio of the original display characters. Alas, their very size and shape contributed to the legibility problems of the decimal point and comma.

But hey, the new display, though featuring "thinner" characters is much easier to read and that ultimately is most preferable.

Re: 33S Old vs New Display Picture (was Anyone with a pic of the new display?)

*Message #42 Posted by **Jeff O.** on 24 Nov 2005, 12:01 a.m.,*

in response to message #41 by Ed Look

Since I failed to reproduce the images at equal scale (the image of the old display needs to be scaled by a factor of approximately 0.97 to be the same scale as the new display image), it may not be immediately obvious that the new characters are the same height as the old. The new are about 15% narrower. Put another way, the height to width aspect ratio of the old is approximately 2.2:1, the new ratio is approximately 2.6:1.

Re: 33S Old vs New Display Picture (was Anyone with a pic of the new display?)

*Message #43 Posted by **Ed Look** on 24 Nov 2005, 12:30 a.m.,*
in response to message #42 by Jeff O.

You did a great job with the pictures, actually! (Well, maybe if you reduced the "zoom" on both so that one doesn't have to scroll... but that's just a nitpicker's nitpick.)

But I don't see the "less greener" side of it. Both backgrounds appear so far to be of the same shade.

Re: 33S Old vs New Display Picture (was Anyone with a pic of the new display?)

*Message #44 Posted by **Thomas Radtke** on 24 Nov 2005, 12:24 p.m.,*
in response to message #43 by Ed Look

> Quote:
>
> But I don't see the "less greener" side of it.

What kind of Display do you use? It is immediately visible on my old Eizo T67 CRT-Monitor.

Thomas

Re: 33S Old vs New Display Picture (was Anyone with a pic of the new display?)

*Message #45 Posted by **Ed Look** on 26 Nov 2005, 1:44 a.m.,*
in response to message #44 by Thomas Radtke

LOL!!

I meant between the two 33S models I can physically look at! They both look about as green in their displays.

Yes, there is a big difference in those of the posted pictures. Sorry for the confusion!

Re: 33S Old vs New Display Picture (was Anyone with a pic of the new display?)

*Message #46 Posted by **Jeff O.** on 26 Nov 2005, 1:24 p.m.,*
in response to message #45 by Ed Look

Perhaps the difference in "greenish-ness" differs from unit to unit. On my 2 units, (one of which is an original "Walmart" CN4... unit and the other a CNA532..), the difference in the shade of green of the background is noticeable.
Regarding the size of the image and the need to scroll, I agree, having noted that after I posted it. I considered changing to a reduced size, but I guess I didn't want to have to bother Dave to put a different version in my guest folder here.

Re: 33S Old vs New Display Picture (was Anyone with a pic of the new display?)

*Message #47 Posted by **bill platt** on 1 Dec 2005, 5:16 p.m.,*
in response to message #40 by Jeff O.

I went to Wallyworld last night and confirmed my suspicions:

There are (at least) *two* improved versions.

The older improved display has bigger comma and decimal point, perhaps more space, but the aspect ratio is close to the original

The newest display has more space between numbers, and numbers have a taller aspect ratio.

But *more important* is that the roms are different.

The 1st improved display version has the buggy rom. I only tested the rect-polar bug.

The newer improved display has the polar-rect bug fixed.

Also, the 1st improved display had a "Business 2.0" subscription deal sticker on the packaging, but the newer ones did not.

So, that makes the ROM list look like this (so far):

So far, I have delineated:

```
REV   Description              Screen
beta     ---                    (1)
-     Walmart initial release.  (1)


A     Change Alg swap            (1), (2)


B.   Bugs fixed                   (3)


Notes:
Screen (1) small dec point
Screen (2) large dec and comma, close space standard aspect ratio
Screen (3) large dec and comma, wide space / tall aspect ratio


ROM (B) has "New" as opposed to ROM (A) ALG swap behavior.
ROM (-)and (A) both have same bugs, but ALG swap behavior is different
```

Edited: 1 Dec 2005, 5:26 p.m.

Re: 33S Old vs New Display Picture (was Anyone with a pic of the new display?)

*Message #48 Posted by **Marcus von Cube, Germany** on 2 Dec 2005, 4:17 a.m.,*
in response to message #47 by bill platt

Bill,

my unit (CNA 51500163) has the display with the taller aspect ratio and still has the rect/polar bug.

Marcus

Re: 33S Old vs New Display Picture (was Anyone with a pic of the new display?)

*Message #49 Posted by **bill platt** on 5 Dec 2005, 8:32 a.m.,*
in response to message #48 by Marcus von Cube, Germany

Hi Marcus,

Thanks for that information. This means that machines with the Rev A rom have been built with all three versions of the display.

Edited: 5 Dec 2005, 8:33 a.m.

Re: evolving attitude towards HP 33S

*Message #50 Posted by **Norris** on 23 Nov 2005, 9:21 p.m.,*
in response to message #37 by brian healy

One more point about the 33S:

Most of those here are old enough to remember when a trusty calculator, not a PC, was the primary number-crunching tool on a professional's desktop. Those days are gone...except in one respect.

If you need to take professional licensing exams in engineering or surveying, then you are required to turn back the technological clock and kiss your PC goodbye. Your trusty calculator becomes your best friend again, just like in the 1970s or 1980s. And if you want RPN or programmability, then only one model is allowed under current NCEES rules. It is, of course, the 33S.

There are thousands of engineers and surveyors (myself included) that are required to rely on the 33S in a career-critical situation. If the 33S gets me through the rest of the PE exam process next year, then I expect I will hold it in affectionate regard for the rest of my career, just as an old-timer might feel about his old reliable 41C or 42S.

Edited: 23 Nov 2005, 9:23 p.m.

Re: evolving attitude towards HP 33S

*Message #51 Posted by **ECL** on 23 Nov 2005, 9:31 p.m.,*
in response to message #50 by Norris

Norris,

I am in your camp regarding the 'requirement'. In terms of ergonomics (the engineer's analogy

to...style) I'd say there are a few things that could be improved. Aside from the ENTER key location, and canted kbd, I tend to wish for more acreage between the keys.

Functionally, we will not need to invert a 5x5 matrix on the licensing exam, however not being able to solve such matrices keeps me dragging along my 48g, for those instances.

ECL

Re: evolving attitude towards HP 33S

*Message #52 Posted by **Matthias Wehrli** on 24 Nov 2005, 3:28 p.m.,*
in response to message #51 by ECL

So you all like the new display? I don´t, the older ist much sharper and the digits are not that bulky to read.

Re: evolving attitude towards HP 33S

*Message #53 Posted by **Richard Zajac** on 26 Nov 2005, 10:08 p.m.,*
in response to message #52 by Matthias Wehrli

I agree. I think the latest "fix" went too far in spacing the digits apart. There's no pleasing everyone.

Re: evolving attitude towards HP 33S

*Message #54 Posted by **Garth Wilson** on 25 Nov 2005, 3:17 p.m.,*
in response to message #36 by Richard Garner

> The main issues for me are still the "V" shaped keypad and

I didn't think I'd be getting into this one, but I must say the keypad shape is something I cannot get past to give the rest of the unit a fair trial. I don't usually care so much about looks, and I don't care if something is ugly because they didn't put much styling effort into it. But when they try **too** hard and come up with something that looks just plain stupid, I am strongly repelled.

Re: evolving attitude towards HP 33S

*Message #55 Posted by **Howard Owen** on 25 Nov 2005, 5:30 p.m.,*
in response to message #54 by Garth Wilson

This is the sort of thing people will have differing reactions to. If their focus group said the target market would think it was "cool" I can understand that. But neglecting to consider the older audience of 32SII users, and the (on average) even older collector community seems to me to have been a less than optimal decision.

Having said that, I'll repeat that for me, the keyboard shape quickly became a non-issue. It turns out I can key stuff in reasonably quickly, and I can find stuff I'm looking for without too much trouble. I do not conciously register an impression of "cool" or "weird" as I use the 33S. The distinction disappears as I use the machine as a calculator. Before I started using the 33S, I would have predicted, based on experience in adapting to other input mechanisms, that I would eventually get to where the shape wouldn't matter to me. But I was suprised that I got there so quickly in this case.

So I'm willing to cut HP some slack on this one, as far as it goes. My major whine is that "as far as it goes" is barely past the 32SII. I'd like to see a truly updated RPN calculator, with modern CPU,

memory, I/O and software. What the latter would look like is the most interesting question, in my view. There are other threads here that try to provide some answers to that question. (hint, hint 8)

Re: evolving attitude towards HP 33S

*Message #56 Posted by **GE** on 28 Nov 2005, 6:20 a.m.,*
in response to message #55 by Howard Owen

I have a question regarding the outsourcing of fabrication and software. Recall the HP6 was a rebranding of a Kinpo model. Due to the good quality of math on this machine, I believe the math library may have come from HP (anyone ?).
Also recall that no-brand copiies of some Casio low-end graphing calculators are surfacing in the recent years, there are even official re-releases of some of these by Lexibook (here in Europe at least). The 'new' machines sometimes differ with new functions or modification to the general behavior.
So my question is : are we going to see HP machines copied by sub-contractors who have gained the knowledge through current OEM contracts ? I know there are legal issues, but I think asian makers coule build upon the experience and create improved products (not the quality we expect maybe) ?
If I were such a builder with in-house capability to recreate the "functionality" of the 32S (quotes here because I have the 42S...), I would think about issuing something better, different legalese-wise.
Maybe HP and others are laying the foundations for the upcoming takeover of the market by those new makers. Original models by these people tend to be quite buggy, but this may be smoothed with time (a la 49G+...).

Re: evolving attitude towards HP 33S

*Message #57 Posted by **Valentin Albillo** on 28 Nov 2005, 8:16 a.m.,*
in response to message #56 by GE

Hi, GE:

(All that follows, IMHO)

GE asked:

"Recall the HP6 was a rebranding of a Kinpo model. Due to the good quality of math on this machine, I believe the math library may have come from HP (anyone ?)."

> Not a chance.

"So my question is : are we going to see HP machines copied by sub-contractors who have gained the knowledge through current OEM contracts ?" Ditto. *"I know there are legal issues, but I think asian makers coule build upon the experience and create improved products (not the quality we expect maybe) ?"*

> Asian makers, specially Chinese ones, couldn't care less for legal issues, copyrights and such. They'll gladly copy *en masse* anything that seems profitable, and the Chinese government will usually leave them alone. But I rather doubt that "RPN calculators" are deemed 'profitable' enough to bother copying them.

"If I were such a builder with in-house capability to recreate the "functionality" of the 32S (quotes here because I have the 42S...), I would think about issuing something better, different legalese-wise."

> You'd do *nothing* of the sort, because you'd be gambling with your own money, not some fictitious builder's money. And you'd probably come to the conclusion that your money would be best dedicated to some other actually (not imaginarily) profitable endeavours.

"Maybe HP and others are laying the foundations for the upcoming takeover of the market by those new makers."

> If you're referring to the hypothetic RPN market, you'd better wait at some comfortable place. Within a generation, RPN and probably RPL will be lost forever. No "asian" makers are "taking over" the RPN business, actually they're fairly intelligent (if not exactly international-law-abiding in many cases), and want to make money, not lose it. Wait and see.
>
> And, if you're referring to non-RPN, non-RPL HP machines, what's the use in merrily copying an HP product which (like the 6S) is itself a copy of a Citizen-branded product which, in reality, is a no-brand design produced by Kinpo with the 'brand' of any company who cares to pay ? Or did you do for a moment believe the 6S was an HP design ?

Best regards from V.

Re: evolving attitude towards HP 33S

*Message #58 Posted by **Norris** on 28 Nov 2005, 12:30 p.m.,*
in response to message #57 by Valentin Albillo

> Quote:
>
> Asian makers, specially Chinese ones, couldn't care less for legal issues, copyrights and such. They'll gladly copy en masse anything that seems profitable, and the Chinese government will usually leave them alone. But I rather doubt that "RPN calculators" are deemed 'profitable' enough to bother copying them.

Aurora, a Taiwanese company, has decided that one RPN calculator, the HP-12C, is worth copying. Their copy, the Aurora FN1000, sells for a fraction of the cost of a 12C (at Fry's, the FN1000 is $24.99, the HP-12C is $69.95, and the HP-12C Platinum is $79.99).

So yes, it's demonstrably feasible for Asian calc manufacturers to clone HPs. If Aurora can copy the 12C, then they could probably copy the 15C as well. However, the market for a 15C clone would surely be much smaller than the market for a 12C clone, given that the 12C must be (by far) the best-selling RPN calc in history. So Aurora is probably not interested.

Re: evolving attitude towards HP 33S

*Message #59 Posted by **Howard Owen** on 28 Nov 2005, 1:53 p.m.,*
in response to message #58 by Norris

Given the turnover of new models from all calculator makers, shouldn't the HP12C be at least approaching contention for the title of "most popular calculator of all time?" Or maybe "most popular over $50.00."

Re: evolving attitude towards HP 33S

*Message #60 Posted by **Ron Ross** on 28 Nov 2005, 2:43 p.m.,*
in response to message #59 by Howard Owen

It would win HANDS DOWN for over $50.

Might win, no matter what.

But Ti has sold a Ti-30 in all types of flavors since 1977 (or therabouts). And sold lots of them. Ti's original Ti-30 might be eclipsed by the Hp12c, but I say, might be eclipsed, because Ti did sell so damn many of the original Ti-30 over a 2-3 year time span. The Hp12c might beat it with its longivity (which would translate into continued sales), but that Ti-30 outsold everything else Ti ever made in its day.

So, while I suspect the Hp12c is the overall top seller, until the two total sales are known, it is speculation.

Re: evolving attitude towards HP 33S

*Message #61 Posted by **Howard Owen** on 28 Nov 2005, 3:33 p.m.,*
in response to message #60 by Ron Ross

> Quote:
>
> Ti's original Ti-30 might be eclipsed by the Hp12c, but I say, might be eclipsed, because Ti did sell so damn many of the original Ti-30 over a 2-3 year time span.

Yeah, I bought something like six of them. They kept breaking on me. False economy if there ever was one. But I now have a pristine (and rarely touched) TI-30 in my collection because it was the first calculator I used extensively.

That's why I added the qualifier of "over $50.00." I wonder if that can be determined, one way or another?

Re: evolving attitude towards HP 33S

*Message #62 Posted by **brian healy** on 28 Nov 2005, 11:26 a.m.,*
in response to message #1 by brian healy

This thread has certainly wandered a lot. The fact of the matter is, the 33s is more capable than the 32sii by virtue of its larger memory. True, you can't fully take advantage of it, but you can have a library in your calculator that contains more than a couple of programs. I can fit 2 in my 32sii, with one equation, and I have to clear variables every time I use a program.

The weird design of the keyboard, and the color scheme of the 33s are certainly annoying to me, and I don't like them. But what I more care about are results. With the improved display and tactile feel of the keyboard, the 33s does funtion adequately as a basic RPN calculator. I am grateful to HP that they gave us the 33s, because the alernative is to buy an extremely expensive vintage HP on Ebay when the vintage HP that you have been using dies. Therefore, HP, if you are listening, Thank You. The vintage HP's are great, and I love them, but they don't last forever.

My old 32sII's and my 11C are treasures, but I don't use them on a daily basis because my 33s is more capable, even if it doesn't match them in terms of design.

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Help with H49G+ Programming

*Message #1 Posted by **Namir** on 23 Nov 2005, 11:28 a.m.*

Where can I find a utility or guidelines that will allow me to key in an HP49G+ program on the PC, transfer it (by SD card) to the calculator, and then compile it into a program object?

I aprpeciate your help in pinpointing me to the right source.

Namir

Re: Help with H49G+ Programming

*Message #2 Posted by **James M. Prange (Michigan)** on 23 Nov 2005, 11:40 a.m.,*
in response to message #1 by Namir

<plug>Try here.</plug>

Regards,
James

Re: Help with H49G+ Programming

*Message #3 Posted by **Namir** on 23 Nov 2005, 1:02 p.m.,*
in response to message #2 by James M. Prange (Michigan)

Thank you James!!!

Namir

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hp49+ won't power up

*Message #1 Posted by **tom lianza** on 23 Nov 2005, 8:17 a.m.*

My hp49+ just won't power up. I've replaced the AAA cells with fresh ones and it does not power up. Any suggestions would be welcomed.

Re: hp49+ won't power up

*Message #2 Posted by **Ron Ross** on 23 Nov 2005, 9:34 a.m.,*
in response to message #1 by tom lianza

A couple of things to try.

Adjust contrast with on and + button (or on and - button if screen is black).

Next, try a soft reset, press On, F1 and F3 all at the same time. nothing?

Try a complete reset, Press On, F1, and F4 (or F6, hell try both at this stage).

Finally try a hard reset, take a small paper clip and insert in Reset hole in back of calculator.

Still nothing?

Try changing the little 3 V button cell and retry option 1 above (you may have a dead 3 Volt button cell or it is in backwards, though this would be tough to do as it is a shaped compartment).

Nothing? Double check your batteries again. Then it is time to call Hp and complain!

Re: hp49+ won't power up

*Message #3 Posted by **guest** on 23 Nov 2005, 10:53 a.m.,*
in response to message #2 by Ron Ross

A 49g+ will power on without the 3V cell.

Re: hp49+ won't power up

*Message #4 Posted by **James M. Prange (Michigan)** on 23 Nov 2005, 11:50 a.m.,*
in response to message #2 by Ron Ross

Sometimes the button on the + end of a a AAA cell doesn't quite touch one of the contacts, particularly the spiral-shaped contact for the top battery. The battery brand can make the difference.

Also, If you had already stored anything in memory, you'd be better off trying the "paper-clip reset", which just forces a warmstart without clearing memory, before the ON+A+F memory reset.

Regards,

James

Re: hp49+ won't power up

*Message #5 Posted by **Ed Look** on 23 Nov 2005, 2:42 p.m.,*
in response to message #4 by James M. Prange (Michigan)

Oh right! This reply has brought back memories... not good ones.

Before I replaced my 49G+ (the new one is actually quite nice to use... as far as graphing calculators go; I am prejudiced toward scientific models) I did also have a problem with some brands of battery not being long enough to satifactorily touch the contacts.

My homemade solution?

I wadded some household aluminum foil and gently wedged it between the battery terminal and the electrical contact.

If you have one of the older model versions, you may have to do this. It's a slight pain, but it works.

Re: hp49+ won't power up

*Message #6 Posted by **tom lianza** on 23 Nov 2005, 4:17 p.m.,*
in response to message #5 by Ed Look

Hi all,

The paper clip reset finally worked. I didn't realize that you had to keep the clip in place for a few seconds. I put it in there and rotated it around for a few seconds and it came back to life...

Thanks,

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Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #1 Posted by **Valentin Albillo** on 23 Nov 2005, 6:09 a.m.*

Hi all,

Here you are, the next outing in the S&SMC series, rounding out the first dozen with a simple but quirky math challenge to help you flex your HP-programming muscles. So, enter

The Challenge

Find the *smallest* number N whose square is the sum of more than three *consecutive* cubes, all greater than 1.

- All numbers in your solution must be integer, positive, and greater than 1.
- Your program must find and display the solution as: smallest number (N), first cube (C), last cube (L).

For example, these are **not** solutions:

```
  N    C    L              Sum of cubes                              Comments
-------------------------------------------------------------------------------------------
--
 10    1    4 ->  1^3 + 2^3 + 3^3 + 4^3 = 100 = 10^2          1^3 is not greater than 1

204   23   25 ->  23^3 + 24^3 + 25^3 = 41616 = 204^2         there are only three consecutive cubes
```

Ye Olde Deadline:

Next Monday I'll post my original solutions (plus comments), namely:

- A reference HP-71B solution, which is a 3-line program (129 bytes) which finds the solution in a few minutes (less than 9 seconds running under Emu71 @ 2.4 Ghz). It's written using just standard BASIC, no ROM extensions, so it can be easily converted to any other programming languages, as demonstrated by

- A 54-step RPN program for the HP-15C, which is a direct, optimized conversion of the 71B reference solution. It finds the correct smallest value in under 1 hour 45 min when running on a physical HP-15C.

As a bonus, the almost-automatic conversion process from HP-71B's BASIC to HP-15C's RPN will be discussed in detail as well, statement for statement. Kinda "compiling source code BASIC to RPN", sort of ...

Before I do it, you might want to try your hand at it this next weekend. Solutions for any and all HP calcs are welcome, but you should first read

The Usual Caveat Computat:

- Try to achieve a proper balance between what *you* do and what *your program* does, i.e., the program should work for *you*, not the other way around; remember these challenges are intended for you to try and demonstrate your HP-calc programming abilities.

In one extreme, you give no thought to the problem at all and simply code a pure brute-force search that takes *ages* to run; in the other extreme, you think long and hard about it and come to an analytical solution of your own, then have your program simply print the answer. The ideal is to think *just enough* to help the program *a little*, then concoct a clever program using those simple shortcuts and let it do the hard work for you, as it was meant to be.

- Absolutely refrain from using a PC, laptop, or PDA (unless running some HP calc emulator/simulator) to solve the challenge. A Mathematica, Visual Basic, C++, or Java solution, say, is useless to the intended purposes of this challenge, in fact actually defeats them, *and submitting one is to be considered unpolite behavior*.

Best regards from V.

Re: Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #2 Posted by **Gerson W. Barbosa** on 23 Nov 2005, 12:00 p.m.,*
in response to message #1 by Valentin Albillo

Hello Valentin,

Sorry for posting just the answer but I am too busy at work to convert the algorithm to RPL or RPN, but I will do it later.

(79 seconds on a 8MHZ 200LX with QBASIC. I have also EMU71 installed on the 200LX. I think the conversion to HP71 Basic should be straightforward, but I am not sure about the efficiency of my algorithm)

```
  N   C   L
312  14  25
```

Best regards,

Gerson.

Re: Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #3 Posted by **Gerson W. Barbosa** on 23 Nov 2005, 8:12 p.m.,*
in response to message #1 by Valentin Albillo

Hi Valentin,

Below is the EMU71B version. Not totally brute force but very far from your optimized solution. It takes less than **9 minutes** running under Emu71 @ 0.5 Ghz, that is, at least 12.5 times slower than the optimum solution. This means it would take more than **9 hours** on the 15C. There's also an RPL version (1h 6m 22s according to the 48GX timer..., perhaps due to bad adaption). Is there a prize for the least efficient program? :-)

I just hope at least the solution is correct.

I am looking forward to yours and other people's solutions.

Best regards,

Gerson.

```
------------------------------------------------


15 N=14
20 N=N+1
```

```
30 Q=N*N
35 T=Q^(1/3)
40 FOR C=2 TO T-3
45 S=0
50 L=C
55 IF S>=Q THEN 80
60 S=S+L*L*L
65 L=L+1
70 GOTO 55
80 IF S=Q AND L-C>3 THEN DISP N;C;L-1 @ GOTO 95
85 NEXT C
90 GOTO 20
95 END


>RUN
 312.000000000  14.0000000000  25.0000000000


-------------------------------------------------


-------------------------------------------------
%%HP: T(2)A(D)F(,);
« TIME 0 'FOUND'
STO 14 'N' STO
  DO 1 'N' STO+ N
SQ DUP 'Q' STO 3
XROOT IP 'T' STO 2
'C' STO
    DO 0 'S' STO C
'L' STO
      WHILE S Q <
      REPEAT L DUP
SQ * 'S' STO+ 1 'L'
STO+
      END
      IF S Q == L C
- 3 > AND
      THEN 1
'FOUND' STO
      END 1 'C'
STO+
    UNTIL C T 3 -
== FOUND OR
    END
  UNTIL FOUND
  END TIME SWAP
HMS- N C 1 - L 1 -
»
-------------------------------------------------
```

Edited: 23 Nov 2005, 8:28 p.m.

Re: Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #4 Posted by **James M. Prange (Michigan)** on 23 Nov 2005, 9:16 p.m.,*
in response to message #3 by Gerson W. Barbosa

Based on what you've written, how about the RPL program:

```
\<< 312 14 25 \>>
```

;-)

Regards,
James

Edited: 23 Nov 2005, 9:18 p.m.

Re: Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #5 Posted by **Gerson W. Barbosa** on 24 Nov 2005, 6:27 a.m.,*
in response to message #4 by James M. Prange (Michigan)

> Quote:
>
> Based on what you've written, how about the RPL program:
>
> \<< 312 14 25 \>>
>
> ;-)

Way shorter and faster! Would the table below (not tested) be of any help for finding a hidden pattern?

Regards,

Gerson

```
------------------------

  312   14   25
  315   25   29
  323    9   25
  504   28   35
  588   14   34
  720   25   39
 2079   33   65
 2170   96  100
 2940  118  122
 4472   69  100
 4914   81  108
 5187   64  105
 5880   64  111
 5984  120  136
 6630  144  156
 7497   25  122
 8721  153  170
 8778  144  164
 9360  111  149
10296  133  164
10695   81  149
11024   21  148
13104  105  168
14160  118  177
16296  333  339
16380   78  182
18333   97  194
18810  176  220
22022  144  220
22330  225  259
23247  144  225
31248  217  279



------------------------
```

Re: Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #6 Posted by **Valentin Albillo** on 24 Nov 2005, 8:17 a.m.,*
in response to message #3 by Gerson W. Barbosa

Hi, Gerson:

Gerson posted:

"Below is the EMU71B version. Not totally brute force but very far from your optimized solution."

Thanks for your interest in my S&SMC#12 and your very interesting inputs, but first of all, I've never stated that my original solution is "optimized", far from it. I submitted to my own published "Caveats" and did not use specialized mathematical knowledge, just common 'engineering' sense. A truly optimized version would run much faster than mine, and yet I find your times intriguing:

"It takes less than 9 minutes running under Emu71 @ 0.5 Ghz, that is, at least 12.5 times slower than the optimum solution. This means it would take more than 9 hours on the 15C."

My original solution (again, not 'optimum') runs in 9 seconds under Emu71 @ 2.4 Ghz. Correcting for the clock speed, that means that indeed yours is 12.5 times slower. But my HP-15C version takes 1.75 hours to run so if the same factor applies, yours would take nearly 22 hours to run , not 9 !

" There's also an RPL version (1h 6m 22s according to the 48GX timer..., perhaps due to bad adaption). Is there a prize for the least efficient program? :-)"

Yes, there is, but I doubt yours qualifies. The least efficient ones are the ones not even posted; nay, not even *written*.

"I just hope at least the solution is correct."

You can be rest assured that indeed it is. Congratulations !

"I am looking forward to yours and other people's solutions."

My original (non-optimized) solution will be posted next Monday or sooner if interest in the challenge decays. Thanks again and

Best regards from V.

Re: Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #7 Posted by **Gerson W. Barbosa** on 26 Nov 2005, 4:31 p.m.,*
in response to message #6 by Valentin Albillo

Hi Valentin,

Thanks for your kind remarks, despite the definitely inefficient algorithm I presented. It was so bad I decided to start over this afternoon, now giving it a little more attention. Since many other excellent solutions have been presented so far, it's possible someone else may have used a similar approach. If such is the case, of course the credit goes to the first poster. I confess I haven't paid attention to the other algorithms as I intended to give it another try. However, I was amazed by the small running time they obtained.

The program below runs in 53 seconds under Emu71 @ 0.5 GHz, but the answer is found in about 11 seconds. There's a weekness in this method though, as the value of K in line 10 is rather arbitrary. Choosing a low K, there'll be no answer at all whereas a higher K will cause the program to take longer than needed. Also, though the solution is evident, it is not presented in the right order.

Best regards,

Gerson.

```
>LIST
10 K=100 @ FOR I=2 TO K-3 @ S=0 @ FOR J=I TO I+2 @ S=S+J*J*J @ NEXT J
20 IF J>K THEN 50
30 S=S+J*J*J @ J=J+1 @ IF FP(SQR(S))=0 THEN PRINT SQR(S);I;J-1
```

```
40 GOTO 20
50 NEXT I
>RUN
 323.  9.  25.
 312.  14.  25.
 588.  14.  34.
 315.  25.  29.
 720.  25.  39.
 504.  28.  35.
 2079.  33.  65.
 4472.  69.  100.
 2170.  96.  100.
>
```

Edited to include an RPN version:

This is a version for the HP-34C, the slowest programmable calculator I have. The solution is found in less than ten minutes. (kind of cheating since I have not proven why K=30 was enough :-)

```
001 h LBL A
002 30
004 STO 4
005 2
006 STO 1
007 h LBL 2
008 0
009 STO 0
010 RCL 1
011 STO 2
012 2
013 +
014 STO 3
015 h LBL 3
016 RCL 2
017 g x^2
018 h LSTx
019 *
020 STO + 0
021 1
022 STO + 2
023 RCL 3
024 RCL 2
025 f x<=y
026 GTO 3
027 h LBL 4
028 RCL 4
029 RCL 2
030 x>y
031 GTO 5
032 g x^2
033 h LSTx
034 *
035 STO + 0
036 RCL 0
037 SQRT
038 h FRAC
039 g x=0
040 GSB 6
041 1
042 STO + 2
043 GTO 4
044 h LBL 5
045 1
046 STO + 1
047 RCL 4
048 3
049 -
050 RCL 1
051 f x<=y
052 GTO 2
053 h RTN
054 h LBL 6
055 RCL 2
056 RCL 1
057 RCL 0
058 SQRT
059 R/S
060 h RTN
```

```
   A: 322 (6m 20s)
g Rv: 9
g Rv: 25
 R/S: 312 (+ 3m 2s)
g Rv: 14
g Rv: 25
 R/S: 315 (+ 4m)
g Rv: 25
g Rv: 29
 R/S: No more solutions for K=30 (+ 23s)
```

Edited: 26 Nov 2005, 10:15 p.m.

Re: Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #8 Posted by **Eamonn** on 23 Nov 2005, 10:20 p.m.,*
in response to message #1 by Valentin Albillo

Hi Valentin,

Here is a four line basic program that finds the solution that Gerson posted in 32 seconds on my Sharp PC-1262.

```
10 N=1
20 G=2*((N+5)*N+10)*(2*N+5): FOR X=N TO 2 STEP -1:S= SQR (G): IF S= INT (S) THEN 40
30 G=G+X*X*X: NEXT X:N=N+1: GOTO 20
40 PAUSE S: PAUSE X+1: PAUSE N+4
```

Here is a RPN program for the HP-33s (and HP-32s/sII) that takes about 45 seconds to find the same solution. It should be easy to port to almost any RPN calc. that supports recall arithmetic. Given that it only uses 47 program steps, it may even be possible to fit it into the HP-25 if the user can recall the results from the memory registers.

Best Regards,

Eamonn.

```
P0001 LBL P
P0002 1
P0003 STO N
A0001 LBL A
A0002 RCL N
A0003 STO X
A0004 5
A0005 +
A0006 RCL *N
A0007 10
A0008 +
A0009 RCL N
A0010 2
A0011 *
A0012 5
A0013 +
A0014 *
A0015 2
A0016 *
A0017 STO G
B0001 LBL B
B0002 RCL G
B0003 SQRT
B0004 FP
B0005 x=0?
B0006 GTO E
B0007 RCL X
B0008 RCL* X
B0009 RCL* X
B0010 STO+ G
```

```
B0011 1
B0012 STO- X
B0013 RCL X
B0014 x>y?
B0015 GTO B
B0016 x<>y
B0017 STO+ N
B0018 GTO A
E0001 LBL E
E0002 LASTx
E0003 RCL X
E0004 1
E0005 +
E0006 RCL N
E0007 4
E0008 +
E0009 RTN
```

Re: Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #9 Posted by **Chris Dean** on 24 Nov 2005, 5:35 a.m.,*
in response to message #8 by Eamonn

Eamonn

I am slightly confused by your code

> Quote:
>
> 10 N=1
> 20 G=2*((N+5)*N+10)*(2*N+5): FOR X=N TO 2 STEP -1:S= SQR (G): IF S= INT (S) THEN 40
> 30 G=G+X*X*X: NEXT X:N=N+1: GOTO 20
> 40 PAUSE S: PAUSE X+1: PAUSE N+4

1. It seems as though the setting of G in line 30 is redundant as its value is over written at the start of line 20
2. Does the algorithm use the fact that (1^3 + 2^3 +.... + N^3) = N^2 * (N + 1)^2 / 4?
3. Using S=INT(S) is quite hit and miss, better to use code of the form
IF ABS(S - INT(S + 0.0005)) < 1.0e-6 THEN 40

I hope you are not offended by my comments.

Chris Dean

Edited: 24 Nov 2005, 5:49 a.m.

Re: Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #10 Posted by **Eamonn** on 24 Nov 2005, 1:14 p.m.,*
in response to message #9 by Chris Dean

Hi Chris,

> Quote:
>
> 1. It seems as though the setting of G in line 30 is redundant as its value is over written at the start of line 20

On line 20, G is initialized before the 'FOR' loop. On line 30, the value in G is updated every time through the 'FOR' loop. The program may be a bit confusing because the initialization of G and the 'FOR' are on the same line. However, the initialization of G does not occur each time through the FOR loop.

Perhaps the program is more understandable if break up lines 20 and 30 and write it like this.

(Note that I have also taken the liberty of fixing a bug in the program on line 20. Instead of counting down to 2, the FOR loop now counts down to 1. The original program found the correct answer, but it didn't test all cases. More details below.)

```
10 N=1
20 G=2*((N+5)*N+10)*(2*N+5)
25 FOR X=N TO 2 STEP -1:S= SQR (G): IF S= INT (S) THEN 40
30 G=G+X*X*X: NEXT X:
35 N=N+1: GOTO 20
40 PAUSE S: PAUSE X+1: PAUSE N+4
```

Here, G is initialized on line 20, but the FOR loop starts on line 25. I admit that the original submission was a bit more cryptic than it could have been - perhaps I should have foused on clarity instead of brevity.

> Quote:
>
> 2. Does the algorithm use the fact that (1^3 + 2^3 +.... + N^3) = N^2 * (N + 1)^2 / 4?

Here are some comments on the modified code above, that I hope make it clearer what is going on:

Line 20 calculates (N+4)^3 + (N+3)^3 + (N+2)^3 + (N+1)^3. This is the sum of the four consecutive cubes, from N+1 to N+4. If you multiply out the cubes in longhand and add them together, you will see that they are the same.

Line 25 starts a for loop counting from N down to 2. The square root of G is calculated and checked to see if it is an integer. If it is, then the program has found the solution and branches to line 40.

In line 30, X^3 is added to G. The first time through the loop, this adds N^3 to G, so that G becomes (N+4)^3 + (N+3)^3 + (N+2)^3 + (N+1)^3 + N^3 - ie the sum of five consecutive cubes from N^3 to (N+4)^3. After the NEXT X statement, X will be decremented by 1. Next time through the loop, (N-1)^3 will be added to G. The time after that (N-2)^3 will be added to G, and so on. The last cube to be added to G that is subsequencly tested is 2^3. The last cube to be added is is 1^3, but this value is not tested, because the loop terminates after this is added.

Once the program has tested all sums from (N+4)^3 + ... + 2^3 and not found a solution, it increments N (line 35) and startes testing all the sums for a larger value of N.

On line 40, the results are printed. The challenge dictates that the results should be the square root of the sum (which is S), the smalled value in the series (which is X+1) and the largest value in the series (which is N+4).

> Quote:
>
> 3. Using S=INT(S) is quite hit and miss, better to use code of the form IF ABS(S - INT(S + 0.0005)) < 1.0e-6 THEN 40

Not sure about this. I think that the original test is fine in this case. G is an integer and the test is to see if its square root is also an integer. If the square root is an integer, then the original code should find it

OK.

> Quote:
>
> I hope you are not offended by my comments.

Not in the least. Thanks for the feedback.

Best Regards,

Eamonn.

Re: Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #11 Posted by **Chris Dean** on 24 Nov 2005, 2:45 p.m.,*
in response to message #10 by Eamonn

Thanks for the response. I am enlightened.

HP-25 solution

*Message #12 Posted by **Eamonn** on 25 Nov 2005, 11:37 a.m.,*
in response to message #8 by Eamonn

Here is a solution for the HP-25. It works on the HP-25 simulator available fom this website, but I don't have a real HP-25 to test it on to see how long it takes to run. It requires 39 program steps and 3 registers. This program should be able to run on most RPN programmables with minor modifications.

I have also attached an updated version of my BASIC program that is a bit cleaner than the original one I posted. The HP-25 program uses the same algorithm.

Eamonn.

```
5
STO 0
RCL 0
ENTER
ENTER
ENTER
3
-
STO 1
*
5
+
*
3
-
3
*
STO 2
RCL 1
RCL 1
*
RCL 1
*
STO+ 2
RCL 2
SQRT
FRAC
x=0
GTO 37
1
STO- 1
RCL 1
```

```
 x!=y
 GTO 20
 STO+ 0
 GTO 3
 LASTx
 RCL 1
 RCL 0
```

Basic program

```
10 N=5
20 G=3*(((N-3)*N+5)*N-3)
30 FOR X=N-3 TO 2 STEP -1:G=G+X*X*X,S= SQR (G): IF S= INT (S) THEN 60
40 NEXT X
50 N=N+1: GOTO 20
60 PAUSE S: PAUSE X: PAUSE N
```

Re: Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #13 Posted by **Thomas Radtke** on 24 Nov 2005, 8:53 a.m.,*
in response to message #1 by Valentin Albillo

Here's my solution for the 48G:

```
<< 1 0 0 0 0 0 0 -> N A B T I R S
<< TICKS 'S' STO
   DO
     -1 1 8 N * + sqrt + 2 / 1 + IP 'A' STO
     N SQ 3 XROOT 1 + IP 'B' STO


     A B FOR I
       I SQ I 1 + SQ * N SQ 4 * - sqrt 4 * 1 + sqrt 1 - 2 / IP 'T' STO
       I SQ I 1 + SQ * T SQ T 1 + SQ * - 'R' STO


       IF R 4 N SQ * - 0 == THEN
         IF A T - 4 >= THEN
           N T 1 +
           TICKS S - B->R 8192 / '1_s' ->UNIT
           KILL
         END
       END
     NEXT


     1 'N' STO+
   UNTIL 0 END
>>
>>
```

Result: 312 14 25, roughly 7'30" used.

I appologize for any bugs, I have no serial cable so had to type in the listing manually:(.

Thomas

Re: Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #14 Posted by **Valentin Albillo** on 24 Nov 2005, 9:24 a.m.,*
in response to message #13 by Thomas Radtke

Hi, Thomas:

Thomas posted:

"I appologize for any bugs, I have no serial cable so had to type in the listing manually:(."

Much appreciated. Thanks for your (correct) solution and

Best regards from V.

Re: Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #15 Posted by **Don Shepherd** on 24 Nov 2005, 12:53 p.m.,*
in response to message #1 by Valentin Albillo

Hi Valentin. It is Thanksgiving Day in the US, and I'll take this opportunity to thank you for this challenge. I have just started teaching middle school math to 11- and 12-year olds, so I really should be planning lessons, but I could not resist this challenge.

Below is the code for 12c platinum, using indirect addressing (such as it is) to store the cubes of 2 - 31 so I would not have to recalculate them. It is always a challenge to use indirect on the 12c series (challenge is really not the proper word, but this is a family forum).

The code takes about 4 or 5 minutes to find solutions for n = 323, 312, 204 (which really does not qualify since it is only 3 cubes), and 315.

Thanks for your always stimulating challenges!

Don Shepherd Louisville, Kentucky USA

```
001  cf0
002  2
003  enter
004  enter
005  enter
006  X
007  X
008  cfj
009  rcl n
010  3
011  0
012  -
013  x=0
014  gto 019
015  3
016  2
017  +
018  gto 004
019  1
020  sto i
021  sto n
022  rcl cfj
023  sto 0
024  rcl i
025  1
026  +
027  sto pmt
028  sto n
029  rcl cfj
030  sto +0
031  rcl 0
032  sqrt x
033  intg
034  enter
035  X
036  rcl 0
037  -
038  x=0
039  gto 041
040  gto 052
041  rcl 0
042  sqrt x
043  r/s
044  rcl i
045  1
046  +
```

```
047  r/s
048  rcl pmt
049  1
050  +
051  r/s
052  rcl pmt
053  1
054  +
055  sto pmt
056  enter
057  3
058  0
059  -
060  x=0
061  gto 064
062  rcl pmt
063  gto 028
064  rcl i
065  1
066  +
067  sto i
068  enter
069  2
070  9
071  -
072  x=0
073  gto 000
074  rcl i
075  gto 021
```

Re: Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #16 Posted by **Chris Dean** on 24 Nov 2005, 6:28 p.m.,*
in response to message #15 by Don Shepherd

It might be worth noting that the identity

SIGMA(1, N^3) = N^2 x (N + 1)^2 / 4

Therefore

SIGMA(C^3, L^3) = SIGMA(1, L^3) - SIGMA(1, (C - 1)^3)

= L^2 x (L + 1)^2 / 4 - (C - 1)^2 x C^2 / 4

= N^2

which greatly simplifies the sums without assuming that the minimum will have 4 elements. With a test for a minimum value the calculation time taken to solve the problem is drastically reduced. I do not think this detracts too much from the fun of the programming exercise.

I have a solution written in Java but would not dream of posting it as that would not be very polite. I am currently without a HP calculator and will be getting a HP-49G+ at Christmas.

Edited: 24 Nov 2005, 6:32 p.m.

Re: Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #17 Posted by **Thomas Radtke** on 25 Nov 2005, 2:05 a.m.,*
in response to message #16 by Chris Dean

My solution above uses this identity, plus I make some assumption about one of the boundaries of the series for any N and calculate the second boundary to meet N^2. It bites me that Eamonn has presented a different solution that beats mine hands down in any respect;).

Thomas

Re: Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #18 Posted by **Valentin Albillo** on 25 Nov 2005, 6:15 a.m.,*
in response to message #16 by Chris Dean

Hi, Chris:

Chris wrote:

"I have a solution written in Java but would not dream of posting it as that would not be very polite."

> Thanks. I know it's tempting but you should resist. Much appreciated, that you abide by the "rules".

"I am currently without a HP calculator"

> Suffer no more. Visit the web page of the truly wonderful, free HP-71B emulator Emu71 by Jean-François Garnier, and you'll get the functional equivalent of an HP-71B, plus HP-IL, Math ROM, Forth, even Assembler if you feel like it.
>
> It will allow you to enter my original solutions next Monday, other people's in BASIC, or develop your own. At tremendous speeds and using a full PC keyboard and screen for maximum enjoyment and productivity. It even provides a simulated disk drive or two, and up to 320 Kb or more of simulated RAM ! :-)
>
> Moreover, if you get to like the HP-71B functionality and programming, once you receive your 49 for Xmas you can also get HP-71X, another perfect emulator for the HP-71B by Hrastprogrammer, but this time running in your eminently portable 49 instead of a Windows PC.

Best regards from V.

Edited: 25 Nov 2005, 6:23 a.m.

Re: Short & Sweet Math Challenge #12: Squaring Cubes on HP 16C!

*Message #19 Posted by **Marcus von Cube, Germany** on 25 Nov 2005, 11:25 a.m.,*
in response to message #16 by Chris Dean

Since my name is part of the challenge I had to participate ;-)

The identity is worth much more than nothing, I used it in my HP 16C solution. The 16C is not the fastest, it takes his time (12'19" to be precise.)

GSB A starts the process from the beginning. After the run, N is shown; press R/S twice to see the values for C and L.

```
LBL A
 DEC
 2
 0
 WSIZE      set it big enough
 5
LBL 0
 STO 2      this is L
 ENTER
 *          no x^2 on the 16C :-(
 RCL 2
```

```
 1
 +
 ENTER
 *          x^2 again
 *          this is 4 times the sum of cubes from 1 to L
 STO 0      intermediate result, used later
 RCL 2
 3
 -
LBL 1
 STO 1      this is C
 1
 -
 ENTER
 *
 RCL 1
 ENTER
 *
 *          this is 4 times the sum of cubes from 1 to C-1
 RCL 0      same for 1 to L (see above)
 x<>y       we want a positive difference
 -          now we have 4 times the sum of cubes from C to L
 SQRT       sets the carry flag if X was not an exact square
 F? 4       query the carry
 GTO 2      next try, because value was not a square
 GTO 9      HEUREKA!
LBL 2
 1          lower bound for C
 RCL 1
 1
 -          new C := C-1
 x!=y       bound not yet reached?
 GTO 1      store new value for C and continue search
 1
 RCL 2      L
 +
 GTO 0      new value for L, continue search
LBL 9
 2
 /          we used 4 times the sum, correct the root
 R/S        show N
 RCL 1
 R/S        show C
 RCL 2
 R/S        show L
```

Marcus

Re: Short & Sweet Math Challenge #12: Squaring Cubes on HP 16C - Slightly modified

*Message #20 Posted by **Marcus von Cube, Germany** on 26 Nov 2005, 4:09 a.m.,*
in response to message #19 by Marcus von Cube, Germany

I did some optimization on the code and saved steps and execution time (now below 11') by rearranging the expression:

N^2 * (N + 1)^2 ==> (N * (N + 1))^2

The changes are after labels 0 and 1:

```
LBL A
 DEC
 2
 0
 WSIZE      set it big enough
 5
LBL 0
 STO 2      this is L
 ENTER
 ENTER
 1
 +
```

```
 *          L * (L + 1)
 ENTER      no x^2 on the 16C :-(
 *          this is 4 times the sum of cubes from 1 to L
 STO 0      intermediate result, used later
 RCL 2
 3
 -
LBL 1
 STO 1      this is C
 ENTER
 ENTER
 1
 -
 *          (C - 1) * C
 ENTER      no x^2 on the 16C :-(
 *          this is 4 times the sum of cubes from 1 to C-1
 RCL 0      same for 1 to L (see above)
 x<>y       we want a positive difference
 -          now we have 4 times the sum of cubes from C to L
 SQRT       sets the carry flag if X was not an exact square
 F? 4       query the carry
 GTO 2      next try, because value was not a square
 GTO 9      HEUREKA!
LBL 2
 1          lower bound for C
 RCL 1
 1
 -          new C := C-1
 x!=y       bound not yet reached?
 GTO 1      store new value for C and continue search
 1
 RCL 2      L
 +
 GTO 0      new value for L, continue search
LBL 9
 2
 /          we used 4 times the sum, correct the root
 R/S        show N
 RCL 1
 R/S        show C
 RCL 2
 R/S        show L
```

Marcus

Re: Short & Sweet Math Challenge #12: Squaring Cubes in 14 seconds on HP 33s

*Message #21 Posted by **Marcus von Cube, Germany** on 26 Nov 2005, 5:48 a.m.,*
in response to message #20 by Marcus von Cube, Germany

The same solution ported to the 33s takes only 14 seconds to run!

```
LBL A
 5          initial guess for L
LBL L
 STO L
 ENTER
 ENTER
 1
 +
 *
 x²         (L * (L + 1))²
 STO i      intermediate result
 RCL L
 3
 -          initial guess for C
LBL C
 STO C
 ENTER
 ENTER
 1
 -
 *
 x²         ((C - 1) * C)²
```

```
 RCL- i
 +/-         4 times the sum of cubes from C to L
 SQRT
 FP
 x=0?        check if exact square
 GTO Z       HEUREKA!
 1           lower bound for C
 ENTER
 +/-
 RCL+ C      C - 1
 x!=y?
 GTO C       bound not yet reached, store new C and try again
 RCL+ L      L + 1
 GTO L       new L
LBL Z
 LASTx       FP has destroyed the the root, get it back
 2           all values were * 4, correct the root here
 /
 STO N       final result
 VIEW N      show the variables
 VIEW C
 VIEW L
```

Thanks again for the formula, Chris!

Marcus

Re: Short & Sweet Math Challenge #12: Squaring Cubes in 24 seconds on HP 28s (RPL)

*Message #22 Posted by **Marcus von Cube, Germany** on 26 Nov 2005, 8:31 a.m.,*
in response to message #21 by Marcus von Cube, Germany

Here is my RPL attempt. On my 28s it takes 24 seconds:

```
<< 0 0 0 0 0 -> sl c l n done       @ local variables
   << 5                             @ initial guess for L
      WHILE
         'l' STO                    @ store new L
         l 1 + l * SQ               @ 4 * sum of cubes from 1 to L
         'sl' STO                   @ save it somewhere
         l 3 -                      @ inititial guess for C
         WHILE
            'c' STO                 @ store new C
            sl                      @ see above
            c 1 - c * SQ            @ 4 * sum of cubes from 1 to C-1
            -                       @ 4 * sum of cubes from C to L
            SQRT DUP                @ Square root on stack
            'n' STO                 @ and in N (for later display)
            FP 0 ==                 @ check if root is integer
            'done' STO              @ save result of check
            c 2 !=                  @ lower bound not reached
            done NOT AND            @ and no solution yet
         REPEAT
            c 1 -                   @ compute new C
         END
         done NOT                   @ no solution yet
      REPEAT
         l 1 +                      @ compute new L
      END
      n 2 /                         @ display corrected N
      c                             @ display C
      l                             @ display L
   >>
>>
'SMC12' STO                         @ give it a name
```

The program uses the logical variable 'done' to determine if the loops should continue or a solution is found already. The REPEAT keyword marks the spot where the decision about loop terminationis on the stack.

The same program takes about 5.5 seconds on a 49g+.

Marcus

Re: Short & Sweet Math Challenge #12: Squaring Cubes in 24 seconds on HP 28s (RPL)

*Message #23 Posted by **Chris Dean** on 27 Nov 2005, 10:41 a.m.,*
in response to message #22 by Marcus von Cube, Germany

This looks like a nice neat, understandable RPL solution.

Re: Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #24 Posted by **Valentin Albillo** on 25 Nov 2005, 5:57 a.m.,*
in response to message #15 by Don Shepherd

Hi, Don:

Don wrote:

"It is Thanksgiving Day in the US, and I'll take this opportunity to thank you for this challenge."

> Why, thank you ! I'm glad you like it, thanks to you for your interest.

"I have just started teaching middle school math to 11- and 12-year olds, so I really should be planning lessons, but I could not resist this challenge."

> I really do envy you. Among my many main hobbies, teaching is my second vocation, and teaching mathematics would probably qualify as my first. I've always been absolutely upset by the fact that most kids (most people, actually) abhor mathematics and consider it boring and a real chore while, in my humble opinion, this only reflects the fact that mathematics are usually taught in a most boring way, using the most dreadful methodologies. If properly taught, mathematics can be fun, inspiring, enthralling, and one of the greatest intellectual pleasures there are in this world, even artistic if I may say so.

Below is the code for 12c platinum, using indirect addressing [...] The code takes about 4 or 5 minutes to find solutions for n = 323, 312, 204 (which really does not qualify since it is only 3 cubes), and 315.

> Excellent entry, and for the HP-12C no less. Full marks to you for this.

"Thanks for your always stimulating challenges!"

> You're welcome, indeed. Let me say once more that I really appreciate when people tell me, either in this forum or privately, that they do like my challenges, even if they post no solution, because concocting them takes a precious time that I must literally rob from my family time, which always leaves me with a feeling of guilt. So, it's nice to know that at least it isn't wasted and perhaps I might induce some people to be fond of things mathematical.

Now, that's your opportunity with those kids; make sure they consider the math class as one of the funniest around ! There are no boring maths, just boring teachers ! :-)

Best regards from V.

Re: Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #25 Posted by **Chris Dean** on 25 Nov 2005, 7:33 a.m.,*

in response to message #24 by Valentin Albillo

Hi Valentin

Thanks for the information, I will download the emulator and give it a whirl. With regards to your other response, in the late seventies I was a mathematics teacher (11-18 year olds) and loved every minute of it!

Regards

Chris Dean

Re: Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #26 Posted by **Don Shepherd** on 25 Nov 2005, 4:19 p.m.,*
in response to message #24 by Valentin Albillo

Valentin, many thanks for your kind words. I agree, teaching math to kids is probably the best job in the world. It is certainly the hardest job I have ever had. The problem is, of course, that all kids just aren't interested in learning, and that makes it tougher to teach the kids who do want to learn. I've only been teaching for one month, and already I could write a book about it.

thanks again, Don Shepherd

Re: Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #27 Posted by **Bram** on 26 Nov 2005, 3:22 p.m.,*
in response to message #1 by Valentin Albillo

> Quote:
>
> Before I do it, you might want to try your hand at it this next weekend.

Thanks Valentin for again an S&SMC, but alas, wrong weekend for me. I've hardly the time to even read this thread, but I'll definitely will do so anyway another time.
So once no contribution from me.

Re: Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #28 Posted by **PeterP** on 26 Nov 2005, 9:58 p.m.,*
in response to message #1 by Valentin Albillo

Valentine,

very brute force, yet in a bow in deference to Angel who recently brought to us the QRG to his fabulous SandMathIII, I elected to use some of his functions. And another bow to Meindert, as I use his genial MLDL to load the SandMathIII...

You can choose a starting value for the upper boundary. Using 5 (which is the firts one to fullfill the rules of the challenge) it takes a normal CX roughly 1'34". It has 55 Lines and 94 bytes.

Again, not very pretty, so please no yelling from the more talented crowd. Especially for all the mistakes that I'm sure I have in the code...

Thanks Valentine for those challenges, I love them!

Cheers

Peter

Here is my code: Some explanations: Reg M: Outer loop Counter for upper Bonudary L

Reg N: Inner Loop counter for lower Boundary C (from L-4 to 2)

Reg O: -3.999 Constant

Reg a: Value of Sum of x^3 from 1 to L

```
Lbl'DD
Sto M "Stores the starting value
Time
Sto 01 "For taking the time
-3.999
Sto O
Lbl 00 "The outer brute force loop for the upper boundary L
Rcl O
Rcl M
INCX "Thanks Angel!
Sto M
+
Sto N
Last X
Enter
X^2
+
X^2
Sto a "This is the Sum(x^3) from 1 to L (L in Reg M)
Lbl 01 "Inner brute force loop for lower Boundary C
Rcl a
Rcl N
```

```
Int
X^2
Last X
-
X^2
-
Sqrt
Int
Last X
X=Y?
Gto 03 "The first and smallest Solution is found
DSE N
Gto 01
Gto 00
Lbl 03 "Display the solution in Sequence L,C,N,Time
Time
Rcl 01
HMS-
x<>y
Rasp "Just a fancy Beep from Angel
View M "This is the upper boundary L
Stop
View N " This is the lower Boundary C
Stop
2
/
View X "This is N
Stop
CLA
```

"Time:

Arcl Y

Aview

Stop

End

The first version took about 2' and 10" and I had to use some additional "thinking of the programmer" to get it under 2'. For example one can see that the difference between the L sum and the C sum is always an even number. Hence I was able to save the "HalfX" (another handy Angel function) before the "Int, X=Y?", which takes a bit of time out of the loop, yet requires the "2 /" in the end to display the right N. Another time-saver was to calculate X*(X+1) and X*(X-1) out into X^2 +X and X^2-X, which is a tad faster to program on the 41 { [Rcl M, IncX, Rcl M, *] is a bit slower than [Rcl M, X^2, LastX, +]}

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

Edited: 26 Nov 2005, 10:02 p.m.

Re: Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #29 Posted by **PeterP** on 26 Nov 2005, 10:14 p.m.,*
in response to message #28 by PeterP

...and maybe someone can show me how to format the code as nicely and easily as some of the other HP-lovers. Sorry for the layout mess...

Now that I solved it for myself I went through the other posts. I'm impressed with all the different solutions for all the different calcs! Yet a bit surprised that we do not have another explicit 41 solution (my sole true love). I guess it is a bit too oldfashioned...

Thanks Valentin again!

Cheers

Peter

Formatting

*Message #30 Posted by **Karl Schneider** on 26 Nov 2005, 10:35 p.m.,*
in response to message #29 by PeterP

Peter --

Link to formatting techniques at the HP Forum main page

The bracketed "[]" commands you need at either end of the source code listing are "pre" and "/pre"

If nobody else responds to your first post (and if you gave it a password), you can still edit it to make it look right.

-- KS

Re: Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #31 Posted by **Gerson W. Barbosa** on 26 Nov 2005, 10:39 p.m.,*
in response to message #29 by PeterP

Hi PeterP,

> Quote:
>
> ...and maybe someone can show me how to format the code as nicely and easily as some of the other HP-lovers.

Just click on the Preformatted button then paste your preformatted listing between the [pre] and [/pre] delimiters. You can also type these delimiters manually:

For instance,

[pre]

```
1st line
2nd line
3rd line
```

[/pre]

will produce this:

```
1st line
2nd line
3rd line
```

rather than the following, if you omit them:

1st line 2nd line 3rd line

Regards,

Gerson.

Re: Short & Sweet Math Challenge #12: Squaring Cubes !

*Message #32 Posted by **PeterP** on 27 Nov 2005, 1:08 a.m.,*
in response to message #28 by PeterP

Thanks so much for the formatting tips, here is the formatted version. Learned something!

```
Some explanations:
Reg M: Outer loop Counter for upper Boundary L
Reg N: Inner Loop counter for lower Boundary C (from L-4 to 2)
Reg O: -3.999 Constant
Reg a: Value of Sum of x^3 from 1 to L {aka Sum(x^3;1,L)}


Lbl'DD  "This is were it all begins
  STO M   "Stores the starting value for L, normally will be 5
```

```
  Time
  STO 01  "For taking the time
  -3.999
  STO O   "For faster inner loop calculation, numbers are slow...


Lbl 00  "The outer brute force loop for the upper boundary L
  RCL O
  RCL M
  INCX    "Thanks Angel!
  STO M
  +
  STO N   "Inner loop boundaries for C; they are from L-4 to 1 excl
  Last X
  Enter
  X^2
  +
  X^2
  STO a   "This is the Sum(x^3) from 1 to L (L in Reg M)


  Lbl 01  "Inner brute force loop for lower Boundary C, calculating
           Sum(x^3;1-L) - Sum(x^3,1-C) = sum(x^3;C,L)
           and checks if it is a full square
    RCL a
    RCL N
    Int
    X^2
    Last X
    -
    X^2     "now we have sum(x^3;1,C)


    -       "Sum(x^3;1,L) - Sum(x^3;1,C)
    Sqrt
    Int
    Last X
    X=Y?    "Is it a full Square?
    GTO 03  "The first and smallest Solution is found
    DSE N   "if not, decrease C and hence add one element to the
             sum
    GTO 01  "Rinse and repeat
GTO 00  "Increase L


Lbl 03  "Display the solution in Sequence L,C,N,Time
  Time
  RCL 01
  HMS-    "Calculate elapsed time
  x<>y
  Rasp    "Just a fancy Beep from Angel
  View M  "This is the upper boundary L
  Stop
  View N  "This is the lower Boundary C STOp
  2
  /       "See explanation in original post
  View X "This is N
  Stop
  CLA
  "Time:
  ARCL Y
  Aview
  Stop
End
```

S&SMC#12: My original solutions and comments

*Message #33 Posted by **Valentin Albillo** on 28 Nov 2005, 7:28 a.m.,*
in response to message #1 by Valentin Albillo

Hi all:

First of all, many thanks for the overwhelming number of excellent solutions you've posted in so many versions for so many different HP models (and the odd SHARP), it's been really great to see so many of you interested in my humble challenge. Also, your kind comments are much appreciated, even by the ones who

couldn't post a solution this time (Hi, Bram!), thank you so much.

Now these are my two original solutions, the reference one for the HP-71B, and the one derived from it for the HP-15C. As I told Mr. Barbosa in an early post, they aren't optimal in any sense, because though I fully knew about the formulae that could compute the sum of N cubes directly, without iteratively adding the cubes up, one at a time, I decided I would provide a solution similar to the one an individual not knowing the existence of said formulae could come up with, by using common engineering sense to speed the search instead of blindly relying in a pure brute force approach.

The HP-71B reference solution

That being so, the reference solution for the HP-71B does not use any formula at all, as seen in the following 3-line, 129 byte, GOTO-less program (arbitrary line numbers):

```
    1 FOR N=15 TO 500 @ S=N*N @ L=INT((S/4)^(1/3)) @ FOR C=L TO 3 STEP -1
    2 S=S-C*C*C @ IF S=0 THEN DISP N;C;L @ END ELSE IF S<0 THEN S=S+L*L*L @ L=L-1
    3 NEXT C @ NEXT N @ DISP "Not found"


>RUN


 312  14  25
```

which takes some 9 seconds under Emu71 @ 2.4 Ghz, and a few minutes in a physical HP-71B. A brief explanation of its workings:

- Since the challenge asks for more than three consecutive cubes, and 1^3 is not legal, we must search from $2^3+3^3+4^3+5^3 = 224 > 14.96^2$ up, so we begin our search at N=15.
- We further arbitrarily restrict our search up to N=500, but this value doesn't affect execution time at all since the search will end as soon as the minimum solution is found, so we could put N=1000000 instead and it would make no difference.
- Since there must be at least 4 consecutive cubes in the solution, we'll start adding cubes from a maximum value depending on N, and go down till either we find a solution, or we reach 1. The maximum value for each cube must be near 1/4th of the value of N, since at least four of them will be added up and they're roughly the same size.
- Then, starting from the greater four cubes, we keep on adding smaller cubes till a solution is found. If our sum exceeds N, we subtract the largest cube and keep on adding smaller ones, and this process is repeated until either we've found a solution or we've reached to 1. In that case, this value of N can't be so expressed and we proceed to the next value for N.

Eventually the solution is found:

$$312^2 = 14^3 + 15^3 + 16^3 + 17^3 + 18^3 + 19^3 + 20^3 + 21^3 + 22^3 + 23^3 + 24^3 + 25^3 = 97344$$

for a total of **12** (S&SMC#**12**) consecutive cubes being added up. As some people discovered, there's a near-solution:

$$315^2 = 25^3 + 26^3 + 27^3 + 28^3 + 29^3 = 99225$$

adding up only 5 cubes. But the requirements were for the *minimum* value of N, and 312 is less than 315.

The HP-15C derived solution

There are two main points in creating a reference solution for the HP-71B, namely:

- Anyone can enter and run it, regardless of they having a physical HP-71B, thanks to the incredible and **free** Emu71, a near-perfect emulator for the HP-71B created by Jean-François Garnier, with the added advantages of much faster execution times and the convenience of full PC keyboard and screen. A solution for other models would only be accessible for people having those physical models or their emulators, possibly non-free, or much more onerous to get and install.

- HP-71B BASIC is extremely easy to understand, most specially for native English speakers, being quite similar to natural language, so it's actually very easy to translate the reference solution to any other programming language such as RPN, RPL, or C#, say. That wouldn't be the case for an RPN and, most specially, RPL solution that by their very nature are extremely cryptic and difficult to convert to non-stack machines.

To demonstrate this, the following HP-15C RPN solution was produced from the above reference solution for the HP-71B:

```
01 LBL A     19 RCL RAN#  33 X=0?     47 GTO 0
02   3       20 Y^X       34 GTO 3    48 LBL 3
03 1/X       21 INT       35 TEST 3   49 RCL 0
04 STO RAN#  22 STO 1     36 GTO 4    50 R/S
05 .003      23 RCL+I     37 RCL 1    51 RCL 3
09 STO I     24 STO 3     38 RCL*1    52 INT
10  15       25 LBL 1     39 RCL*1    53 R/S
12 STO 0     26 RCL 3     40 STO+2    54 RCL 1
13 LBL 0     27 INT       41 DSE 1
14 RCL 0     28 ENTER     42 LBL 4
15 X^2       29 X^2       43 DSE 3
16 STO 2     30  *        44 GTO 1
17  4        31 STO-2     45 ISG 0
18  /        32 RCL 2     46 LBL 0
```

which is 54 steps long and takes 1 h 45 min to find the solution. You can insert a pause statement (PSE) after step 14 RCL 0, in order to see how the search progresses. To run it:

```
RUN -> N
R/S -> C
R/S -> L
```

The conversion process (i.e.: compilation) from reference 71B BASIC to 15C RPN is easy and almost automatic, and goes like this:

- First, let's map the BASIC variables used to RPN registers, like this:

  ```
  0: N
  1: L
  2: S
  3: C
  ```

- Also, we'll optmize for speed by storing a needed constant (the lower limit of the cube search, in RPN's ISG/DSE convention) in register I, and 1/3 (for cube roots) in register #RAN:

  ```
  I   : 0.003
  #RAN: 1/3
  ```

  Now, we'll simple translate statement for statement, like this:

- (required RPN setup)

  ```
  01 LBL A      (entry point)
  02   3
  03 1/X
  04 STO RAN#   (speed optimization, for cube roots)
  05 .003
  09 STO I      (speed optimization, for ISG/DSE)
  ```

- 1 FOR N=15 TO 500

  ```
  10  15
  ```

```
        12 STO 0      (N=15; the upper limit is ignored, search till a solution is
found)
        13 LBL 0      (it's a FOR, so we'll loop to here)
```

- @ S=N*N

```
        14 RCL 0      (N)
        15 X^2
        16 STO 2      (S=N^2)
```

- @ L=INT((S/4)^(1/3))

```
        17  4
        18  /         (S/4)
        19 RCL RAN#   (1/3)
        20 Y^X
        21 INT
        22 STO 1      (L=INT(S/4)^(1/3))
```

- @ FOR C=L TO 3 STEP -1

```
        23 RCL+I      (we construct L.003, for ISG/DSE)
        24 STO 3      (C=L.003)
        25 LBL 1      (it's a FOR so we'll loop to here
```

- 2 S=S-C*C*C

```
        26 RCL 3      (C, with .003 attached)
        27 INT        (C by itself)
        28 ENTER
        29 X^2        (C^2)
        30  *         (C^3)
        31 STO-2      (S=S-C^3)
```

- @ IF S=0 THEN DISP N;C;L @ END

```
        32 RCL 2      (S)
        33 X=0?       (S=0?)
        34 GTO 3      (yes, go deal with that case)
           ...
        48 LBL 3      (here we deal with a solution)
        49 RCL 0      (N)
        50 R/S        (stop for the user to see it)
        51 RCL 3      (C with 0.003 attached)
        52 INT        (C by itself)
        53 R/S        (stop for the user to see it
        54 RCL 1      (L, and last step: end program execution)
```

- ELSE IF S<0 THEN S=S+L*L*L

```
        35 TEST 3     (did we exceed N?)
        36 GTO 4      (not yet, go on)
        37 RCL 1      (yes, recall L)
        38 RCL*1      (L^2)
        39 RCL*1      (L^2)
        40 STO+2      (put it back in the running sum)
```

- @ L=L-1

```
        41 DSE 1      (decrease L by one)
        42 LBL 4      (the search continues here)
```

- 3 NEXT C

```
        43 DSE 3      (decrease C by one and see if we can loop)
        44 GTO 1      (yes, go loop)
```

- @ NEXT N

```
        45 ISG 0      (increment N by one)
        46 LBL 0      (place holder, we'll loop indefinitely)
        47 GTO 0      (go loop for another N)
```

- @ DISP "Not found"

```
                        (no code, it never happens)
```

That's all. Thanks for your interest and

Best regards from V.

Re: S&SMC#12: My original solutions and comments

*Message #34 Posted by **Marcus von Cube, Germany** on 28 Nov 2005, 8:40 a.m.,*
in response to message #33 by Valentin Albillo

Hi Valentin,

the most interesting difference between your solution and mine is the way the search is done.

> Quote:
>
> Find the smallest number N whose square is the sum of more than three consecutive cubes, all greater than 1.

You take the directions literally in that you are building a sequence of squares and try to break each down to a sum of consecutive cubes.

It looks like Gerson and Thomas have used your approach but some of us seem to prefer *reverse* thinking: Build an ascending sequence of sums of cubes that adhere to the rules and check, if the result is an exact square.

The latter aproach seems to be faster, even if the formula that reduces the sum to a simpler term is not used (see Eamonn's solution).

Since your program needs the cube root to estimate L, it is not suitable for the 16C (my "starter" on this challenge). Luckily, the 16C has SQRT, even in integer mode.

What if the solution must be found *without* access to a square root implementation. What would be the quickest way to determine, whether an integer is an exact square? This is kind of a mini challenge...

Marcus

Re: S&SMC#12: My original solutions and comments

*Message #35 Posted by **Valentin Albillo** on 28 Nov 2005, 10:33 a.m.,*
in response to message #34 by Marcus von Cube, Germany

Hi, Marcus:

Marcus posted:

"You take the directions literally in that you are building a sequence of squares and try to break each down to a sum of consecutive cubes."

> Yes, I was trying to come up with the kind of solution that would be obtained when following the instructions 'faithfully'. Doing the opposite and using formulae was optimum but less 'obvious', so to say.

*"What if the solution must be found *without* access to a square root implementation. What would be*

the quickest way to determine, whether an integer is an exact square?"

> You can try a set of prime powers' congruences but, in my experience, the fastest, simplest way is to compute an integer square root by Newton's iteration (i.e: $x_1=(x_0+N/x_0)/2$), which converges quadratically and runs very fast in any hardware's integer mode as the division by 2 is a mere shift), then check the resulting value by squaring it and testing against N.
>
> If the machine can't do integer division either, then a simple Newton iteration can produce reciprocals without division, using just multiplications, and once you've got the (presumably scaled) reciprocal, a final multiplication will give you N/x. Also, there are methods to compute integer square roots directly, by guessing and shifting, similar to long division performed by hand.

Best regards from V.

Re: S&SMC#12: My original solutions and comments

*Message #36 Posted by **Gerson W. Barbosa** on 28 Nov 2005, 5:36 p.m.,*
in response to message #34 by Marcus von Cube, Germany

07734 Marcus!

> Quote:
>
> It looks like Gerson and Thomas have used your approach but some of us seem to prefer reverse thinking: Build an ascending sequence of sums of cubes that adhere to the rules and check, if the result is an exact square.

Writing down the sequence of cubes on paper yesterday I had a glimpse of this approach. But I didn't like my second program because I had to guess the larger cube was below 30 in order to find the solution in less than 10 minutes on my slow 34C. I have to find out what I did wrong. Congratulations for your nicely explained RPL program.

Regards,

Gerson.

Re: S&SMC#12: My original solutions and comments

*Message #37 Posted by **Marcus von Cube, Germany** on 28 Nov 2005, 6:31 p.m.,*
in response to message #36 by Gerson W. Barbosa

Gerson,

the trick is to start with $5^3+4^3+3^3+2^3$ and then start shifting the bounds [L,C] = [5,2]:

1. Step: check, if the sum is a square; exit it true.

2. Step: reduce the lower bound C by 1. If it reaches 1, go to the next step, else go back to 1.

3. Step: increase the upper bound L by 1 and set the lower bound C to L-3; start over with step 1.

The algorithm arrives at the solution but It needs to be proved that the sequence of numbers which are tested in step 1 are really in ascending order so that the solution is the true minimum asked for in the challenge.

(In particular: is SUM(x=2 to L-4,x^3) < L^3 ? The term to the left is removed from the sum when L is increased and C is recalculated.)

Marcus

P.S.: "07734": I really had to type that one into an old calc with 7-segment display and turn it over... :-)

Edited: 28 Nov 2005, 6:48 p.m.

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hp48explorer

*Message #1 Posted by **Vaczi** on 23 Nov 2005, 5:40 a.m.*

Hi! How can I a program (e.g. INT48pro) install on my hp48gx (i use hp48explorer to upload files)?

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Hepax on eV41 emulator

*Message #1 Posted by **DavidMY** on 22 Nov 2005, 7:50 p.m.*

For anyone who might be using Frank B's eV41 emulator on Pocket PC and wanting to test the Hepax module try this:

First, using Warren F's 41 Emulator for Window (latest version), load the hepax.mod file into it's configuration and run the emulator. Be sure to turn the "calculator" off and on so the Hepax RAM will get initialized. (We need to do this because we won't be able to have Hepax initialize it's RAM in the eV41 emulator)

Next, copy the hepax.mod file to a safe location and using the ModFileWin.exe application split the hepax.mod file into 6 rom files: Hepax 1-4 and Ram 1-2. (We need to do this because eV41 uses the older .rom files only)

Third, copy the 6 files to the PDA into the folder (generally /My Documents/eV41) where the other Rom modules and the autorun.ev41 configuration file is located.

Four, make a copy of your autorun.ev41 configuration and then edit the origional. We need to add the 4 Hexpax ROM's to $Page F 1 Hepax1 Important!! must be page F $page F 2 Hepax2 $page F 3 Hepax3 $page F 4 Hepax4 Edit the Ram roms to: $page 8 RAM1 Again Important!! Hexpax expects its RAM $page 9 RAM2 Starting at slot 8

Fire up the emulator, do a catalog 2 and Hepax 1-D should be listed Do an "XEQ ALPHA HEPDIR ALPHA" and you should see "Dir empty" and when you clear the display the X-reg should have 1340 displayed (i.e the number of hepax ram registers in a standard 8K Hepax)

Most all the commands appear to work including the XF and Hepax multifunctions. Be careful though, I only figured this out about an hour ago and I did have on crash: it appears that returning from a extended page (3 or 4) doesn't always work and the Hepax can go NON-EXISTANT from the directory structure.

Giving credit where it is due: I got the idea from the thread below discussing using the HEPAX in the MLDL2000. Especially Diago's comment that loading the HEPAX to an odd page will suppress it attempting to relocate itself. It also stops the initialization ofHepax RAM which is why we needed to initialize the ram files in v41 first. Again, remember that irrigardless of where the Hepax ROM is located it ALWAYS expects its RAM to start at page 8000hex and be continuous: i.e. an 8K RAM is located at pages 8 & 9 and a 16K RAM is located at pages 8,9,A and B. David Y

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HP 28C

*Message #1 Posted by **joe attard** on 22 Nov 2005, 1:45 p.m.*

I own a HP. 28C AND I WOULD LIKE TO KNOW THE TYPE OF BATTRIES I CAN USE

Re: HP 28C

*Message #2 Posted by **unspellable** on 22 Nov 2005, 1:54 p.m.,*
in response to message #1 by joe attard

I believe it takes three N cells as does the HP28S.

Best type would be alkaline.

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Help Squeezing some HP67/97 code

*Message #1 Posted by **Howard Owen** on 22 Nov 2005, 12:20 p.m.*

I'm trying to shoehorn YATZ into the HP67/97 I'm doing fine with labels, but I'm running out of program lines. The exercise has convinced me that I can finish the port to the 33S, however, so I've shelved the 97 version for now and am working on the 33S. I'm looking for opportunities to shrink the code size while I do that, however. Below is an algorithm I developed for extracting the nth digit (counting left to right) in a number. It is rather lengthy. Can anyone see a way to shrink it? Is there another approach to this problem anyone is aware of that might be shorter?

```
L0001    *LBL L   ! Extract the Yth digit (counting left to right) from the number in X
L0002    ENTER    ! Copy the number
L0003    LOG      ! Desired order is the opposite of the exponent view of the number
L0004    IP       ! So calculate a complement we can subtract from the input digit position
L0005    2        ! to yield the power of ten digit position plus one. This will scale the
L0006    +        ! number so the desired digit will be in the -1 power of ten position
L0007    x<>y     ! Fiddle the stack for the next calculation
L0008    RDN      !
L0009    x<>y     ! OK, we have input digit position in X and the complement in Y
L0010    -        ! Difference is as stated above
L0011    x<>y     !
L0012    RDN      ! Number is in Y and Scaling power in X
L0013    10^x     ! Divisor to bring digit down to first place to right of the decimal
L0014    /        ! Divide it
L0015    FP       ! Throw away higher (lower) digits.
L0016    10       ! Scale the desired digit back up
L0017    *        !
L0018    IP       ! Digit is now isolated
L0019    RTN
```

Regards,
Howard

Edited: 22 Nov 2005, 1:00 p.m.

Re: Help Squeezing some HP67/97 code

*Message #2 Posted by **Vieira, L. C. (Brazil)** on 22 Nov 2005, 1:57 p.m.,*
in response to message #1 by Howard Owen

Hi, Howard;

Please, would you try this one?

```
*LBL L   !
ENTER    !
LOG      !
IP       !
2        !
+        !
R^ (rollup)
-        !
10^x     !
/        !
FP       !
10       !
*        !
IP       !
RTN
```

I test it already, and I based my code on previous stack data (if I am not wrong, the program starts with the digit to extract in Y and the number in X). After

```
IP
2
```

you have:

```
         L   X   Y   Z   T
+        v   i   a   n   n
x<>y     v   a   i   n   n
RDN      v   i   n   n   a
x<>y     v   n   i   n   a
-        n   I   n   a   a
x<>y     n   n   I   a   a
RDN      n   I   a   a   n
10^x     I   V   a   a   n
```

With the new code you have:

```
            L   X   Y   Z   T
+       !   v   i   a   n   n
R^ (rollup) v   n   i   a   n
-       !   v   I   a   n   n
10^x    !   I   V   a   n   n
```

where: a - your nunmber
n - digit to extract
I - intermediate index
V - digit position

If you want to preserve a copy of the original number (a), you can use this version (same length):

```
*LBL L  !
ENTER   !
LOG     !
IP      !
2       !
R^ (rollup)
-       !
+       !
10^x    !
/       !
FP      !
10      !
*       !
IP      !
RTN
```

Hope this helps.

Luiz (Brazil)

Edited: 22 Nov 2005, 4:06 p.m.

Re: Help Squeezing some HP67/97 code

*Message #3 Posted by **Howard Owen** on 22 Nov 2005, 4:56 p.m.,*
in response to message #2 by Vieira, L. C. (Brazil)

Very cool, Luiz!

I figured there were better ways to do the stack manipulations, and this fits the bill perfectly. I have quite a ways to go to get it all to fit into 224 steps on the 97, but if I can milk more code for a line here and there, I might just make it. First I'm going to finish with the 33S version, to get a concrete target to shoot at.

Thanks!

Regards,
Howard

Re: Help Squeezing some HP67/97 code

*Message #4 Posted by **Vieira, L. C. (Brazil)** on 22 Nov 2005, 5:25 p.m.,*
in response to message #3 by Howard Owen

Hi, Howard;

I know what you mean, believe me. I'm actually having some good experiences with sqweezing some original TI59 programs to the HP67/97. I had to virtually 'crack the code' in some pieces, but one of the main achievements of mine was a couple of months ago, when I could generate an equivalent HP97 code with 3 parts (three mag cards) from an original TI59 also three-parts program. The fact is that the three HP97 parts together are a bit bigger than one of the three original TI59 parts. And it works perfectly fine...

Success!

Luiz (Brazil)

Re: Help Squeezing some HP67/97 code

*Message #5 Posted by **Valentin Albillo** on 23 Nov 2005, 7:09 a.m.,*
in response to message #1 by Howard Owen

Hi, Howard:

If you ever decide to port your YATZ program to the HP-71B, this does the trick:

```
VAL(STR$(N)[P,P])
```

where N is your number and P is the desired digit's position. So, for instance, if N is 3141592654 you would have:

```
VAL(STR$(N)[1,1]) -> 3,  the digit at the 1st position
VAL(STR$(N)[3,3]) -> 4,  the digit at the 3rd position
```

and so on. Also, should you decide to port your game to the HP-15C, these steps will do:

```
STO RAN#
X<>Y
10^X
RCL RAN#
 *
FRAC
10
 *
INT
```

assuming the digit positions are counted this way, for example for 3141592654:

```
digit position   0  1  2  3  4  5  6  7  8  9
orig. number     3  1  4  1  5  9  2  6  5  4
```

so, with the desired position in Y and the orig. number in X, executing the above steps would do the following (say you want the digit at position 6):

```
T:  T                    T:  Z
Z:  Z          ------>   Z:  Z
Y:  6                    Y: 3141592654
```

```
X: 3141592654          X:  2
```

so your original number is preserved intact in Y, the desired digit is of course in X, plus the original contents of Z are preserved as well.

If you want to count digit positions starting at 1 instead of 0, simply subtract 1 from Y after the X<>Y. The routine is quite fast as it uses no LOG instructions, just a single, integer-argument 10^X, and would be even shorter if the HP-15C had either the SIGN or the MOD (or RMD, remainder) functions built-in, which, alas, it doesn't ... nobody's perfect.

BTW, I have no HP-15C at hand right now, but believe the above steps are correct.

Best regards from V.

Edited: 23 Nov 2005, 7:11 a.m.

Re: Help Squeezing some HP67/97 code

*Message #6 Posted by **Etienne Victoria** on 23 Nov 2005, 9:57 a.m.,*
in response to message #5 by Valentin Albillo

Hi Valentin,

Maybe I missed something but Howard's YATZ IS a 71B program :-)

Regards

Etienne

Re: Help Squeezing some HP67/97 code

*Message #7 Posted by **Valentin Albillo** on 23 Nov 2005, 12:05 p.m.,*
in response to message #6 by Etienne Victoria

Hi, Etienne:

I've read this whole thread again and didn't find any reference to the 71B except my own ... how could I know it was originally written for the 71B !?

Best regards from V.

Re: Help Squeezing some HP67/97 code

*Message #8 Posted by **Howard Owen** on 23 Nov 2005, 12:15 p.m.,*
in response to message #6 by Etienne Victoria

Yes, the 71B version was the first one I did. But it doesn't use the same approach to encoding the dice as digits in a five digit number. Since the BASIC has arrays, I just used those. The "grand tour" is a project to implement the Yahtzee dice game on all of the programmable platforms in my collection, or on as many as I can. Each version will try to take advantage of the features, and work within the constraints of the particular platform. The point of the exercise is to familarize (or refamilarize) myself with programming on each of the platforms in question. I also intend to write about each implementation, giving my personal history with the particular machine, as well as any unique challenges or features that interest me. So far I've done the 71B and the 9816, both in BASIC.

The encoding scheme used here comes from the original program, which is not my software. It's a 41C

program that I thought was either here or on TOS, but I can't locate it either place at the moment. I haven't studied the source, but I've played the game quite a bit. It shows the dice as a string of five digits, sorted in ascending order left-to-right. The user enters another number consisting of digit positions in the first string. This works pretty much as in Valentin's diagram, except the first (leftmost) digit is digit "1".

It bothers me that I can't locate the original HP41 program now. I have the program itself, so that's not a concern. But I really do need to attribute the original program as well as I can to the original source.

Re: Help Squeezing some HP67/97 code

*Message #9 Posted by **Howard Owen** on 23 Nov 2005, 1:01 p.m.,*
in response to message #5 by Valentin Albillo

```
STO RAN#
X<>Y
10^X
RCL RAN#
 *
FRAC
10
 *
INT
```

Devilishly clever! I suppose I shouldn't have expected less from you. 8)

From the HP-15C manual, page 48:

> Quote:
>
> STO f RAN# will store the X-register number (0<=r<1) as a new seed for the random number generator. *(A value for r outside this range will be converted to fit within the range.)*

Italics are mine.

The manual doesn't say how the number is "converted" but testing shows it takes place in the most straightforward way: the number is scaled down to be less than 1 by dividing it appropriately by powers of ten. Thus we have a microcoded operator that replaces the logarithm and division, and some stack manipulaton. Presumably this is much faster, though I haven't timed it.

Since the game needs a "one-base" specifier, the above code needs to add a "1 -" before the "10^X" but that hardly detracts from the suprise nature of the solution!

Thanks, Valentin! I hadn't considered the 15C a suitable platform for this exercise, but with more tricks like that, I may well give it a try!

Regards,
Howard

Edited: 23 Nov 2005, 3:42 p.m.

Re: Help Squeezing some HP67/97 code

*Message #10 Posted by **Valentin Albillo** on 25 Nov 2005, 4:40 a.m.,*
in response to message #9 by Howard Owen

Hi, Howard:

Howard wrote:

"Devilishly clever! I suppose I shouldn't have expected less from you. 8)"

> Thanks, I'm blushing ... :-)

"Thus we have a microcoded operator that replaces the logarithm and division, and some stack manipulaton. Presumably this is much faster, though I haven't timed it."

> It is, indeed. Virtually instantaneous apart from the time it takes to decode and execute the program step itself (i.e.: it takes almost the same time as a true NOP). I guess that, internally, it just strips the number off from everything but the mantissa proper, thus getting rid of the exponent without divisions or other time-consuming operations.

" Thanks, Valentin! I hadn't considered the 15C a suitable platform for this exercise, but with more tricks like that, I may well give it a try!"

> You should. The HP-15C has many times over the programming capabilities of an HP-67/97, and, apart from the 41C and its synthetic programming, it's HP's most trick-ridden calc ! If in doubt, search the archives for my "HP-15 mini-challenges", to see how its many advanced functions can be cleverly used to optimize programs and routines to astonishing degrees. A YATZ program for it could be made into a work of art, no less.

By the way, I think I own a copy of the original YATZ program from HP User's Library. I'll try and locate it and will tell you the original author, if you still want to know.

Best regards from V.

Re: Help Squeezing some HP67/97 code

*Message #11 Posted by **Howard Owen** on 25 Nov 2005, 5:01 p.m.,*
in response to message #10 by Valentin Albillo

> Quote:
>
> The HP-15C has many times over the programming capabilities of an HP-67/97, and, apart from the 41C and its synthetic programming, it's HP's most trick-ridden calc !

Well, 338 bytes of memory, assuming most instructions are one byte, together with the ability to have duplicate forward-branch labels, ought to allow me to implement the game of the 15C. Whether it will be a "work of art" remains to be seen. 8)

> Quote:
>
> By the way, I think I own a copy of the original YATZ program from HP User's Library. I'll try and locate it and will tell you the original author, if you still want to know

That rings a bell. But I don't find the game in my collection of User Library programs. There is no 41C program in the swap disks beginning with "Y," other than one named "Y," which isn't the one. So I must have picked it up online somewhere. But I don't see it here or on TOS.

Please do let me know the original author's name and the User Library number, if you get a chance, Valentin. Thanks!

Regards,
Howard

Edited: 25 Nov 2005, 5:03 p.m.

Re: Help Squeezing some HP67/97 code

*Message #12 Posted by **Eamonn** on 23 Nov 2005, 12:13 p.m.,*
in response to message #1 by Howard Owen

Hi Howard,

You would need to see how this suggestion would affect the rest of your program, but if it is possible to change the way you store numbers so that you can end up having to extract the n'th digit counting right to left, instead of from left to right, then you could use the following:

```
L0001 LBL L
L0002 x<>y
L0003 10^x
L0004 /
L0005 FP
L0006 10
L0007 *
L0008 IP
L0009 RTN
```

As an example, if Y contains 3 and X contains 1234567, then this routine will return 5.

Additionally, if it is possible to have the digit to be extracted in the X register and the original number in the Y register, then the x<>y on line 2 can be removed, saving another step in this function. Again, you would have to evaluate how this may or may not impact the rest of your program.

Best Regards,

Eamonn.

Re: Help Squeezing some HP67/97 code

*Message #13 Posted by **Marcus von Cube, Germany** on 25 Nov 2005, 7:53 a.m.,*
in response to message #12 by Eamonn

I understand that the original number has always 5 digits. If that's true, it's a waste to create a routine that can cope with aribtrarily long numbers. If you can't count from right (because it's the user that enters the digit positions and you do not want to change the user interface), just subtract the digit postion from 6.

```
L0001 LBL L
L0002 x<>y
L0003 6
L0004 -
L0005 10^x
L0006 *
L0007 FP
L0008 10
L0009 *
L0010 IP
L0011 RTN
```

Because of the sign change, the step L0006 (was L0004) now is * instead of /.

Marcus

Re: Help Squeezing some HP67/97 code

*Message #14 Posted by **Howard Owen** on 25 Nov 2005, 5:08 p.m.,*
in response to message #13 by Marcus von Cube, Germany

Unfortunately, I need the generality because the user inputs a string of digits representing the "dice" to throw away in the five digit number. For example, if I had "22345" and I wanted to try for the twos, I would enter "354" (or any permutation) to throw away the "345" in the five digit string. If I wanted to try to turn the small straight into a large straight, I would enter "1" or "2" to throw away one of the twos. So the input number can be from 0 to 5 digits (0 is a special case meaning "score now") and it can have the "throwaway" digit positions in any order.

Re: Help Squeezing some HP67/97 code

*Message #15 Posted by **Marcus von Cube, Germany** on 26 Nov 2005, 2:02 a.m.,*
in response to message #14 by Howard Owen

Howard,

in this case, you can simply parse the string from the right. You'll get one digit after the other until the number is zero.

Marcus

Re: Help Squeezing some HP67/97 code

*Message #16 Posted by **Howard Owen** on 26 Nov 2005, 3:06 a.m.,*
in response to message #15 by Marcus von Cube, Germany

Ah, but I want to avoid using a label, too, if I can. Especially on the 33S, where all labels are global. On the 97, I can branch forward to a label that can be repeated elsewhere. But a loop that will process any number of digits, up to five, requires a backward branch. On the 33S, I could unroll the loop, trading labels for lines. I'd have to set a flag and return on that to avoid a forward branch there. But trading lines for labels is not an option on the 97. There I'm already running into the line limit.

So what I need is code that uses few lines and no labels. So far, Luiz has the best code that fits the bill on the 33S, and also the 97. Valentin's trick of using the random seed initialization on the 15C is the overall winner, but it only works on the 15C.

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HP Forum Archive 15

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HP 33s vs HP 32sii

*Message #1 Posted by **Larry McClellan** on 22 Nov 2005, 11:52 a.m.*

http://www.newageinc.com/hostedimages/calculators/comparison/comparison.gif

Re: HP 33s vs HP 32sii

*Message #2 Posted by **Howard Owen** on 22 Nov 2005, 12:11 p.m.,*
in response to message #1 by Larry McClellan

So what's with "180+" built-in functions for the 32SII and "100+" for the 33S?

HP 33s - 209 built in functions

*Message #3 Posted by **Mike H** on 22 Nov 2005, 12:55 p.m.,*
in response to message #2 by Howard Owen

Appendix G in the 33s Manual list 209 built in functions.

Mike

Re: HP 33s - 209 built in functions

*Message #4 Posted by **Howard Owen** on 22 Nov 2005, 1:16 p.m.,*
in response to message #3 by Mike H

So the "100+" is a typo. Should be "200+" no doubt.

Did you count those by hand, or use a calculator? 8)

Re: HP 33s vs HP 32sii

*Message #5 Posted by **Ed Look** on 22 Nov 2005, 12:20 p.m.,*
in response to message #1 by Larry McClellan

Hey! No fair!

They read our forum posts!!

;)

Re: HP 33s vs HP 32sii

*Message #6 Posted by **Howard Owen** on 22 Nov 2005, 12:57 p.m.,*
in response to message #5 by Ed Look

Now that they have the bugs worked out, maybe ads like that one won't be wasted.

So they are trying to get 32SII users to upgrade, which makes all the sense in the world from a marketing point of view. But what about the rest of the gadget-happy world? *I want my whiz-bang updated RPN machine!* If they do read this forum, there are lots of suggestions about what such a machine might look like in other threads. 8)

Edited: 22 Nov 2005, 12:58 p.m.

Re: HP 33s vs HP 32sii

*Message #7 Posted by **Ed Look** on 22 Nov 2005, 5:11 p.m.,*
in response to message #6 by Howard Owen

Ah, actually if I never used a 32SII (or 34C for that matter) I think I would actually get fairly attached to using the 33S. Aside from that rather funky keyboard, it IS RPN after all and has all the functionality that a proper scientific calculator should have, including decent programming space.

HP 33s vs HP 32sii

*Message #8 Posted by **Samuel Heddle** on 22 Nov 2005, 6:08 p.m.,*
in response to message #7 by Ed Look

Is there any particular reason for the sky-high 32SII prices on ebay, versus models like the 41-C, and 28-S?

Re: HP 33s vs HP 32sii

*Message #9 Posted by **Howard Owen** on 22 Nov 2005, 6:27 p.m.,*
in response to message #8 by Samuel Heddle

Short term run up by unscrupulous traders?

I bought mine last month for $140.00. It wasn't new, but in excellent shape. There seems to be a cadre of sellers asking the $300+ price. Search completed auctions for a more realistic idea of eBay values.

run-up

*Message #10 Posted by **bill platt** on 23 Nov 2005, 10:03 a.m.,*
in response to message #8 by Samuel Heddle

Simple. Some people really like that machine and are willing to pay for it.

There is nothing unscrupulous about asking for a lot of money. The buyer is free to look elsewhere.

That people pay that much is simply a reflection of what some feel it is worth to *them*.

(Enough with the "unscrupulous" crap. :)

Re: HP 33s vs HP 32sii

*Message #11 Posted by **Howard Owen** on 22 Nov 2005, 6:22 p.m.,*
in response to message #7 by Ed Look

There is a limitation of 26 labels, all global, that can be onerous. If you want more than one

substantial program to reside in the calculator, you have to worry about that resoource long before the memory. It all stems from the fact that the 33S is nearly identical to the 32SII in most important respects. The memory is increased, but can't be used effectively. The keyboard is bizarre, but only in the shapes of the keys, and the downgrading of the enter key. But it adds an improvement in the large buttons at the top for menus and cursor control. The two-line display is better in all respects now that they have fixed the tiny decimal point. The calculator is faster, no doubt. The manual is increased in size, but is mostly a copy of the original.

Bottom line: this is not a new RPN machine. It is a (slight) evolution from the 32SII. Calling it the 33S was misleading in my opinion. It's more of a 32SII+.

But I have got to admit I like this machine quite a bit. It does indeed have all the functions a daily-use scientific calculator needs. The fact that it is sorely lacking in the programming department (my HP97 code ports with only minor changes!) can be looked on as a challenge. Since I'm using it for fun only, I find this acceptable. *But I still want my brand new RPN machine!* And I want it on the high-end, too, with modern I/O and everything. Christmas is coming. Will I be disappointed? Well, yes. But I've learned to live with disappointment from HP.

Regards,
Howard

Re: HP 33s vs HP 32sii

*Message #12 Posted by **ECL** on 22 Nov 2005, 10:19 p.m.,*
in response to message #11 by Howard Owen

I agree, the 33s has some flaws, but if one requires RPN, and is not willing to take a chance on high-priced (and often second-hand) 32sii & 42s machines...then the 33s is attractive.

Last week during a numerical methods exam, I was able to leave nearly 20 min early due to some basic matrix row-manipulation routines I had in my 33s. Its these small things that make it shine, to me.

Here's a thought- I am among a small handfull of RPN users at my university. All else use either a Ti-XX or Casio model. Perhaps this reflects on the declining difficulty in obtaining an engineering degree. Most people are closed-minded and the classic line "I don't like those, they're backward" prevails.

Some fundamental flaws in the Ti-89 Plat/Titanium as I see it:

These apply regardless of RPN entry, and assume practical/daily engineering student needs.

```
1. ALL trig (reg and inverse) are shifted.
2. There are two or three keys that have a variable (ie. X, Y, Z) as the
primary function. One should suffice. Why not make one key LS=X, Primary=Y,
RS=Z ??
3. Text contrast on KBD is sub-HP49g (Big-Blue) in terms of eye-strain.
```

Well, just some thoughts. ECL

Re: HP 33s vs HP 32sii

*Message #13 Posted by **Howard Owen** on 22 Nov 2005, 10:53 p.m.,*
in response to message #12 by ECL

I guess it's a little bit heartening to hear the competition has vulnerabilities that don't relate to something (i.e. lack of RPN) that most of the world sees as a strength. I only find it a

"little bit" heartening, because I'm pretty sure HP won't try to exploit those weaknesses.

But I agree that the 33S is a pleasant machine in many ways. Ergonomic design, in terms of how the machines were used by the technical customers, used to be one hallmark of HP quality. Oddly enough, I find the 33S to have the same kind of usability some of my favorite old machines do. I can *find* things quickly on that weird looking keyboard. If this is due more to the layout of the 32SII, which the 33S did change a bit, then at least the changes haven't screwed things up too badly. And in at least one respect, the large menu and motion keys at the top, the 33S layout is an improvement on the 32SII. I've written elsewhere that the chevron design and the enter key relocation and shrinking became non-issues quicker than I might have guessed, although the latter change took more time to get used to than the former.

But I'm still interested in what a newly minted RPN machine would look like. Thinking about this appeals to me on several levels. First, it's a fun intellectual exercise to see what people in this community think is good about RPN, and what could be improved. It helps me examine and modify my own thinking on the subject. I'm particularly delighted to have engaged an RPL head or two in the discussion. Cross-pollination of ideas always yields interesting hybrids, and sometimes even unique insights. Second, the ideas developed could help me develop calculator software, which I intend to do at some point, after I make the "YATZ grand tour" through my collection. And finally, and most speculatively, maybe HP *is* reading this forum, and maybe one or two of the ideas kicked around here will make it into a real machine someday. That last is unlikely, but the first two points also makes the possibility unnecessary for me to count the activity as worthwhile.

HP 33s vs HP 32sii

*Message #14 Posted by **Samuel Heddle** on 23 Nov 2005, 1:49 p.m.,*
in response to message #12 by ECL

> Quote:
>
> ```
> 1. ALL trig (reg and inverse) are shifted.
> 2. There are two or three keys that have a variable (ie. X, Y, Z)
> as the primary function. One should suffice. Why not make one key
> LS=X, Primary=Y, RS=Z ??
> 3. Text contrast on KBD is sub-HP49g (Big-Blue) in terms of eye-
> strain.
> ```
>
> Well, just some thoughts. ECL

Believe it or not, I've been using the X Y and Z buttons more than the trig functions. I'm still looking into a 49G+, though. What I don't like about the Ti89Ti is the difficulty of getting to some functions of the "math" menu, and having only 5 F buttons, when in the main screen, there are 6 tabs. Also, the keyboard is really starting to stick.

Re: Drawbacks of TI-89

*Message #15 Posted by **Marcus von Cube, Germany** on 25 Nov 2005, 6:41 a.m.,*
in response to message #12 by ECL

Hi ECL,

> Quote:

1. ALL trig (reg and inverse) are shifted.

2. There are two or three keys that have a variable (ie. X, Y, Z) as the primary function. One should suffice. Why not make one key LS=X, Primary=Y, RS=Z ??

3. Text contrast on KBD is sub-HP49g (Big-Blue) in terms of eye-strain.

The Voyage 200 fixes most these issues. The only drawback are the relativly small keys. (Keep your fingernails short!) I really like the keybord of my TI-92 Plus.

Marcus

Re: HP 33s vs HP 32sii

*Message #16 Posted by **Ron Ross** on 23 Nov 2005, 9:58 a.m.,*
in response to message #1 by Larry McClellan

While all that extra RAM is a somewhat dubious improvement and its styling is autrocious to the typical customer, it is less cost than the Hp32s as well. I never saw an Hp32s sell retail for less than $70 (69.95 +tax). And it is also an AOS algebraic (which is probably a marketing mistake, but I personally, like AOS better than EOS). But I am an older calc user who migrated to Hp when AOS was the Algebraic OS of the day. My High Schooler only likes EOS (as of yet).

So it is a big marketing improvement in that area. It provides a market for both the Hp32s and Hp20s for future replacements. There are older calculator users that will certainly detest EOS (I have heard several complaints, and I don't blame them). And it has a fairly decent feeling keyboard. I do wish they would dump the chevron style, but production wouldn't want to expend the $$$$ now and marketing probably cannot afford to admit it wasn't a brilliant idea.

prices

*Message #17 Posted by **bill platt** on 23 Nov 2005, 10:05 a.m.,*
in response to message #16 by Ron Ross

I bought 32sii calculators on three separat eoccasions from a store near Rittenhouse Square in Philadelphia, back in the 90's, for $58 retail.

Re: prices

*Message #18 Posted by **Ed Look** on 23 Nov 2005, 10:24 a.m.,*
in response to message #17 by bill platt

But I'm sure that by the time the 33S reaches the length of a sales run your $58 32SIIs did, it might be cheaper than the 32SII, since the 33S began retailing around at least $10 USD less than the 32SII, if I recall when it was first sold. And note I haven't adjusted for inflation or buying power, etc., so the 33S is effectively cheaper for a calculator that is somewhat more powerful than a 32SII.

From this standpoint, it's not a bad deal at all for such a nice calculator.

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heads up to Australia

*Message #1 Posted by **db (martinez, ca.)** on 21 Nov 2005, 5:49 p.m.*

There is a rare non hp rpn programmable on ebay that is located in Oz. It's not mine. Mine is prettier and not for sale. I just thought that someone might want it and no one has found it. Shipping makes it not worthwhile for the rest of us. http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=5831974835&ssPageName=ADME:B:SS:US:1

Re: heads up to Australia

*Message #2 Posted by **Hal** on 21 Nov 2005, 8:22 p.m.,*
in response to message #1 by db (martinez, ca.)

Interesting. I used to have a National Semiconductor RPN calculator, but I've never heard of a Qualitron. Looks pretty rough cosmetically, and I couldn't see an Enter Exponent key...could this be so...a scientific that won't handle really big or really little numbers?

Re: heads up to Australia

*Message #3 Posted by **db (martinez, ca.)** on 21 Nov 2005, 10:09 p.m.,*
in response to message #2 by Hal

It's so. It uses the nat semi / novus mathematician rom that might have been in yours but a slightly clicky keyboard and a typical curvacious qualitron body. Victor toth wrote the definitive description at http://www.rskey.org/detail.asp?manufacturer=Qualitron&model=1421+Programmable+Scientific

Even concidering it's rought shape and limited usefullness i still think that some Ausie ought to rescue it since the shipping would be cheap. Whoever wants it ought to call dibs though. This unit isn't worth winning a feeding frenzy to get.

Edited: 21 Nov 2005, 10:12 p.m.

Re: heads up to Australia

*Message #4 Posted by **Hal** on 21 Nov 2005, 11:43 p.m.,*
in response to message #3 by db (martinez, ca.)

As I recall my old Novus did have exponential capability but was not programable.
Maybe I'll make a bid on this thing...for old time's sake.....

Re: heads up to Australia

*Message #5 Posted by **Namir** on 22 Nov 2005, 1:55 a.m.,*
in response to message #4 by Hal

I remember buying one in France in 1978. I could not resist the fact that it was a non-HP RPN calculator. Unfortunately it was a half-designed RPN calculator: 3-register stack, 1-mem register, poor accuracy. I had seen non-HP clones of the HP-45 made by several manufacturers, but the

Novus was not one of them.

I bought a few on eBay recently, just to remind myself of the toy-like state of the calculators.

I guess we have a weakness for RPN.

Re: heads up to Australia

*Message #6 Posted by **Hal** on 22 Nov 2005, 12:28 p.m.,*
in response to message #5 by Namir

I bought the Novus in '76 from the college bookstore...to a young freshman (me) it looked like it had lots of buttons and did lots of stuff, and was cheap as well (I think about $39). It's shortcomings soon became obvious, however...lack of memory, poor accuracy, rubber buttons, and worst of all, to use the trig functions, all angles had to be transposed to positive 180 degrees or less!
A few months later, a classmate handed me his HP25 to try out, and suggested I get a real calculator. The Novus was forever relagated to toy status thereafter.
I'll probably pick one up (a Novus) on e-bay just for old times sake...
Hal

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Modified HP71B

*Message #1 Posted by **Rick Meyerson** on 21 Nov 2005, 4:23 p.m.*

Hello:

I havbe the modified HP71B with full RAM and 4X speed modifications. Would like to speak to others with this never-released unit.

Rick

Re: Modified HP71B

*Message #2 Posted by **inaki** on 21 Nov 2005, 5:17 p.m.,*
in response to message #1 by Rick Meyerson

Any link to get more information on this project ?

> Quote:
>
> Hello:
>
> I havbe the modified HP71B with full RAM and 4X speed modifications. Would like to speak to others with this never-released unit.
>
> Rick

Re: Modified HP71B

*Message #3 Posted by **Eric Smith** on 21 Nov 2005, 6:02 p.m.,*
in response to message #1 by Rick Meyerson

Those are aftermarket modfications. There were several people and companies offering such mods commercially, and some 71B owners did the mods themselves.

The speedup is just the typical capacitor value change.

The memory upgrade consists of breaking open memory modules (either HP 4KB modules or CMT 32KB or 64KB modules), and wiring the circut boards into the internal chain.

Re: Modified HP71B

*Message #4 Posted by **Howard Owen** on 21 Nov 2005, 7:12 p.m.,*
in response to message #1 by Rick Meyerson

So what does "full" memory mean? The Saturn could directly address 512 KB, I believe, at least in the HP48

vintage.

Re: Modified HP71B

*Message #5 Posted by **J-F Garnier** on 24 Nov 2005, 7:42 a.m.,*
in response to message #4 by Howard Owen

The maximum theorical RAM is 384k (not including the 1.5k RAM in display ICs), starting from 30000h to EFFFFh. The area F0000-FFFFF is reserved.

Due to the built-in 16k, the maximum practical value is "only" 372k. It could be achieved with a HHP 160k module in card reader, plus 3 CMT 64k front port modules, plus one HP 4k module, without HP-IL. With HP-IL and without the 4k module, we could get 368k.

I never reached this amount of memory on my regular HP-71B, but easily got 320k in Emu71.

Rick, What is your configuration?

J-F

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Standard Function Names - Anyone?

*Message #1 Posted by **Mike T.** on 21 Nov 2005, 7:09 a.m.*

Is there a standard (or failing that a generally accepted) way of naming the various RPN functions using just alphanumeric characters?

For many of the functions this seems straight forward enough (though I many have abbreviated things too much in places..?)

```
sin      -> SIN
sin-1    -> ARCSIN
x<>y     -> SWAP   (I'm assuming that SWAP is the same as X<>Y)
+        -> ADD
-        -> SUB
/        -> DIV
etc
```

However, there is rather more scope for interpretation when you try to express some other functions without using 'special' characters - particularly when things get ambiguous...

```
->R      -> ???    (Convert to radians)
RAD      -> ???    (Select radian mode)
->R      -> ???    (Convert polar to rectangular co-ordinates)
R^       -> ???    (Round up)
R        -> ???    (Round down)
r        -> ???    (Correlation coefficient)
->H.MS   -> HMS    (?)
X<=Y     -> ???
Q        -> Q      (A bit to short?)
Q-1      -> INVQ   (?)
(i)      -> ???
I        -> ???
X2       -> SQR    (?)
/X       -> SQRT   (?)
10x      -> INVLOG (?)
etc etc etc
```

Mike T.

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Fullnut 41CX problems

*Message #1 Posted by **Klaus** on 21 Nov 2005, 6:52 a.m.*

Hi!

I am trying to repair a Fullnut 41CX for Peter. Apparently, it had contact problems, but Peter said the batteries went hot after switching it on. This 41CX has a logic board similar to the 41Cs, and when I opend the Calculator, this logic board was out of its usual position. This may explain why the Batteries went hot, as it may have sorted some connections.

After cleaning the contacts and fixing the logic board in its normal position, I switched the calc on, but the display just showed "@@@@@@@@@@@@", and the beeper hummed.

I traced some signals with an oscilloscope, an found that the DATA,phi1 and phi2-signals were present though with an amplitude of about 1.7 V. The signals on pin 12 (LCD) was pure noise, so were Pins 6,7 and 8 (LCDC1,LCDC2,LCDC3). Pin 2 (ISA) showed some signals, but also carried a lot of noise.

Did anyone have similar problems or does someone know a cause/solution?

Thank you! Klaus

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Need to fix your HP48 LCD or keys?

*Message #1 Posted by **Han** on 21 Nov 2005, 4:52 a.m.*

Every now and then I would read about (or see on Ebay) how someone's HP48 lost some columns/rows of pixels, or the ON key dieing out. I happened to receive such a calculator (HP48SX). This thing had ALL BUT THREE rows of pixels missing! About half of the keys didn't work! I fixed them both! Now I have another HP48SX with a fully working keybaord and all pixels returned to working order.

It seems that most of the keyboard problems, and missing pixel problems can be attributed to a combination of dust and/or being jostled around. The only electronic connection between the top part of the HP48 (LCD and keys) and the PCB are three rows of connectors. Two are for the LCD, and one for the keyboard. The PCB is held onto the top portion by 6 twist-prongs. They are also resonsible for connecting the top part of the HP48 to the PCB. If these are loose there is dust, you get columns of missing pixels and possibly dead keys.

Just a bit of dusting off and adding a little bit of extra solder to the connectors to adjust for any possible gaps that may have formed over the years and your HP48 is back to being functional!

Edited: 21 Nov 2005, 4:53 a.m.

Re: Need to fix your HP48 LCD or keys?

*Message #2 Posted by **Han** on 21 Nov 2005, 4:54 a.m.,*
in response to message #1 by Han

I'll write up a guide on how to repair your HP48 if there are enough interested readers. I managed to take some photos, too.

Re: Need to fix your HP48 LCD or keys?

*Message #3 Posted by **valentino ducati (switzerland)** on 21 Nov 2005, 8:50 a.m.,*
in response to message #2 by Han

Han:

That would be really nice! I also have a "spare" 48 with little problems. Maybe with your guide I would risk a repair and have one more fully functional 48.

Thank you in advance.

Valentino

Re: Need to fix your HP48 LCD or keys?

*Message #4 Posted by **Han** on 21 Nov 2005, 4:54 p.m.,*
in response to message #3 by valentino ducati (switzerland)

Here's the link:

Please read through everything first, and examine the photos I've included. The photos are of an HP48G, even though I repaird my HP48SX. However, you'll find that almost everything is the same. I just stupidly forgot to take photos of my HP48SX while I was tinkering with it. Sometimes I get too caught up in the fun of tinkering, and forget that what I'm doing might be useful enough to make note of.

HP48 Repair

There is a maintenance scheduled later this evening so if you can't download it, try later.

Re: Need to fix your HP48 LCD or keys?

*Message #5 Posted by **Han** on 21 Nov 2005, 5:22 p.m.,*
in response to message #4 by Han

I forgot to mention one more thing:

I believe that another cause of these dead keys it the overuse of the card slots. Every time you use a card slot, and press a ROM or RAM card into the connector, you are also pushing the PCB about. I would wager that you see more LCD and dead key problems in the X series than in the non-expandable series.

Han

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MLDL2059 (again): completely built!

*Message #1 Posted by **Vieira, Luiz (Brazil)** on 20 Nov 2005, 10:33 p.m.*

Hi, all;

Forgive me bringing back the same subject, but at least, this is the last time I'm posting about my own MLDL2059 assembling procedures (59 is the serial#) .

I actually built the last connector and finished assembling it. Now it is safer to operate and download. Thanks to the additional USB 'holder', I can insert and remove the USB connector without worrying about the possibility of having it loose inside the card reader holder. I am particularly worried about this because I did not use Meindert's suggested USB-B connector (could not find one), so I found myself in the need to hold it in place accordingly.

The new pictures are available at the same old www.logeng.com.br/images/mldl_pics again, and the new ones are easily found (mldl2059_connector_xx.jpg). Hope you like them.

To give you a glimpse, the final image: http://www.logeng.com.br/images/mldl_pics/MLDL2059_FINAL_S.JPG Click to enlargeYeap, Hepax 1D!

The MLDL2059 is working perfectly fine, and I personally consider that the product itself by far exceeds Meindert ´s proposal. Once FLASH/SRAM programming and editing are understood and internal mapping with SR configuration is mastered (just a matter of RTFM), all is heaven!

It is worth the $$$... and also the extra labor to settle the boards accordingly. At least for now, I'll miss all of the fun preparing the case for this unit. Yeap, I said 'at least for now'...

Best regards.

Luiz (Brazil)

Re: MLDL2059 (again): completely built!

*Message #2 Posted by **Marcus von Cube, Germany** on 21 Nov 2005, 2:35 a.m.,*
in response to message #1 by Vieira, Luiz (Brazil)

Luiz,

> Quote:
>
> Yeap, Hepax 1D!

From the docs, Hepax wil *not* work because the bankswitching is special and not (yet) implemented in the MLDL firmware.

Did you try it?

Re: MLDL2059 (again): completely built!

*Message #3 Posted by **Vieira, L. C. (Brazil)** on 21 Nov 2005, 5:07 a.m.,*
in response to message #2 by Marcus von Cube, Germany

Hi, Marcus;

I tried to find bank swithching related documentation, but it seems that each hardware handles the swithching its own way. I tested a set of four HEPAX files, version 1D, named HEPAXH1.ROM to HEPAXH4.ROM in some different configurations, and in some of them I got nothing but garbage from CAT 2. In two of them I read all HEPAX 1D functions and I could program some of them. As I do not know how to use them yet, and some of them refer to HEPAX RAM, I thought it would not be a good idea to test them in run mode. I would like to know which of these files represent lower and upper port, and which sequence should I try. I also would like to know how to rediredt MLDL SRAM pages so the HEPAX functions could "see" them. If bank switching is used in HEPAX RAM pages as well, if it works in MLDL2000 the same and the correct mapping is found, I guess we can expect to use at least 4 MLDL SRAM pages, meaning 16K RAM space for each possible SR setting where HEPAX is configured.

In order to try the configurations I had in mind, I took as a reference the fact that ADVANTAGE ROM images work in MLDL2000 (and I tested it already) when a specific combination of ROM images is used in the four banks in ports 8 and 9:

```
Bank#    Port8    Port9
  0     ADV L1   ADV U1
  1     ADV L1   ADV U2
  2     ADV L1   ADV U2
  3     ADV L1   ADV L2
```

I tried some configurations, and the one that shows all HEPAX functions is:

```
Bank#    Port8    Port9
  0     HEPAXH2  HEPAXH1
  1     HEPAXH2  HEPAXH3
  2     HEPAXH4  HEPAXH3
  3     HEPAXH4  HEPAXH3
```

Maybe this configuration allows only the headers to be seen, because at least their XROM codes are correctly recorded. I'll read the HEPAX manuals and try some functions.

Thak you for your warnings!

Best regards.

Luiz (Brazil)

Edited: 21 Nov 2005, 5:11 a.m.

Re: MLDL2059 (again): completely built!

*Message #4 Posted by **Meindert Kuipers** on 21 Nov 2005, 5:42 a.m.,*
in response to message #3 by Vieira, L. C. (Brazil)

HEPAX should really not be working on the MLDL2000, the special instructions are not implemented at all, certainly HEPAX RAM cannot be supported. I have experimented with HEPAX on an older version of V41, and the virtual HP41 would not start at all. The configuration also seems to be incorrect, but I have not even tested HEPAX myself yet. I am surprised that it shows up in the CAT 2 listing at all.

For the Advantage ROM: I guess Port 9 Bank 3 is a typing error?

However, if HEPAX does work then it would be great, but certainly not by design!

Meindert

Re: MLDL2059 (again): completely built!

*Message #5 Posted by **Vieira, L. C. (Brazil)** on 21 Nov 2005, 7:27 a.m.,*
in response to message #4 by Meindert Kuipers

Hi, Meindert;

you´re correct, I wrongly typed the ADVANTAGE table, sorry! It was supposed to be ADV U2 instead of ADV L2 (no such ADV L2 image...). In time: CCD's CAT' 2 and HP41CX CAT 2 show an interesting user label between '-ADV MTRX' and '-ADV MATH' in the emulated ADVANTAGE ROM ('MATRIX', perhaps, I am not sure). Should it be because of the MLDL2000 particular bank-switching scheme?

About HEPAX configuration, I have no idea if the mapping I use is valid, mainly because I do not know if any of the rom images is low- or up-addressed, their names do not suggest it. I started with some configurations that did not work at all. The one I listed in the previous post produced a valid CAT 2 and program instructions, but I did not go any further, meaning I did not test any of the functions as I do not know how do they work. And as some of them remind the HP original X-Functions/Memory module, they are supposed to access specific RAM memory, and I neither have any idea of how can it be done through the MLDL2000 structure.

In the MLDL2000 User Manual, you actually mention that bank switching is not fully implemented, but based on the ADVANTAGE unique mapping, I supposed it was worth trying to make HEPAX to work as well. Maybe I can think of something later, when deving into MCODE...|B^>

Thanks and best regards.

Luiz (Brazil)

Re: MLDL2059 (again): completely built!

*Message #6 Posted by **Raymond Del Tondo** on 21 Nov 2005, 8:05 a.m.,*
in response to message #4 by Meindert Kuipers

Hi Meindert,

although the HEPAX uses a special sequence to let
the actual HEPAX hardware know how and where to switch to,
AFAIK it also uses the standard mechanics (ENBANKn at the usual locations),
so if the MLDL2K supports these (like in the ADV pac),
then it should work.
The main difference to most other bankswitched modules is
that HEPAX uses all four banks, and BS slots are from xFC3 to xFC9.

Regards

Raymond

Re: MLDL2059 (again): completely built!

*Message #7 Posted by **Meindert Kuipers** on 21 Nov 2005, 8:42 a.m.,*
in response to message #6 by Raymond Del Tondo

Raymond,

You are totally correct, the normal bankswitching should work without problems, except that I am not certain if HEPAX switches only in one page, and not in both (odd and even) pages. The big problem is that when HEPAX starts it tries to relocate itself to another page, and identifies its own RAM pages by using the special Write Protect instruction. This is not yet implemented with the MLDL2000, and will probably cause the HEPAX startup sequence to fail. Both instructions that are special to HEPAX will actually be quite difficult to implement, since it requires modification of the Settings Registers by the MLDL2000 itself. If these are in FLASH it is certainly not possible, only if they are in SRAM. I have some ideas about this, and actually the easiest will be to modify HEPAX itself, so it will start with a fixed configuration, and will not try to relocate itself.

Meindert

Re: MLDL2059 (again): completely built!

*Message #8 Posted by **Diego Diaz** on 21 Nov 2005, 4:54 p.m.,*
in response to message #7 by Meindert Kuipers

Hi all,

First my congrats to Luiz for his neat MLDL2K housing job: Great work Luiz!! :-))

Now, regarding the HEPAX issue, here is what I've been able to learn (based just on experimenting during NoVRAM development, as I'm not one of thoses fortunated *real* HEPAX owners... :-(

Hope this can help others:

- HEPAX certainly uses same *standard* BS scheme than Advantage does. Just extended to four banks as Raymond pointed out.

- HEPAX procedure on Power-ON is as follows:

1st - Allocates itself in the lower page of the port it is plugged in. In doing so, it also temporarily disables its own first RAM page (usually on page #8 assuming HEPAX is plugged in port 1)

2nd - Searches for non used pages starting from page #5 upwards (#6 if it's in a CX). If no page is available it will show [ILL CONFIG] on the display.

3rd - Once a suitable page has been found it relocates itself into such page by means of "ROM BLK" (H'030) instruction and recovers first RAM page (for instance, on page #8)

4th - After relocation is finished it begins idle RAM pages identification by a sequence of READ/WRITE commands.

5th - Once idle RAM pages are identified HEPAX writes its proprietary "FILE SYSTEM" chain in them. (Remember you can have ROM images recorded into RAM pages, these won't be altered by this process)

6th - Last it turns back control to the HP-41 mainframe OS.

From what's stated above, some conclusions can be drawn:

- HEPAX will not perform relocation (nor RAM FILE SYSTEM building) if it's forced to load into an odd page (say #7)

- You can build up the HEPAX FILE SYSTEM by hand (say in pages #8 to #B) so HEPAX will recognize it as its own FS.

- Obviously you won't be able to use RAMTG (page write protection) command so, one must just be disciplined when handling RAM pages.

Theoretically, such a config will work on an MLDL2K, I havent tested it yet, but I'll try to find the time during the week and will let you know of the results.

Cheers from the Canary Islands.

Diego.

Re: MLDL2059 (again): completely built!

*Message #9 Posted by **Vieira, L. C. (Brazil)** on 21 Nov 2005, 6:12 p.m.,*
in response to message #8 by Diego Diaz

Hi, Diego; thank you for your kind (and encouraging) comments. I appreciate it!

Just a few (silly?) questions from someone that is getting into the inner HP41 secrets right now. Some background: I was able to download two sets of HEPAX ROM images, namely versions 1C and 1D, each with four files named HEPAX H1 to HEPAXH4. In both cases, HEPAXH1 and HEPAXH3 had XROM definition (03) and function counting, while both HEPAXH2 and HEPAXH4 had none. One of the sets (don't remember which one, 1C or 1D) also contained two ROM images equivalent to RAM pages, and they are simply two 4K files filled with zeroes (at least I have not seen anything else bute zeroes).

So... questions are: could/should these zero-filled images be loaded in SRAM to mimic HEPAX RAM, so the module (or ROM image) could identify it/them? What could we consider as for lower and upper files for HEPAXH1 to HEPAXH4? Maybe lower or upper image is not even applicable, but what valid mapping should be used to start loading HEPAX? As you have already studied the HEPAX startup, does the module save the startup information somehow, and where should it be?

Thanks for your support and forgive me if the wquestions are not applicable.

Cheers.

Luiz (Brazil)

(in time: Diego, did you receive my last e-mail with the configurations for the modules? Please, let me know)

Edited: 21 Nov 2005, 6:16 p.m.

Re: MLDL2059 (again): completely built!

*Message #10 Posted by **Meindert Kuipers** on 22 Nov 2005, 8:14 a.m.,*

in response to message #8 by Diego Diaz

Diego,

This is really interesting. So it might work after all! I have not done any testing, but looking at the HEPAX code I assumed that HEPAX would identify its RAM pages by doing the write protect, so it would only use its own RAM pages for the HEPAX file system.

My idea was to load HEPAX in the lowest possible page anyway (5 or 6), so relocation should not be required.

If I have time I will also do some testing myself.

Meindert

BTW, I have now a list of ROMs supported by the MLDL2000 on my website. Let me know what ROMs you know to work, so I can add them to the list.

MLDL and HEPAX emulation

*Message #11 Posted by **Vieira, L. C. (Brazil)** on 22 Nov 2005, 3:15 p.m.,*
in response to message #10 by Meindert Kuipers

Hi Meinder, Diego, guys;

After a bit of mind clearing with sacred MoHPC ritual (think RTFM...), I read the little .txt that comes with the HEPAX.MOD and it is explainded there that:

1. HEPAXH1.ROM to HEPAXH4.ROM should occupy banks 0 to 3 (1 to 4 in the original text);
2. it is also stated these ROM images should be in a page with an even # (8, B, D or E);
3. each of the two RAM-image files that come with the HEPAX ROM images are designed to be in the first bank of an odd- or even-numbered page;
4. the HEPAX manual explains that the HEPAX ROM uses one single page, and that each 16K RAM module occupies four pages, or two ports. (This is probably the reason that HEPAX relocates itself to a lower page, so all pages from 8 to F can be used to accomodate the 32K RAM, in 8 pages of 4K each, by using three modules)

So, I loaded all RAM files accordingly, in MLDL SRAM blocks, and set the SR as well (pages A, B, C and D); I also tried the suggested configuration by using page #8 and all of the banks filled accordingly, but I guess that a particular mapping with page #9 should be made, as it happens with Advantage mapping. All HEPAX functions I tried returned error messages, and the HP41 main memory was reduced from the original 319 registers to 273 registers (46 registers are relocated). After testing a few functions to see what messages they generated, the HP41 stuck and pages 8 and 9 became unavailable, even after a series of MEMORY LOST sequencies. I had to remove the MLDL and insert it in another HP41, then I had to insert a different module in port#1, place the MLDL back and then the pages became available again.

After that I tried the same procedure below, with the HEPAX ROM images mapped to page #6 and RAM mapping to pages 8, 9, A and B. Same behavior, no calculator

stuck because I did not insist that much...

I think further studies should be made prior to settle HEPAX to work with the MLDL2000, but although the calculator stuck in a weird way, based on Diego's considerations and Meindert's agreements, I guess it is a matter of a final, working arrangement.

Any additional facts, thoughts, eventual corrections? Please, althought I've been dealing with the HP41 basic hardware and software since the 80's by doing smalll repairs, structure studies and user-code programming, I'm dealing with all of this HP41 internal arrangments for a month only, strictly available time, and I hope all former enthusiasts forgive me if I am like a kid with a new toy... or like a kid with an old toy that found some hidden features.

Cheers.

Luiz (Brazil)

Edited: 22 Nov 2005, 3:22 p.m.

Re: MLDL and HEPAX emulation

*Message #12 Posted by **Diego Diaz** on 22 Nov 2005, 4:20 p.m.,*
in response to message #11 by Vieira, L. C. (Brazil)

Hi all,

Not much time allowed for testing, but here is what I've found:

- Forcing HEPAX to page #7 (CX) or #5 (CV) allows 41 to power up and display the correct CAT 2...

- It's also possible to see RAM on pages #8 & #9 thru [HEXEDIT] and it can be read and written accordingly...

- However, some (most) HEPAX functions return error messages as Luiz has pointed out. Further more, those error messages are *not* consistent with the corresponding function... (?) (for example: [HEPAX 002] returned H:NO FILESYS) So far this is quite a mystery for me...

Now I'm preparing a somewhat weird config SR trying to fool the 41 reagrding HEPAX location in an attempt to gain access to the HEPAX code itself... let's see what we find out... ;-))

Best.

Diego

Edited: 22 Nov 2005, 4:21 p.m.

Re: MLDL and HEPAX emulation (Done!!)

*Message #13 Posted by **Diego Diaz** on 22 Nov 2005, 5:18 p.m.,*
in response to message #12 by Diego Diaz

Hi again,

As usual, things are much clearer when you dig down to the "bit" level... ;-))

First, the cause of the troubles comes from the (dis)order in the so-called *standard* Bank-switching scheme:

100 - Bank 1

180 - Bank 2

140 - Bank 3

1C0 - Bank 4

... as you can see, bits 6 & 7 determine which bank to point to, but banks 2 & 3 are, in some way, *swapped*.

By fooling the 41 (which allows HEPAX editing) I've found out that the BS scheme in the MLDL2000 does not keep the "standard" order, but the bits order instead.

Just place HEPAX images in the "correct" order (i. e. 1, 3, 2 & 4) into the corresponding banks: 1, 2, 3 & 4.

And the whole thing works as expected... well... remember you must write the HEPAX FILE SYTEM by hand... here it is how it looks for 16K on pages #8 to #B.

8000: 00B

8FE7: 000

8FE8: 009

9000: 00C

9FE7: 008

9FE8: 00A

A000: 00D

AFE7: 009

AFE8: 00B

B000: 00E

9FE7: 00A

9FE8: 000

X= Same contents in all four pages

XFED: 090

XFEF: 091

XFF1: 0E5

XFF2: 00F

XFF3: 200

Hope this helps, best wishes from the Canaries!!

Diego.

MLDL and HEPAX emulation (Done!!) - Thanks!

*Message #14 Posted by **Vieira, L. C. (Brazil)** on 22 Nov 2005, 5:37 p.m.,*
in response to message #13 by Diego Diaz

Hi, Diego;

I am amlmost sure I do not speak only for myself when I say "Thanks!"

I'll try it later (now being sure of having a good result) and save the corresponding SRAM contents after modifying them so it will be easier to load them back when needed.

Best regards.

Luiz (Brazil)

(In time (again): did you receive my e-mail with the configuration for the NoVRAM and NoV32? Just let me know, so I can send it again if you didn´t get it)

Re: MLDL and HEPAX emulation (Done!!) - Thanks!

*Message #15 Posted by **Diego Diaz** on 22 Nov 2005, 5:44 p.m.,*
in response to message #14 by Vieira, L. C. (Brazil)

Hi Luiz, all,

Thanks, yes I do receive it, please check your mail, I've sent my reply a minuta ago... ;-)

Best wishes.

Diego.

HEPAX emulation- I tried to edit but, you know...

*Message #16 Posted by **Vieira, L. C. (Brazil)** on 22 Nov 2005, 5:49 p.m.,*
in response to message #14 by Vieira, L. C. (Brazil)

Hi, Diego;

the last post should be updated to contain:

BTW, shouldn't the three last lines be

```
B000: 00E
BFE7: 00A
BFE8: 000
```

instead of

```
B000: 00E
9FE7: 00A
9FE8: 000
```

Maybe you copied and pasted so the last ones were not updated... Also, in case of daring a 32K RAM, would the modifications be reflected the same way, I mean:

```
C000: 00B
CFE7: 000
CFE8: 009
D000: 00C
DFE7: 008
DFE8: 00A
E000: 00D
EFE7: 009
EFE8: 00B
F000: 00E
FFE7: 00A
FFE8: 000
```

or should their contents be different, I mean, do the 8, 9, A, B, C, D and E bytes refer to some address or are fixed data? The other set seems to follow the same pattern, right?

Best regards.

Luiz (Brazil)

Edited: 22 Nov 2005, 5:50 p.m.

Re: HEPAX emulation- I tried to edit but, you know...

*Message #17 Posted by **Diego Diaz** on 22 Nov 2005, 6:35 p.m.,*
in response to message #16 by Vieira, L. C. (Brazil)

Hi Luiz,

You're right about the copy-paste error, regrettably it cannot be edited according to new forum's policy (you know for sure who's the one to "thank" about that..)

Regarding the HEPAX FILE SYSTEM, it's in fact a "chain" so:

X000: Holdl a *unique* fake XROM-ID starting with H'00B, this turns C000: H'00F, D000: H'010, and so on...

XFE7 and XFE8 holds the pointers to the preceding and following pages in the chain respectively, or H'000 for the upper or lower ends of such chain.

Whit this in mind the 32K FILE SYSTEM version will look like this:

```
B000: 00E
BFE7: 00A
BFE8: 00C
C000: 00F
CFE7: 00B
CFE8: 00D
D000: 010
DFE7: 00C
DFE8: 00E
E000: 011
EFE7: 00D
EFE8: 00F
F000: 012
FFE7: 00E
FFE8: 000
```

Hope you find this info useful.

Cheers.

Diego.

It IS usefull, for sure! Thanks! (NT)

*Message #18 Posted by **Vieira, L. C. (Brazil)** on 22 Nov 2005, 6:55 p.m.,*
in response to message #17 by Diego Diaz

...

MLDL HEPAX emulation- Access to SRAM

*Message #19 Posted by **Vieira, L. C. (Brazil)** on 23 Nov 2005, 8:41 a.m.,*
in response to message #17 by Diego Diaz

HI all;

I know Diego is helping the way he can and that Meindert himself had already told that bankswitching is available and has some known limitations in MLDL structure. As a matter of fact, the ADVANTAGE emulation runs perfectly fine, as many other MLDL users may have noticed. The only fact that still calls my attention is that W&W's [CAT'] 2 shows intermetiate labels or function names when the emulated ROM uses more than one page. I have not tested the 41CX's [CAT] 2 to see if it happens the same.

I have read that HEPAX has some tricky operation, and Diego was able to completely emulate it with his Clonix41 or with his NoVRAM/NoV32 running as Clonix41, so Diego has valuable experience studying HEPAX operation.

I prepared all data related to the HEPAX emulation in the MLDL2000 and it now performs all 'memory independant' operations successfuly, and some memory access operation. One of them, HEXEDIT, either reads or writes successfuly in MLDL's SRAM.

But when the HEPAX automatically accesses MLDL SRAM,

it seems that there is something missing or wrong, I cannot say for sure. With all SRAM memory filled with zeroes and the corresponding bytes altered the way Diego sugested (double and trippled checkd, even with HEPAX HEXEDIT), it seems that HEPAX 'sees' some contentes that are not there. HEPDIR returns some entries, about ten, with names like

```
 C2    C3     C4     C5      MC     ??,S     PR,S
```

and so. When the list finishes, the display shows:

```
[           8:]
```

and when HEPROOM is executed, the same

```
[           8:]
```

is shown again. If we activate ALPHA, a weird, right-justified (wait for a little or press any key to see) 2000000 is shown in the ALPHA register; is this what HEPAX sees as free memory? 2.000.000 registers? If so, no wonder why it is behaving like this. I am sure that the last SRAM block contains a 000 as the reference of the last block in the chain.

I am almost sure that I may be doing something wrong, maybe I keyed extra data in or missed some step. Has anyone else tried the HEPAX with MLDL2000 so far? I think that using an actual HEPAX module and emulating RAM with MLDL might also work, OR, Diego, emulating HEPAX with Clonix and SRAM with MLDL (that´s what I actually have in mind) might give us plenty of room to develop and study MCODE. Even if it is for pure fun...

Thanks all and regards.

Luiz (Brazil)

Edited: 23 Nov 2005, 8:47 a.m.

Re: MLDL HEPAX emulation- Access to SRAM

*Message #20 Posted by **J-F Garnier** on 23 Nov 2005, 3:03 p.m.,*
in response to message #19 by Vieira, L. C. (Brazil)

Hi all,

Let me just remind you that Emu41 fully supports the Hepax module (among other things), and can be used as a reference for the (unlucky) ones who don't own the real module...

From my own experience in implementing Hepax operations, there is no need to initialize the RAM with special values.

Regards.

J-F

Re: MLDL HEPAX emulation- Access to SRAM: it really works!

*Message #21 Posted by **Meindert Kuipers** on 24 Nov 2005, 3:01 a.m.,*
in response to message #19 by Vieira, L. C. (Brazil)

Many thanks go to Diego and Luiz for making HEPAX work and finding two design errors in the MLDL2000:

bug 1: Banks 2 and 3 are swapped. This can be easily fixed, but requires the firmware updater to be finished first before the user can do the upgrade himself. I am working hard on this (complicated) piece of addition to the M2kM software.

bug 2: HEPAX works! This is not by design, but rather by fooling HEPAX and setting a special configuration. The only restriction is that it is not (yet) possible to control the Write Protection of SRAM from within HEPAX.

The only thing that need to be added to Luiz' configuration to run HEPAX in the MLDL2000 is that the RAM pages must be in all banks of a port. Why is not really clear to me yet, but with the settings below I have been able to save a program in an SRAM page, and HEPDIR and HEPROOM seems to give the correct results! I will investigate this further, there may be more secrets to bankswitching that still need to be uncovered.

Configuration for a CX:
Page $7, Bank 1: HEPAX1-1D
Bank 2: HEPAX2-1D (in SR this is Bank 3)
Bank 3: HEPAX3-1D (in SR this is Bank 4)
Bank 4: HEPAX4-1D

Page $8, Bank 1 to 4: SRAM Page 1 (identical in SR)
Page $9, Bank 1 to 4: SRAM Page 2 (identical in SR)

I have not tested any other configurations yet, but I think we have proven that HEPAX can work in MLDL2000 if the configuration is right!

To answer to another question with the CCD CAT 2: this is by design. AFAIK a FAT entry starting with a '-' will be seen as an extra header.

Meindert (who was very excited to see HEPAX work in his MLDL2000, I really feel like on old kid with a new toy)

Great; great news! Thanks q8^D. (edited)

*Message #22 Posted by **Vieira, L. C. (Brazil)** on 24 Nov 2005, 7:50 a.m.,*
in response to message #21 by Meindert Kuipers

Hi Meindert, Diego, all;

Thanks for crediting, but I consider that Diego and others that actually know what was going on inside the HP41 'guts' and made good suggestions are the ones to be credited. I am lurking around and, occasionaly, getting into accquaintance with the so many new information. In any case, you all know I am sharing whatever I find out, because I may find something important and do not be (yet) aware of that. Thanks!

In time. Meindert, you wrote in other post:

> Quote:
>
> While testing I discovered another potential problem with a wrong HEPAX configuration: when connected to USB, the CPLD remains powered, and the contents of the Bank Switching Registers (which are in the CPLD) are kept alive. If the current active bank in a port is pointing to the wrong place, switching the HP41 OFF and then ON again, will not solve the problem if USB is still connected. I will investigate this and look for possibilities to reset the BS registers.

I was about to point this out, but with so many stuff being discussed here, I thought I should wait till HEPAX basic configuration was ready prior to go ahead with that. In fact, if this happens, [CAT] 2 lists some stuff but HEPAX functions, and I thought that it was related to bank switching. Anyway, closing all MLDL 2K manager windows and disconnecting the USB cable (HP41 OFF) proved to be enough to bring the HP41 back to normal operation. In only one case that I forgot it connected for too long, it took me a while and a lot of [ON][<-] to bring it back. The LCD was somehow dimm (it is a fullnut, i.e., no contrast available), but it became normal after about 10 to 15 minutes.

Just to add these facts.

Cheers.

Luiz (Brazil)

Edited: 24 Nov 2005, 12:42 p.m.

Re: Great; great news! Thanks q8^D. (edited)

*Message #23 Posted by **Diego Diaz** on 25 Nov 2005, 6:55 a.m.,*
in response to message #22 by Vieira, L. C. (Brazil)

Hi again all,

Undoubtly, the more people try to replycate the "suggested" HEPAX configuration the more feedback info we'll get... However, I think that it will be a good idea to *define* a unique "testing scenario" in order to make all comparative testing (and results) to be consistent.

This is just a proposal for such scenario, feel free to suggest others (or mods to this one):

HEPAX-1D loaded into MLDL FLASH pages 240, 241, 242 & 243 (you may think it's completelly irrelevant where an image is loaded, but it will be easier to share SR files... and, IMHO, *nothing* is completely irrelevant ;-) Point SR (FLASH SR #0 for the sake of precission) to page #5 and use a CV.

RAM pages #8 to #B (start testing just with 16K... I think its a good testing tradition to proceed one step at a time...) pre-programmed with "basic" FILESYSTEM structure (as described in previous posts. Remember BFE8 must be H'000) Loaded into MLDL SRAM pages 0 to 3. (at this point remember to fill all 4 banks of every page with the same descriptor.)

I must say I don't have a battery inside my MLDL, so I keep USB *and* HP-41 connected all the time...

Turn HP-41 ON.

With above described scenario, I've been unable to reproduce the errors Luiz have seen... (?)

After first HEPDIR, (or others FILESYSTEM related commands) HEPAX *actually* build ist FILESYSTEM, shows "H:DIR EMPTY" and (<-) 2.610,0000 (free registers in "X")

You can check at address X092: H'04E and X093: H'00F (X= 9 to B) to verify if FILESYSTEM has

been correctly built. At B092 and following addresses you'll find something like this: 380, 251, 1CA... (on real HEPAX this contents are allocation dependant...)

If things goes as expected then remove the RAM mapping to BANKS 2 to 3 in SR, leave just BANK 1 for RAM pages... Otherwise please post your results as detailed as possible.

I've also tested this, without problems (remember I always have USB plugged in)

Turn 41 OFF.

Then, re-load *all* MLDL SRAM pages 0 to 7 with pre-programmed RAM images according to the *basic* FILESYSTEM for 32K RAM (now BFE8 should be H'00C)

This is required to avoid HEPAX finding a half-built FILESYSTEM (see HEPAX manual to get detailed info on how *strict* is HEPAX in handling its own FILESYSTEM... ;-)

Turn 41 ON, execute HEPDIR, you should get "H:DIR EMPTY" again and 5.222,000 afterwards (<-) in X register...

I know this could seem quite painstaking, but HEPAX is *really* sensitive when it comes to messing into its proprietary FILESYSTEM... and some of the things we've testing are not even cosidered possible those days, back it the good eigthies when this wonder was conceived... so keep in mind taht we're "playing in *other's* yard" ;-))

Once we can cope with HEPAX standalone functionality, will begin with other modules/devices (CCD, Advantage, printer... interoperability).

Your comments and test results are certainly welcome!!

Best wishes.

Diego.

MLDL2000 affairs... (+ rephrasing)

*Message #24 Posted by **Vieira, Luiz C. (Brazil)** on 25 Nov 2005, 10:59 a.m.,*
in response to message #23 by Diego Diaz

Hi Diego, all;

first of all, let me just add that in my previous post I missed some of my own words. I wrote:

> Quote:
>
> (...)I consider that Diego and others that actually know what was going on inside the HP41 'guts' and made good suggestions are the ones to be credited.

and I should have written:

> Quote:
>
> I consider that Diego, the one that actually made HEPAX work properly in MLDL, and others, that also know what was going on inside the HP41 'guts' and made good suggestions, are the ones to be credited.

That said, let's go ahead.

Diego, both the HEPAX ROM images I have, either 1C or 1D, show a checksum error (I did not notice before...). I reproduce the 1D-version report shown after MLDL's Open operation in MLDL ROM/SR Handler:

```
  XROM          : $007  007
  # Functions   : $037  055
  Pause Entry   : $000
  Program Entry : $000
  Sleep Entry   : $000
  OFF Entry     : $243
  Service Entry : $000
  ON Entry      : $213
  MemLost Entry : $000
  ROM Revision  : H1-1D
  Checksum      : $106  CHECKSUM NOT
GOOD, should be $100
```

Is it the same one you use?

This one is just for checking purposes, althought the answer is known. You did not mention the way HEPAX images should be ordered, so we assume it is the 1-3-2-4 bank sequence, right?

About the HEPAX memory modules. I know you mentioned you did not have any HEPAX actual memory modules, but it seems to me you have the actual HEPAX ROM module. If this is true, have you tried to use MLDL's SRAM with

the actual HEPAX module? You know what is still teasing me? If the HEPAX memory modules are RAM modules without backup batteries, shouldn't they be empty (all bits = "0") when firstly inserted in an HP41? If so, HEPAX should build the system files from 'zeroes', and based on what I read, it would identify the existence and location of RAM modules after writing/reading operations. If we can call them this way, the few 10-bit words recorded on these RAM modules are like signalling words, as for the existence and RAM sequence (chain). Is that correct? If my assumptions are correct, would an actual HEPAX ROM module be able to build the HEPAX file system in empty ('zeroed') MLDL SRAM available blocks? If it is not daring too much, may I go somehow further and ask how does Clonix emulation of HEPAX (in NOVRAM programmed with clonix6) handle that?

I have already printed the tentire text and I'll go for your solution in a few minutes from now. I just would like to be confident of the HEPAX image I have here.

Thanks again, Diego (and Meindert, of course). It's been pure brainstorm these last weeks.

Cheers.

Luiz (Brazil)

(a small) Oops!

*Message #25 Posted by **Vieira, Luiz C. (Brazil)** on 25 Nov 2005, 11:07 a.m.,*
in response to message #24 by Vieira, Luiz C. (Brazil)

Hi, Diego, all;

I had not seen Diego's reply to Meindert's post where Diego mentions what he is using to perform tests. Anyway, I'll keep the suggestion to use MLDL2000 SRAM blocks with NoVRAM HEPAX emulation (something I want to do soon...)

Cheers.

Luiz (Brazil)

Edited: 25 Nov 2005, 11:36 a.m.

Re: (a small) Oops!

*Message #26 Posted by **Diego Diaz** on 25 Nov 2005, 12:55 p.m.,*
in response to message #25 by Vieira, Luiz C. (Brazil)

Hi Luiz,

I'll try to make an abstract from the somewhat "disperse" info in my posts above:

- No, regrettably I haven't got any *real* HEPAX, neither the module nor the MEMORIES... :-(

- The Clonix module is not able to emulate HEPAX, this is achieved by NoVRAM and NoV-32. I build an HEPAX file for clonix just for the fun of playing with some of its functions but it cannot handle any FILE SYSTEM related funtionalities.

- HEPAX do in fact lost its memory contents when it's unplugged (one of the [few] things in which NoVRAM emulation surpass the *real* HEPAX specs)

- Consequently, you're right when supposing HEPAX builds its FILE SYSTEM from scratch (all zeroes). This is achieved in two steps:

1st HEPAX writes the "basic" FILE SYSTEM structure, on power up, *after* relocation... thus, due to the imposibility to perform relocation on the MLDL, this step will never be automatically performed. That's why I write it by hand. In fact, the real HEPAX does not write the "chain" (XFE7, XFE8) in this step, these remain zeroed until the 2nd step is performed. Also address XFF3 holds H'100 instead of H'200 at this very stage of the initialization process. However, I've got no difference during tests in doing this way.

2nd once that basic structure is written, you must execute HEPDIR to actually build the FILE SYSTEM structure. At

this point HEPAX writes data at addresses X092 and following, writes the chain at XFE7 and XFE8, and toggles XFF3 from H'100 into H'200.

- NoVRAM could be used to handle MLDL SRAM in an HEPAX-like fashion, but in its current implementation NoVRAM holds 16K (#8 to #B) so MLDL RAM must be set to map at pages #C to #F.

Whichever the case, and prior to begin messing with different/mixed module-MLDL configs I'd like to have a consistent basis just with MLDL and standalone HEPAX emulation.

As I've told before I've got it running in my MLDL but want to make sure this is not a "casual" result... That's why I've posted a basic testing scenario.

Hope this helps others interested in the process.

Best regards.

Diego.

P.S. Regarding HEPAX image checksum... yes it's the same here, but I haven't paid much attention to this point. And the banks order is ok: 1, 3, 2 & 4.

Edited: 25 Nov 2005, 1:04 p.m.

I tested the new procedure, and...

*Message #27 Posted by **Vieira, Luiz C. (Brazil)** on 25 Nov 2005, 3:25 p.m.,*
in response to message #26 by Diego Diaz

Hi Diego, Meindert, all that are following this MLDL adventure.

I followed all Diego's suggestions and actually changed some of my MLDL2000 `preferences`, so I could go ahead with the experiment exactly the same. In time: there is no problem at all rearranging ROM images in the FLASH memory, once you know what you are doing. I sent Diego a copy of what I

have already stored in FLASH memory, and I agreeded with moving four images form where they were in order to locate the HEPAX 1D ROM images in the same address suggested. The four ROM images I had in 240, 241, 242 and 243 were moved to lower addresses. As a matter of easy arrangement, a fifth ROM image was also moved.

All set, 16KRAM available and `preprogrammed`, calculator OFF in all MLDL accesses and changes, after first HEPDIR I saw the same C2, C3, C4 and C5 entries again, and the 2,160.0000 at the end (free registers, O.K.). If HEPAX reports 2.610 free registers, the C2, C3... entries do not occupy space, so there is no trouble for me.

I checked all non-zero words (added/changed) and found:

```
Addr    Dta
8092    048
8093    0B0
8095    01C
809A    047
809B    00F
X092    04E (X= 9, A, B)
X093    00F (X= 9, A, B)
```

I repeated the entire process with a 41CV halfnut and got the same results.

Then I changed SR references and removed the SRAM references from banks 2 and 3 at pages 8, 9, A and B, so I executed HEPDIR again and I received a NONEXISTENT. Then I tried [CAT] 2 and none of the HEPAX 1D functions were there, HEPAX 1D identification neither.

One point: I am counting banks 0, 1, 2 and 3, as they appear in the MLDL2000 Manager windows. Is there a chance that you, Diego, is counting banks 1, 2, 3 and 4? In this case, should I leave intact the references to banks 0 and 1 in a 0, 1, 2 and 3 counting for each SRAM, or should I leave references to banks 1 and 4 in a 1, 2, 3 and 4 counting? Or any other arrangement? In my case, as I am counting as MLDL2000 Manager shows, I left banks 0 and 1 with the original reference SRAM. And as I was

considering other possibilities, I decided to remove all but the first bank reference. So I had only bank 0 of each SR activated and tried again: no HEPAX showing up. I restored previous references to all four banks and tried again. No HEPAX. Then I closed MLDL2000 manager, disconnect the HP41 and tried: there he is, HEPAX functions back again after [CAT] 2.

HEPDIR gives C2, C3, C4 and C5 as the four unique entries yet, each with a right-justified space, and ends with correct 2.610 available registers. I decided to go ahead finished all steps to set 32KRAM the way it is shown here, and after HEPDIR I got:

```
C2
C3
C4
C5
MC
??,S
PR,S
DA,S
5,610.0000
```

These look like ‘ghost entries’, or something like references to the possible file types. You see, when HEPAX cannot identify a file type, it shows the file ID as ??, right? PR refers to Program file, and DA refers to Data, the S meaning Secure file. No Key assignment file references, however, neither ASCII (ALPHA string), nor Write All.. Except for these particular entries in HEPDIR, everything else seems fine. After saving three small programs as for testing purposes, the first `ghost` entry (C2) disappeared, and the reported remaining register was reduced to 5,203 (fair enough to hold the new data). One interesting fact: although these ‘ghost´ entries do not count as used bytes, HEPDIRX ‘sees’ each of them as they appeared: C2 when X=1, C3 when X=2, and so. After loading the three small programs, C3 became entry #1, C4 became entry #2, etc.

And yes, after [HSAVEP], each of the three programs appear in [CAT] 2, after [XFA]. I ordered a MEMORY LOST

and recovered each of them back to main memory. Interesting: I saw [HSAVEP] and [HPURFL], but I did not see [HGETP]. After wondering about how to bring the programs back, I decided to see the functions repertoire in HEPAX to see which of them could be used. Then I saw the three labels showing up as the last entries, and I could understand that they were actually converted to internal XROM calls. I was not known about that... I wonder what else I missed all of these years... After that, [COPY] was enough to bring them back.

I´ll go further using HEPAX functionality to deal with as many possibilities as I can, and I'll report any additional fact.

In time: Meindert and Diego, as Diego mentioned his MLDL2000 is a BETA unit and being my own a regular unit, are there any chances that the CPLD program used in mine is an updated version? If so, that would (at least partially) explain the different behavior. I guess it would be related to WXP version or MLDL2000 manager; maybe the HEPAX version, but it seems to me that Diego is using the same.

I wish I knew more about the HP41 + HEPAX internals to be more technical and deeper when mentioning these facts, sorry.

Thanks again.

luiz (Brazil)

(should we start a new thread?)

Re: (a small) Oops!

*Message #28 Posted by **Vieira, Luiz C. (Brazil)** on 25 Nov 2005, 3:28 p.m.,*
in response to message #26 by Diego Diaz

I guess this particular thread will be a reference for future users. I'll later compile all info posted here and try a final docuemnt. Waht do you think?

Cheers.

Luiz (Brazil)

Re: (a small) Oops!

*Message #29 Posted by **Howard Owen** on 25 Nov 2005, 5:14 p.m.,*
in response to message #28 by Vieira, Luiz C. (Brazil)

Please do! I intend to own an MLDL2K one day, and I have a Nov32 on order. Reading this thread has been educational and interesting!

Re: (a small) Oops!-you guys are awesome!!

*Message #30 Posted by **PeterP** on 26 Nov 2005, 12:57 p.m.,*
in response to message #29 by Howard Owen

just a humble "You are guys are simply amazing" from a guy not really worthy reading your stuff. A happy owner of an MLDL as well and in love with the HEPAX I've been following your post here with great excitement. Now it will allow us mere mortals to play with a fantastic HP - MLDLD+CCD+Hepax+lots of memory (as I don't have any hepax-memory modules). Thanks again, you guys (including the one genius who has made the whole thing possible in the first place, Meindert) are awesome! Thanks so much for sharing all this invaluable information, I'm sure I'm not the only bystander who has followed this post with held breath.

Cheers

Peter

Re: MLDL2059 (again): completely built!

*Message #31 Posted by **Diego Diaz** on 23 Nov 2005, 6:08 a.m.,*
in response to message #10 by Meindert Kuipers

Hi again,

I've received an e-mail a minute ago from a user/friend, he pointed me out about one fact that I think requires clarification:

Some of my previous posts in this thread could be *misread* as if I had unveiled some errors or weak design points in the MLDL2000, not AT ALL!!

Please note that MLDL2000 achieves a smooth Bank-switching handling, it uses bits 6 & 7 in the "logical" order, and it's just a matter of ROM images loading organisation which does *not* represents any kind of incorrect function whatsoever.

Meindert, please excuse if any of my explanations could be misunderstood. Sincerely hope this clarifies my opinion about your superb device.

Best regards and enjoy your new toys.

Diego Díaz, honoured MLDL2003 betatester... ;-))

Re: MLDL2059 (again): completely built!

*Message #32 Posted by **Meindert Kuipers** on 24 Nov 2005, 3:49 a.m.,*
in response to message #31 by Diego Diaz

Diego,

I am very glad to hear that there are bugs/mistakes/design issues in the MLDL2000. That is why I have made all the information public to make it better! Did you dive into the VHDL sources?
I have pinpointed the error and have already fixed it, but not tested it yet. For field upgrades this requires a bit of software that I am working on to be finished first to allow reprogramming of the CPLD firmware.
Bankswitching is for me still a bit of black magic. The actual code to implement it is only a few lines of VHDL code, and I have used the bits in the ENBANKx instructions to control the address bits for selecting the active bank, and that is where I went wrong. To implement is was actually very simple, but the mechanism has large consequences. I actually did the coding of BS without any simulation, and it worked the first time I tested it with the Advantage ROM.

While testing I discovered another potential problem with a wrong HEPAX configuration: when connected to USB, the CPLD remains powered, and the contents of the Bank Switching Registers (which are in the CPLD) are kept alive. If the current active bank in a port is pointing to the wrong place, switching the HP41 OFF and then ON again, will not solve the problem if USB is still connected. I will investigate this and look for possibilities to reset the BS registers.

I am still a bit worried about having HEPAX in Page 7 (CX configuration), and something else in Page 6 that also does bankswitching (Page is normally just for the Printer). Since the even and odd ports share the same BS registers they will influence each other. Also, what happens if IL (fixed at Page 7) is plugged in, where do we put HEPAX then?

Again, please report any unexpected or undesired features of the MLDL2000, it only helps to improve it!

Meindert

Re: MLDL2059 (again): completely built!

*Message #33 Posted by **Diego Diaz** on 25 Nov 2005, 7:41 a.m.,*
in response to message #32 by Meindert Kuipers

Hi Meindert,

Thanks for your comments. It was more a question of luck than of knowledge, that I come accross with the swapped organization on banks 2 & 3... (I should'n call it a "bug"... :-)

Regrettably I haven't dig into CPLD code. I've got almost no experience with these devices, so I'm affraid I wouldn't be much of a help in this field... Always willing to learn though!!

In a previous post to Luiz comments I've described some of the test I've performed so far. First I also kept RAM pages in all four banks, but removing them from banks 2, 3 and 4 did not make any difference (at least on my unit) regardless the use of 16K or 32K RAM configurations...

I'm using my own NoVRAM (16K RAM) with HEPAX-1D emulation as a "reference", currently I have no NoV-32 unit due to some domestic trouble... I'm confident I'll have some units ready during this weekend to test 32K configurations (I must say that NoV-32 was not intended to use all 32K with HEPAX FILESYSTEM but this could be achieved though...) It would also be great if users with the *real* HEPAX (and even HEPAX MEM/HEPAX 2MEM) can verify the reported results... Any volunteer?? ;-))

Best wishes.

Diego.

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HP-34C repair

*Message #1 Posted by **Stefan K.** on 20 Nov 2005, 2:43 p.m.*

I am finally a proud owner of a 34c. Of course the batteries are dead, and when I put in normal alkalines out of curiosity I unscrewed the two little screws in the battery compartment. Unfortunately I couldn't screw them back in, the little plastic thingies with the thread crumbled away. First I thought it was the corrosion of the screws that busted the plastic, but then I noticed that the batteries put some pressure on the right part of the rear cover (when looked from the back).
My solution was to glue the little parts all together with a fair amount of superglue and then drill a new hole for the screws through the glue.

Hope that helps anybody, and never try to open a calculator if you don't have too!
Stefan

Re: HP-34C repair

*Message #2 Posted by **Art Litka** on 21 Nov 2005, 9:00 a.m.,*
in response to message #1 by Stefan K.

Stefan,

I know how you feel! I have two 34C's, have had them both apart and ran into the screw thread problem as well. I did manage to get one functional by swapping some components from the other. However, the case backing on the functional one is currently scotch taped on until I can devise a more permanent fix. Since the calculator is still somewhat erratic as to when it works or not, I am hesitant about attaching the back more permanently in place yet. Please let us know what you come up with.

Art Litka

Re: HP-34C repair

*Message #3 Posted by **Stefan K.** on 22 Nov 2005, 7:14 a.m.,*
in response to message #2 by Art Litka

Well, as I said: I can now close the back part again and tighten the screws, but I am not sure how much pressure the superglue wil withstand. It's working at the moment, it wasn't exactly a clean job but you won't notice from the outside, and I am hesitant to touch the screws again unless the calculator is broken.

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A way to polish aluminium

*Message #1 Posted by **inaki** on 19 Nov 2005, 5:50 p.m.*

I would like to erase those engravings on the aluminium parts of calculators. I have several of them with the name of the former owner on them. Has anyone been successful at erasing those marks from aluminium parts ?

Re: A way to polish aluminium

*Message #2 Posted by **db (martinez, ca.)** on 19 Nov 2005, 9:14 p.m.,*
in response to message #1 by inaki

nothing works completly, but scotch brite rubbed in the direction of the grain may help. if you want to POLISH aluminum, thats a different thing. Try semichrome for that.

Re: A way to polish aluminium

*Message #3 Posted by **Hal** on 20 Nov 2005, 3:04 a.m.,*
in response to message #1 by inaki

Hi Inaki,
If the engravings are deep at all, you may need to use a dremel tool, or dental handpiece with an abrasive rubber wheel.
Best regards, Hal

Re: A way to polish aluminium

*Message #4 Posted by **db (martinez, ca.)** on 20 Nov 2005, 11:47 a.m.,*
in response to message #3 by Hal

Hal;

If your dremel idea doesn't do it, he could go with a 1" cold chisel and a 3 pound hammer. If that doesn't work, an air arc or a jack hammer would probably do the trick. Wait; thats just stupid. Jack hammers are notoriously hard to control. Bosch makes a 9" hand operated grinder that should function well. I know that a longitudinal diamond resurfacer of the type you see gooving roads and freeways will bring the surface evenly down to the bottom of the engraving however the setup fee may be high.

God i love power tools. - d

Re: aluminium resurfacing

*Message #5 Posted by **Randy** on 20 Nov 2005, 12:42 p.m.,*
in response to message #4 by db (martinez, ca.)

A Red Green show solution:

DB, I think you were on the right track with the grooved roadway... why not duct-tape the plate to the

tire of a car and then make some wheels locked stops? The skidding action on the grooved roadway will provide the desired lengthwise etch lines in the aluminum. The hard part might be locating an older vehicle without anti-lock brakes.

Re: A way to polish aluminium

*Message #6 Posted by **Al** on 20 Nov 2005, 5:09 p.m.,*
in response to message #4 by db (martinez, ca.)

> Quote:
>
> If your dremel idea doesn't do it, he could go with a 1" cold chisel and a 3 pound hammer.

I don't think so, Tim.

Al

Re: A way to polish aluminium

*Message #7 Posted by **Wayne Brown** on 20 Nov 2005, 5:54 p.m.,*
in response to message #6 by Al

> Quote:
>
> > Quote:
> >
> > If your dremel idea doesn't do it, he could go with a 1" cold chisel and a 3 pound hammer.
>
> I don't think so, Tim.
>
> Al

MORE POWER!!! R-R-R

Re: A way to polish aluminium

*Message #8 Posted by **Rafael Ramos** on 20 Nov 2005, 4:03 p.m.,*
in response to message #1 by inaki

you could use the scotch brite and singer oil. keep the movement always in the same direction. the oil helps to avoid scratches too deep.

painful and slow death to the calc´s mutilators.

Re: A way to polish aluminium

*Message #9 Posted by **JDH** on 22 Nov 2005, 7:44 a.m.,*
in response to message #1 by inaki

I've used toothpaste and a cotton bud to clean up the surface scratches on the metal work of an HP 15c. Basically takes away the top layer, removing the scratches with it.

Re: A way to polish aluminium

*Message #10 Posted by **marais** on 22 Nov 2005, 1:43 p.m.,*
in response to message #9 by JDH

But does it polish deep enough to remove an engraving?

Andreas

Re: A way to polish aluminium

*Message #11 Posted by **Hugh Evans** on 22 Nov 2005, 11:48 p.m.,*
in response to message #1 by inaki

Someone posted a while back about fabricating a new bezel out of brushed stainless steel. Why not draw out the specs yourself and get a few quotes from your local machine shops?

I still think ordering a short production run from emachineshop out of brushed stainless could be a nice way of going.

Re: A way to polish aluminium

*Message #12 Posted by **David Smith** on 24 Nov 2005, 10:42 p.m.,*
in response to message #1 by inaki

The only way to remove an engraving from anything is too remove enough material from the surface until you reach the depth of the engraving. Your best bet would be to remove the bezel (can be hard to do without bending it), The bezel is held down with double sided sticky film. I have used a stong thread soaked in UnDu (heptane).

Next sand the surface down with coarse sand paper. Lay the paper on a hard, smooth surface and work the bezel back and forth. Be careful no to snag and bend the bezel. When you get close, switch to ever finer grit. To get a good final surface you may need to polish it shiny with Flitz, etc then use steel wool or ultragrit sandpaper or a fine wire brush to apply the final brushed aluminium grain pattern.

I bet it will never look right.

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41 Help !!! :-)

*Message #1 Posted by **Gileno - Brazil** on 19 Nov 2005, 4:31 p.m.*

```
I have a sequences of letters.
For instance ABCDEFGHIJKLM... (alpha mode, size 21 letters).
How do I do to have only the first 3 letters?
Using the commands of HP41CX, but I don't want to use the xmemory.
```

Re: 41 Help !!! :-)

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 19 Nov 2005, 5:48 p.m.,*
in response to message #1 by Gileno - Brazil

Hi, Gileno;

as you have a CX, you can try this 'Mickey-Mouse' (as simple as it gets):

```
ATOX
ATOX
ATOX
CLA
X<> Z
XTOA
RDN
XTOA
RDN
XTOA
```

It does not use X-memory, only X-functions. Contents of stack registers are lost, only previous X-register contents is kept ((in Y-register). If you need more digits to be handled the same way, maybe other specific ALPHA operations would be more helpfull.

Cheers.

Luiz

Re: 41 Help !!! :-)

*Message #3 Posted by **Raymond Del Tondo** on 19 Nov 2005, 7:05 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Hi,

another simple solution:

Suppose you have ABCDEFGHI... in Alpha.

```
ASTO L  (stores the 6 leftmost chars in L, that is 'ABCDEF')
"XXX"   (replace old Alpha contents by 'XXX')
ARCL L  (appends the 6 chars from L to ALPHA, giving 'XXXABCDEF')
ASTO L  (store again, this time 'XXXABC' )
"YYY"   (replace old Alpha contents by 'YYY')
ARCL L  (append prev stored chars, giving 'YYYXXXABC')
ASHF    (shift 6 leftmost chars out. Here you are: 'ABC' ;-)
```

Seven steps, only uses Alpha and L register.
No X-Functions or CX needed.
Works on any HP-41;-)

Shorter version anyone, using a basic 41?

HTH

Raymond

Edited: 19 Nov 2005, 7:42 p.m.

Re: 41 Help !!! :-)

*Message #4 Posted by **Gileno - Brazil** on 20 Nov 2005, 1:52 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

I thank all of the solutions

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Power supply for 9114B Disk Drive

*Message #1 Posted by **inaki** on 19 Nov 2005, 3:12 p.m.*

Which is the right power supply for the 9114B Disk Drive ? Is it the same that for other HP peripherals, that is, the 8V one?

Re: Power supply for 9114B Disk Drive

*Message #2 Posted by **Howard Owen** on 19 Nov 2005, 4:05 p.m.,*
in response to message #1 by inaki

Yes, it's the same as for lots of HP products in the late 70s and through the 1980s. In the US, it's the 82059[ABCD] The various revs have all worked well in many HP machines for me:

- HP-97
- HP-41C rechargable battery pack
- HP-41C printer (both dedicated and HP-IL)
- HP9114A/B FDD
- HP-IL Thinkjet printer
- HP-110 portable plus
- HP-IL/Serial interface
- HP-IL/HP-IB interface
- HP-75C/D
- HP-71B

I'm sure there are others that I've forgotten about or never encountered.

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HP48GX Hardware Reset

*Message #1 Posted by **John Kercheval** on 19 Nov 2005, 10:24 a.m.*

How do I do a hardware rest on a 48GX?

John Kercheval

Re: HP48GX Hardware Reset

*Message #2 Posted by **db (martinez, ca.)** on 19 Nov 2005, 12:20 p.m.,*
in response to message #1 by John Kercheval

Do you mean the old - pop out the foot that's closest to being under the "A" key and stuff a pin into it to push down the spring? That's what i've done. It pretty much resets everything. I don't like it though because my TDS card makes me dump all the data off my memory card when i do it.

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HP48GX and Invalid Card Data Error

*Message #1 Posted by **John Kercheval** on 19 Nov 2005, 10:14 a.m.*

Hello:

I have an HP48GX and every time I start it up with the 1MB Memory Pac I get an error:

"Warning: Invalid Card Data."

W/o the card in no problem.

Any ideas?

John

Re: HP48GX and Invalid Card Data Error

*Message #2 Posted by **Han** on 19 Nov 2005, 11:23 a.m.,*
in response to message #1 by John Kercheval

It just means that you have a new card with no data on it. Since the card has not been initialized, you will always have "Invalid Data." As soon as you start using each and every port, the message goes away. Or, you could just use the PINIT (port initialization) command. It will essentially initialize all ports.

Re: HP48GX and Invalid Card Data Error

*Message #3 Posted by **John Kercheval** on 19 Nov 2005, 1:09 p.m.,*
in response to message #2 by Han

Thanks, I tried that. Did nothing. Other ideas?

THANKS!

John

Re: HP48GX and Invalid Card Data Error

*Message #4 Posted by **Raymond Del Tondo** on 19 Nov 2005, 3:17 p.m.,*
in response to message #3 by John Kercheval

Hello,

if it's a new and/or empty card,
PINIT is the way to go.
Be sure to have the write protect switch
in the ReadWrite position.

If the card has some software on it,
it could be that the contents are invalid.
In this case just pull the card out of the calc,
then pull the card's battery for a few minutes,
then reinsert the battery, then the card,
and start over with PINIT.

If that won't work, the card may be defective.

Or is it an older TDS card?

HTH

Raymond

Re: HP48GX and Invalid Card Data Error

*Message #5 Posted by **Stefan K.** on 21 Nov 2005, 3:29 a.m.,*
in response to message #1 by John Kercheval

(Free translation of my German user manual): You have to use at least one port on the card that the error message goes away.

Try using PINIT and then store something on a port. If you still get the error message, it could also be the cell battery. Somehow my memory cards need good cells even if they are plugged into the calculator.

HTH stefan

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incorrect integral of 1/(sin x)

*Message #1 Posted by **J.C. Boco** on 19 Nov 2005, 8:19 a.m.*

I'm getting an error while integrating 1/(sinx).

the result is -.5 ln (cos(x)+1 +.5 ln (cos(x)-1)

funny, as integral tables give the answer as -ln (cotx cscx).

Is it just a fact of life that since algorithms for integrating are so complex that you just can't expect calculators to do it?

Re: incorrect integral of 1/(sin x)

*Message #2 Posted by **Han** on 19 Nov 2005, 11:30 a.m.,*
in response to message #1 by J.C. Boco

That is a correct integral of 1/(sin x). Just differentiate the expression and you will find that it indeed is correct. When evaluating indefinite integrals, recall that your solution is acutally a family of solutions (due to the "+C"). Since many trig functions also have identities involving other trig functions, it is often the case that you may have seemingly two different antiderivatives.

For example, the antiderivative of (sin x)*(cos x) is both .5*(sin x)^2+C1 as well as -.5*(cos x)^2+C2. The reason: (sin t)^2 + (cos t)^2 = 1. By choosing just the right values for C1 (or C2) you can get from one solution to the other via the trig identity above. (Differentiate either expression and you get back (sin x)*(cos x).)

Re: incorrect integral of 1/(sin x)

*Message #3 Posted by **Crawl** on 19 Nov 2005, 11:30 a.m.,*
in response to message #1 by J.C. Boco

It's not an error.

[applying the ABS]

-0.5 (log (cos(x) + 1) + log (1 - cos(x)))

=

0.5 log((1 - cos(x))/(cos(x) + 1))

=

[multiply top and bottom by 1 - cos(x)]

0.5 log ((cos(x) - 1)^2 / (1 - cos(x)^2))

=

0.5 log ((cos(x) - 1)^2 / sin(x)^2)

=

log ((cos(x) - 1)/ sin(x))

= log(cotangent(x) - cosecant(x))

So, there is no error. It's the exact same function, only written differently.

For the same integral, the TI89 gives another form: log(tan(x/2))

Re: incorrect integral of 1/(sin x)

*Message #4 Posted by **Ed Look** on 19 Nov 2005, 1:37 p.m.,*
in response to message #3 by Crawl

Now, THIS is a good thread, with a good question and some excellent replies!

If this thread was made a chapter in calculus texts, in bold print no less, I think less kids would drop the course! (And some not-so-swift instructors smarten up!)

Oh, and I forgot... it even ties into HP calculators! LOL!!

(P.S. I really shouldn't comment; I usually do integrals and derivatives by hand... else use a computer... except in my old college days, doing a numerical evaluation of a rather simple integral using the SOLVE function on my old HP 34C! I have yet to try out either integrals or derivatives on a 48G+ or 49G+; and on a day I have some nerve, I'll try it on the 33S!)

Re: incorrect integral of 1/(sin x)

*Message #5 Posted by **Marcus von Cube, Germany** on 20 Nov 2005, 10:05 a.m.,*
in response to message #3 by Crawl

> Quote:
>
> For the same integral, the TI89 gives another form: log(tan(x/2))

This is the result that Derive 6 on my PC returns.

My TI Voyage 200 returns: ln(|sin(x)|/|cos(x)+1|) (with AMS 3.1)

Same is true for my TI-89 (AMS 2.09)

I have no idea, why the TI uses || (ABS) on the term cos(x)+1 which can never be negative.

Marcus

Re: incorrect integral of 1/(sin x)

*Message #6 Posted by **I, Claudius** on 19 Nov 2005, 3:00 p.m.,*
in response to message #1 by J.C. Boco

It is correct. There are two good quick ways to check if the antiderivative your 49 has given you is valid:

One is as stated above, take the derivative and see if you get back the function you started with. That is the classic math approach, is absolutely valid, although some algebraic simplification may be needed for complicated functions.

Another method is to use a second computer algebra system, such as Mathematica or Maple. (The 49 was originally programmed using Maple, and it's suprising to see how close the 49 is to Maple (versions 6 thru 8) on many things.) Integrate your function with the other CAS, then plugging in small numbers, such as x=1,2,3... and Pi/(8,4,2) for trig functions, see if the functions are equal. I'm impressed at the accuracy of the 49's antiderivatives. There are a number of errors, but relatively few. The math professor who programmed the 49 did a superb job with indefinite integration, using partial implementation of the Risch algorithm.

The TI89 is often mentioned in comparison to the 49 with regards to integration. The TI89 is generally faster but lacks the Risch methods, instead relying on plug and chug heuristics. There are a number of antiderivatives the TI89 can't do the 49 can, and vice versa. The only area where the 89 outperforms the 49 is with multiple integrals, being much faster. In the final result, though, they are both fairly well matched. An engineer is well armed with either one.

As for integration tables, there is really only one that I use, Gradshteyn and Reyshik's Table Of Integrals, Series and Products. While the table is mostly accurate, there are a number of well-known errors found by programmers when testing the integration powers of Mathematica.

Edited: 19 Nov 2005, 3:10 p.m.

Re: incorrect integral of 1/(sin x)

*Message #7 Posted by **Karl Schneider** on 19 Nov 2005, 3:12 p.m.,*
in response to message #1 by J.C. Boco

J.C. --

You don't mention what kind of calculator you're using (or even if it's an HP). My HP-48G cannot solve it symbolically, but my HP-49G gives an expression that corresponds to

```
-((LN(COS(x)+1)-LN(COS(x)-1)))/2,   (where x = uppper limit)
```

I'd say that there are editing errors in both the calculator solution and the integral-table solutions you listed.

The Schaum's outline Mathematical Handbook lists the integral of csc (x) [= 1/sin(x)] in equation 14.461 as

```
ln (csc(x) - cot(x)) = ln (tan(x/2))
```

As others have pointed out, all three forms can be equated by trigonometric identities.

-- KS

Edited: 19 Nov 2005, 3:14 p.m.

Re: incorrect integral of 1/(sin x)

*Message #8 Posted by **I, Claudius** on 19 Nov 2005, 6:21 p.m.,*
in response to message #7 by Karl Schneider

His 49's answer is correct. His table solution is an obvious error.

-((LN(Cos(x)+1)-LN(Cos(x)-1)))/2,LN(Csc(x)-Cot(x)),LN(Tan(x/2)) evaluated at x=2 all approximate to

.443022...

Maple agrees.

Re: incorrect integral of 1/(sin x)

*Message #9 Posted by **Crawl** on 19 Nov 2005, 7:11 p.m.,*
in response to message #8 by I, Claudius

I assumed his table answer of

-ln (cotx cscx)

was a typo and was intended to be

ln (cotx - cscx).

It's the only thing that makes sense, expecially since even if that was the answer, why write it that way? The negative in front of the log would turn cot to tan, and csc to sin, which are the more "normal" trig functions.

Re: incorrect integral of 1/(sin x)

*Message #10 Posted by **Karl Schneider** on 20 Nov 2005, 2:09 a.m.,*
in response to message #8 by I, Claudius

His HP-49(?) answer was missing a right paren after the first term -- unbalanced parentheses.

-- KS

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41c display angle

*Message #1 Posted by **Hal** on 19 Nov 2005, 3:34 a.m.*

Hi Everybody... I have a 41c that i got about a month ago that seemed to have weak, faint upper display elements. That is until I rotated the calc away from me and viewed at a shallower angle (so my line of sight was perpindicular to the slanted face of the keys), and presto...dark, will saturated segments averywhere. Anybody else notice this on a 41c? (More so than on a 41cx halfnut, which doesn't seem to require as shallow an angle for good viewing).

Re: 41c display angle

*Message #2 Posted by **Karl Schneider** on 19 Nov 2005, 2:35 p.m.,*
in response to message #1 by Hal

Well, I have a contradictory example:

One of my co-workers owns a halfnut 41CX whose display is somewhat faint, and seems to run slow, as well.

All in all, though, the fullnet displays are much better than the halfnut displays. The earliest (US-made) 41C/CV's displayed shorter, but bolder and more "solid" characters with less space between the segments. Later fullnuts showed characters that were taller, but less bold. (This may have coincided with the shift of production to Singapore.)

Halfnut displays are bad, IMO. Large gaps between the segments gives a "broken-up" look to the characters.

-- KS

Re: 41c display angle

*Message #3 Posted by **Miki Mihajlovic** on 19 Nov 2005, 5:56 p.m.,*
in response to message #1 by Hal

HEPAX and SANDBOX modules have function that will alow you to set the contrast on halfnut models. Once set it doesnt change even after the master clear. That will help only if it isn't an LCD problem. From what you said it might be, if only the upper segments are faint.

Re: 41c display angle

*Message #4 Posted by **Hal** on 19 Nov 2005, 7:18 p.m.,*
in response to message #3 by Miki Mihajlovic

Thanks guys for your input.
It looks like said 41c may really have a display problem after all. If I key in 2's across the display, the upper segments are totally gone when using a normal veiwing angle. I can see the upper segments, however, at a *really* shallow angle (almost edge on). I'll try leaving the batteries out overnight and see if that helps.
Hal

Re: 41c display angle

*Message #5 Posted by **Garth Wilson** on 20 Nov 2005, 1:32 a.m.,*
in response to message #4 by Hal

Sounds like a problem with an LCD connection.

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Bargain71 on eBay

*Message #1 Posted by **Howard Owen** on 18 Nov 2005, 9:30 p.m.*

No, I'm not the seller. But it seems to be sort of misfiled, and a gent we all know is getting a nice bargain as things stand.

HP-71B with HHP 96K module on eBay

Re: Bargain71 on eBay

*Message #2 Posted by **john ioannidis** on 18 Nov 2005, 10:18 p.m.,*
in response to message #1 by Howard Owen

it's on my watch list.

BTW, I'm about to put a couple of things on ebay. I've actually never sold anything there before; is it possible to prevent someone (you know whom) from bidding?

tnx

Re: Bargain71 on eBay

*Message #3 Posted by **Namir** on 18 Nov 2005, 10:42 p.m.,*
in response to message #2 by john ioannidis

eBay allows you to maitain a list of members who cannot bid on your auctions. The Help system can assisst you in finding the web page that helps you to block uyers. The searchkeywords are "block buyer".

Nami

Re: Bargain71 on eBay

*Message #4 Posted by **Howard Owen** on 18 Nov 2005, 10:51 p.m.,*
in response to message #2 by john ioannidis

Site Map -> Blocked Bidder/Buyer List.

(Courtesy of Safari and "eBay Hacks")

Re: Bargain71 on eBay

*Message #5 Posted by **Question** on 20 Nov 2005, 5:44 p.m.,*
in response to message #2 by john ioannidis

Why wouldn't you sell to (you know whom)? His money is as good as anyone's. (I'm not him.)

Re: Bargain71 on eBay

*Message #6 Posted by **Howard Owen** on 20 Nov 2005, 7:18 p.m.,*
in response to message #5 by Question

You're not who? 8)

He blankets HP calculator auctions and occasionally finds a real bargain. He then turns around and offers the bargain for an outrageous premium, which he also sometimes gets. It's "buy low and sell high" with a vengance. In the abstract, I personally see nothing wrong with that, though several folks here would disagree. But emotionally, I just can't stand to see a seller, and then a buyer victimized by a serial capitalist. 8-| It's complicated for me because I'm something of a serial capitalist myself, but not on that scale. I like to sell for a profit, but I also respect the people I do business with, whereas this gentleman seems not to.

(My one and only eBay ID can be gleaned from my email address. I am NOT the guy selling this 71.)

Edited: 20 Nov 2005, 7:19 p.m.

Re: Bargain71 on eBay

*Message #7 Posted by **Stephen Easterling** on 20 Nov 2005, 8:34 p.m.,*
in response to message #6 by Howard Owen

We'd all be silly if we didn't occasionally want to profit off of our sales. Oftentimes we get frustrated when we just want to unload an item and simply want to get our money worth or even take a loss in the name of finding an old calc a nice, new home to another collector. I can see how many here on this forum would be upset (me, too, at times!) with the high prices because the seller we're talking about always seems to have something that we want, but we don't want to spend too money on the (collectible) item. This seller has obviously cornered half the vintage HP calculator market. Honestly, though, his prices should be cut in half unless the item is "new" in box with all essentials.

As for the "bargin" 71B, I don't think calcs like this remain a bargin for long on Ebay! It's at $158.50 now and I predict it'll hit $200 before the auction ends.

Re: Bargain71 on eBay

*Message #8 Posted by **Valentin Albillo** on 21 Nov 2005, 8:14 a.m.,*
in response to message #7 by Stephen Easterling

Hi, Stephen:

Stephen wrote:

"As for the "bargin" 71B, I don't think calcs like this remain a bargin for long on Ebay! It's at $158.50 now and I predict it'll hit $200 before the auction ends."

> Like I already said in an archived post, the HP-71B is a real gem, but it actually isn't that rare, there are tens of thousands of them still in existence because of a very large order (20,000) of HP-71Bs by the British NHS. If I recall correctly, all of them had HP-IL ROMs included and many also had Math ROMs as well. When they were deemed obsolete, they were sold *en-masse* for peanuts, as low as $US 50.00 or less, and at some HPCC meeting they were given *for free* to the attendants, you could chose your own from a large box containing them.

> By the way, I suggest to anyone thinking about getting an HP-71B to also do their utmost best to get hold of its Math ROM. Else you'll have an (HP-71B)/2 instead. And while you do get it, have a look at Emu71 from Jean-François Garnier, which comes complete with the HP-IL ROM and Math ROM images and all, and it's absolutely free, very convenient to use, and runs at awesome speeds (30-50x times the speed of a physical HP-71B), which makes the already incredible Math ROM functions all the more powerful.

Best regards from V.

Re: Bargain71 on eBay

*Message #9 Posted by **Stephen Easterling** on 21 Nov 2005, 6:41 p.m.,*
in response to message #8 by Valentin Albillo

Thanks for the info on the 71B. It makes me want to get one now. If the Christmas season wasn't just around the corner, I would have bought that 71B that was in the link given in the first post,... just to add to my collection. In all honestly, I probably wouldn't use it routinely. It looked great, though!

Math "ROM" in "RAM"?

*Message #10 Posted by **Marcus von Cube, Germany** on 23 Nov 2005, 12:51 p.m.,*
in response to message #8 by Valentin Albillo

Hi,

is there a way to put the contents of the Math ROM in RAM? My 71 has plenty (128 MB in the card reader slot).

Marcus

Re: Math "ROM" in "RAM"?

*Message #11 Posted by **Garth Wilson** on 23 Nov 2005, 2:23 p.m.,*
in response to message #10 by Marcus von Cube, Germany

> My 71 has plenty (128 MB in the card reader slot).

er, make that 128KB? The 71 could only address 512KB, including ROM.

Re: Math "ROM" in "RAM"?

*Message #12 Posted by **Marcus von Cube, Germany** on 25 Nov 2005, 7:56 a.m.,*
in response to message #11 by Garth Wilson

> Quote:
>
> > My 71 has plenty (128 MB in the card reader slot).
> >
> > er, make that 128KB?

Must have been wishful thinking; or my mind is totally spoiled by today's memory capacities...

Marcus

Re: Math "ROM" in "RAM"?

*Message #13 Posted by **J-F Garnier** on 23 Nov 2005, 3:10 p.m.,*
in response to message #10 by Marcus von Cube, Germany

Yes, of course!

The Math LEX has been extracted from ROM years ago, and is in one of the Swap Disks on this site.

J-F

Re: Math "ROM" in "RAM"?

*Message #14 Posted by **Howard Owen** on 23 Nov 2005, 4:15 p.m.,*
in response to message #10 by Marcus von Cube, Germany

Specifically, on the 'ATCHO' disk in file 'MATHROM'

Re: Math "ROM" in "RAM"?

*Message #15 Posted by **Marcus von Cube, Germany** on 25 Nov 2005, 8:32 a.m.,*
in response to message #14 by Howard Owen

So in theory I should be able to read the lexfile from emulated mass storage (EMU-71 & Christoph Klug's HP-IL card). I have to find the time to set it all up correctly.

Marcus

Re: Math "ROM" in "RAM"?

*Message #16 Posted by **Howard Owen** on 25 Nov 2005, 11:28 a.m.,*
in response to message #15 by Marcus von Cube, Germany

Yes, that's how I get lex files on to my machines. Only, I use EMU41 to serve the virtual disks because it allows the external computer to be the loop controller. EMU71 must always be the loop controller itself. If you have a real 9114B, you can copy files to it using EMU71, then reconfigure the loop and copy the files onto a real 71.

Edited: 25 Nov 2005, 11:29 a.m.

Re: Math "ROM" in "RAM"?

*Message #17 Posted by **J-F Garnier** on 26 Nov 2005, 4:01 a.m.,*
in response to message #16 by Howard Owen

To download LEX or any file into your HP71 from a LIF disk image using Emu71 (with HPIL support), just do:

```
HP71B side:
  CONTROL OFF (if not already done)
  COPY :LOOP
Emu71 side:
  RESTORE IO (if not already done)
  COPY file:HDRIVE2  (or from any other drive)
  COPY file TO :HP71
```

J-F

Re: Math "ROM" in "RAM"?

*Message #18 Posted by **Gileno** on 26 Nov 2005, 5:56 a.m.,*
in response to message #17 by J-F Garnier

Could I use the 82164A HP-IL/RS-232C Interface + Emu71 (with HPIL support)?

Re: Math "ROM" in "RAM"?

*Message #19 Posted by **J-F Garnier** on 29 Nov 2005, 7:40 a.m.,*
in response to message #18 by Gileno

At the moment, Emu71 doesn't provide native RS232 support. However, you could copy the LEX file to a DOS/Windows file (through Emu71's :DOSLINK device), it will automaticaly include the right LIF header, then use a communication tool to send this file to the HP-71B through the HP82164A interface.

This is a principle advice only and I can't give more details, I don't use this method (HPIL link is much more easier).

J-F

Re: Math "ROM" in "RAM"? What about in EMU71 ROM?

*Message #20 Posted by **Chris B.** on 29 Nov 2005, 1:56 p.m.,*
in response to message #19 by J-F Garnier

Hi J-F,

This thread has got me thinking about something I've been confused about regarding EMU71 (which by the way is a *fantastic* tool that I plan to upgrade to full HPIL functionality). Is the MathROM actually included with (or is the ROM .BIN file available to load into) EMU71? I've read the instructions on your web site, and it indicates that you must dump the contents from an actual physical ROM (for copyright reasons, which makes complete sense). I've tried this and failed because the MathROM appears to be private and I don't have the alternate PEEK$ LEX file needed to unprivate the ROM. (in fact, I don't know which PEEK$ file is needed -- will the one on JPCROMD work? Apparently, the PEEK$ keyword was removed on JPCROM Ex).

But I've read in this thread and a number of times here in the Forum and in Datafile (Valentin's *superb* HP-71 articles) that the MathROM is *included* in EMU71, which seems to contradict the above.

Since I haven't yet found a MathROM file in the EMU71 download, I'm assuming the instructions on your web site still

apply. But now I'm wondering, if the MathROM code is actually available in a LEX file on one of the swap disks (which I was unaware of until seeing the posts in this thread), doesn't that mean the ROM code is already in the public domain? It looks like I could download the LEX file into EMU71 RAM, but can a binary file be created to include it in ROM on EMU71 (without violating any copyright restrictions)?

Best regards, Chris

Re: Math "ROM" in "RAM"? What about in EMU71 ROM?

*Message #21 Posted by **J-F Garnier** on 29 Nov 2005, 3:03 p.m.,*
in response to message #20 by Chris B.

The Math LEX has been indeed available FOR YEARS on the Swap Disks, with no formal objection from HP, even when the HP-71B and the Math pac were still on the market. So, and at the request of some heavy duty HP-71B Math ROM users, I included the Math ROM in the HP71 ROM package (which is separated from the Emu71 package). Of course, if HP ever objects on this, I will remove them, but when I see the number of HP41 ROM now more or less freely available for (software) emulators or for module (hardware) emulators, I guess that HP definitively doesn't care of it.

And of course it doesn't mean that the Math ROM is public domain, it remains copyright HP.

J-F

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Re: Recovering the data from Series80 tapes

*Message #1 Posted by **John** on 18 Nov 2005, 9:10 p.m.*

Hi,

This is a reply to vp's message of November 5 which is now inthe archive.

I also have some damaged HP-85 tapes, my thoughts were to punch some new holes inside of the damaged area (to become the new EOT / BOT markers). This probably is no good in helping to recover data, but would allow the tapes to be re-used.

Experiments so far have not been successful, I think a flat pin and die with sharp edges are needed:

| | | | <- punch +--+ ---------- <- tape ----+ +----- | | <- die | | | |

Regards, John

Re: Recovering the data from Series80 tapes

*Message #2 Posted by **Vassilis Prevelakis** on 27 Nov 2005, 11:10 p.m.,*
in response to message #1 by John

```
John wrote:
> I also have some damaged HP-85 tapes, my thoughts were to punch
> some new holes inside of the damaged area (to become the
> new EOT / BOT markers). This probably is no good in helping to
> recover data, but would allow the tapes to be re-used.
```

HP tapes from that era are useless. Apart from recovering data that has survived on them over the years, such tapes are totally unreliable.

On most tapes I have looked at, the tape itself is sticking onto itself and the elastic band that is maintaining tension has deteriorated.

Even if you manage to get the tape working, it will prob. fail after a couple of read/write cycles.

I would strongly recommend leaving such tapes alone in case we can come up with some way of reading their contents.

**vp

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New HP-33S exam books

*Message #1 Posted by **Norris** on 18 Nov 2005, 4:06 p.m.*

PPI has released two new exam books for the HP-33S:

Essential Equations for the FE Exam Using the HP 33S, by John A. Camara, $29.95

Essential Equations for the Civil PE Exam Using the HP 33S, by David V. Morse, Wane Schneiter, Norman Voigt, and Bruce A. Wolle, $39.95

****

In my experience, most of the equations that you need for the FE and PE exams are not particularly complicated. The hard part is recognizing which equation to use and entering the right values, rather than the actual number-crunching. As a Civil PE candidate, I have loaded only a handful of pre-programmed equations into my 33S (the time-value of money is probably the most important).

So I don't plan to get the book. But it's interesting to see new HP calculator books of any kind. Details at ppi2pass.com

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HP modules; owners manuals

*Message #1 Posted by **Bill Lafferty** on 17 Nov 2005, 9:53 p.m.*

Does anybody know where I can acquire :- (1) HP I/O ROM for a HP75. (2) HP 75D owners manual , Is the HP75 owners manual the same as the HP 75D owners manual? (3) HP 75 Visicalc module, I have the manuals . Bill Lafferty (Cooma, Australia)

Re: HP modules; owners manuals

*Message #2 Posted by **Vassilis Prevelakis** on 18 Nov 2005, 3:18 p.m.,*
in response to message #1 by Bill Lafferty

I'd suggest you place an ad in the classified section:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/adforum.cgi

**vp

Edited: 18 Nov 2005, 3:18 p.m.

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MLDL2059: a few new pics

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 17 Nov 2005, 9:48 p.m.*

Hi all, mainly MLDL2000 'lurkers'...

My unit is just one step far from being concluded and locked inside the custom(ized) card reader holder. The new pictures (from mldl2059_assembly_23.jpg to mldl2059_assembly_32.jpg) show how I added the battery 'backup' and the external DC connector. Please, do not laugh at the ancient technology I used to build the PCB's. The MLDL2059 will demand further studies in the future, because of its unique forward and backward technology inside: HP evolving to Meindert, then getting centuries back with my own...

The 'battery backup', as suggested by Menindert, is actually a .047F/5.5V (half the capacity Meindert suggests, in fact). This one was found in an old Panasonic VCR carcass, and seems to be made to fit in the MLDL holder, as you will see. The tinny 100ohms resistor and the diode were taken from a burned switched power supply (PC). The diode is even smaller than the SMD ones...

Hope you enjoy the pictures. As soon I have the definitive connector between the HP41 interface and the CPLD board, I'll add the final pictures. In fact I know what to do, just miss the continuous hours I'll need to do it.

Cheers.

Luiz (Brazil)

Edited: 17 Nov 2005, 9:59 p.m.

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HP 48G upgrade - 4mb info

*Message #1 Posted by **CaribeT** on 17 Nov 2005, 7:41 p.m.*

I was just wondering if anyone has any more info on upgrading the hp 48 to 4mb. I know there is a document in hp.org about it (by Philippe TEUWEN) but it is very short and does not have much details. I was hoping to get some info that basically tells one what to do. If anyone has further info, that would be great. Thanks (Does anyone know of someone who has actually done it?)

Edited: 17 Nov 2005, 8:03 p.m.

Re: HP 48G upgrade - 4mb info

*Message #2 Posted by **I, Claudius** on 18 Nov 2005, 8:06 a.m.,*
in response to message #1 by CaribeT

I did a 128k upgrade myself years ago, had a bit of a problem getting the case back together. I bought a 48g upgraded to 1 MB from Cynox, they did a great job, and it's performed superbly ever since. I don't know if they still do the procedure, but it's worth checking out.

Re: HP 48G upgrade - 4mb info

*Message #3 Posted by **Ron Ross** on 18 Nov 2005, 8:46 a.m.,*
in response to message #1 by CaribeT

I upgraded a 48G to 128k and had planned to add an additional 512K later (never bothered as I then got a 48GX and bought a 128K and 1 meg card from Koltz). Physically the chips I looked at would have to be piggy backed stacked to get me to the RAM I wanted (I wanted 1 meg and only found 512K ram at that time). I suspect you might be in a similar prediciment (only with 1 meg RAM, I don't believe I have ever seen a 4 Meg SRAM of the type needed for the 48 series). It isn't easy for the surface mount variety to extend their pins to piggyback. (of course I am getting older and can't see all that well anymore either).

However, I did consider a 2 meg (I didn't really consider the 4 meg card) card. I still have used less than half of the 1 Meg.

If you do succeed in adding the 4 meg, 256K (and maybe as much as 512K) of it will be on no real use to you. The memory is partitioned out in ports with port 0 and port 1 unavailable to your 4 meg of RAM (thats the first 256K of RAM that the 48G uses). And the 48G uses RAM in 128K increments (so 4 Meg would be 32 ports). That is a lot of ports to keep track of. Koltz uses bank switching and a switch to swap the last two ports for his 4 Meg cards.

I find my 1 Meg is fine for my use and I can understand someone even wanting 2 Meg. 4 Meg on the 48G's memory scheme is probably just for some exotic applications that you are very unlikely to need.

Of course if you can find a way to just land a 1 meg chip on the location of the 128K ram location and get the circuity to work with a few jumpers (you will also need a couple of other components as well) to get the 48G to use anything above 128/256K (may be able to merge the next 128K w/o the extra circuity, but I wouldn't bet on it.

Re: HP 48G upgrade - 4mb info

*Message #4 Posted by **CaribeT** on 18 Nov 2005, 3:12 p.m.,*
in response to message #3 by Ron Ross

I don't really have a need for it at the moment. I just have some spare time on my hands and thought it would be interesting to do. I think that even 1 or 2 meg would be great too - but so far I don't have the info on how to do that either. Are there any takers out there on how to upgrade to 1 or 2 mb? I recently changed the 32k with 128k and will piggy back another 128k on top of that shortly (Opening it was easier than I thought - basically with no damage thanks to some info on hpcalc.org), and am hoping to add another 512 after that (and as I said - even go beyond that.

Re: HP 48G upgrade - 4mb info

*Message #5 Posted by **Ron Ross** on 18 Nov 2005, 3:44 p.m.,*
in response to message #4 by CaribeT

That first 128K is really easy, just remove the 32K and drop on a 128K chip.

Gets more difficult after that. You also need a low power 7400 chip to tie onto one of the pins (there is a spot on the board for it, not supplied on the Hp48G) and a resister.

More and better information is on hpcalc.org and look/search for RAM upgrades. Photo's are also available. Good luck.

One thing I would consider (if I were you). Buy a card slot (the one supplied for the 48GX if you can find one). Solder it on the board, then solder on the 7400(might be a7404, the info you find will be more specific as this was 3-4 years ago for me). Once you have the card slot, you could by a RAM card from Klotz for $40 that you leave in (wrap it so it wont ground/short out). You would have to cut up your back case to make the card fit, but if your 48G ever failed, you could move the same card over to another ready and willing 48G (or if you ever found a 48GX reasonably). Pulling it out would only result in your 48G going back to its onboard RAM.

Re: HP 48G upgrade - 4mb info

*Message #6 Posted by **CaribeT** on 18 Nov 2005, 4:09 p.m.,*
in response to message #5 by Ron Ross

Yeah that does sound like a good idea...just have to keep an eye out for the card slot (maybe on a broken gx??). I wonder if they can be bought as a spare part somewhere? Until then, I'll see how I go with the internal RAM upgrade.

Re: HP 48G upgrade - 4mb info

*Message #7 Posted by **tomc** on 19 Nov 2005, 1:21 a.m.,*
in response to message #6 by CaribeT

Can anyone comment on exactly which 128k memory chips they used? 3.3 or 5v? speed? Power consumption?

thanks, TomC

Re: HP 48G upgrade - 4mb info

*Message #8 Posted by **CaribeT** on 19 Nov 2005, 6:56 a.m.,*
in response to message #7 by tomc

I just got 'Hynix HY628100B (LLG-55)' which is made by Hyundai and it works just fine. It was the easiest one for me to get here in Australia (it ultimately shipped from Thailand though) - purchased through futurlec.com. It is very low (LL) power and only 55 ns, which is great. Can download the datasheet for it's specs off any datasheet website.

Edited: 19 Nov 2005, 7:04 a.m.

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eigen values and eigen vectors

*Message #1 Posted by **Lorena** on 17 Nov 2005, 1:26 p.m.*

could you please me show how to calculate de eigen values and eigen vectors of a matrix, i found the commands EGV and EGVL but i can not diffirenciate EIGEN VALUES and Eigen vectors. I thank you in advance lorena

eigen values and eigen vectors

*Message #2 Posted by **Thomas Radtke** on 17 Nov 2005, 5:00 p.m.,*
in response to message #1 by Lorena

On a HP48, EGV delivers eigenvectors and eigenvalues, whereas EGVL gives just the eigenvalues.

hth,

Thomas

Re: eigen values and eigen vectors

*Message #3 Posted by **I, Claudius** on 17 Nov 2005, 7:28 p.m.,*
in response to message #1 by Lorena

What calculator are you using? The 49 CAS can give symbolic eigenvectors with the old 48 EGV command.

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weird usages of HP 49 (original)

*Message #1 Posted by **Chris** on 17 Nov 2005, 1:15 p.m.*

I was wondering if it was possible, and this would require strange programming, to load an image (jpeg) into the calc's memory and pan on the image (if it was bigger then the screen). If so, would this be very slow? Obviously it would have to be black and white, or at least discernible under those conditions.

Re: weird usages of HP 49 (original)

*Message #2 Posted by **unspellable** on 17 Nov 2005, 2:11 p.m.,*
in response to message #1 by Chris

It doesn't pan, but I have an animated image of a rotating globe of the Earth for my HP48SX. If that can be done, I'd think a panning image could be done. I don't believe a jpg would be the right format though.

Re: weird usages of HP 49 (original)

*Message #3 Posted by **Bill Wiese** on 17 Nov 2005, 5:21 p.m.,*
in response to message #2 by unspellable

Well, you'd first have to decompress the JPEG image into actual pixels. That's a time-consuming process for native Saturn CPU instruction set. Dropping back into the ARM instruction set for the HP49 may be very useful for speed.

If the image is large and the aspect ratio is same/near to that of HP49 screen, and 8X downsampling would work, then the DC coeffecients of the 8x8 DCT blocks could just be used. This avoids the extra crunching to extract all the other pixels - as the DCT's DC coefficient is just the avg value of all the pixels in that 8x8 block.

Bill Wiese
San Jose, CA USA

1234 to delete

Re: weird usages of HP 49 (original)

*Message #4 Posted by **James M. Prange (Michigan)** on 17 Nov 2005, 10:27 p.m.,*
in response to message #1 by Chris

I have my doubts about viewing a jpeg itself on the calculators, but there are utilities for converting between various image formats and graphicss objects for the calculators. Try some searches at http://www.hpcalc.org/.

Regards,
James

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Lif Files

*Message #1 Posted by **gileno Brazil** on 17 Nov 2005, 10:27 a.m.*

How do I do to extract files lex from a file lif?

Re: Lif Files

*Message #2 Posted by **Vassilis Prevelakis** on 17 Nov 2005, 3:11 p.m.,*
in response to message #1 by gileno Brazil

```
gileno wrote
> How do I do to extract files lex from a file lif?
```

I wonder, do you actually read the responses to your OWN postings?

Check this thread that was **actually started by you!!!**

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=79389#79389

**vp

Re: Lif Files

*Message #3 Posted by **gileno - Brazil** on 17 Nov 2005, 5:43 p.m.,*
in response to message #2 by Vassilis Prevelakis

```
You are making confusion. This doubt is completely different from the other. :-))

The first doubt is to copy a disk with lif. The second doubt and how to extract the lex
of that file lif.

Did you understand now?

If you cannot help me I don't want that observation type.
```

Edited: 17 Nov 2005, 5:44 p.m.

Re: Lif Files

*Message #4 Posted by **Vassilis Prevelakis** on 17 Nov 2005, 6:11 p.m.,*
in response to message #3 by gileno - Brazil

```
> gileno
>
> You are making confusion. This doubt is completely different from
> the other. :-))
```

The subject of the thread (and your initial question) are indeed different, but the information you are

asking for here, is discussed in the earlier thread.

read, understand, and then say you do not understand :-)

```
> If you cannot help me I don't want that observation type.
```

I have already given you all the information you require. I would love to ignore this posting, but you will keep posting the same bloody question every few days anyway.

**vp

Re: Lif Files

*Message #5 Posted by **Howard Owen** on 17 Nov 2005, 7:29 p.m.,*
in response to message #4 by Vassilis Prevelakis

> Quote:
>
> .. I would love to ignore this posting, but you will keep posting the same bloody question every few days anyway.

And that would be hurtful exactly how? You don't have to read it, *or* answer it.

Gileno, you aren't making the best use of what we have to offer here. I know it's hard to find information in another language, but please do try to find the answer before you ask a question. In this case, lifutil will do what you want. Vassilis pointed it out in the thread he referenced above. If you follow links people give you, and try to learn the tools they lead to, then you will be able to answer questions like this one on your own.

Re: Lif Files

*Message #6 Posted by **Vassilis Prevelakis** on 18 Nov 2005, 6:28 a.m.,*
in response to message #5 by Howard Owen

```
 Howard Owen wrote:
> vp wrote:
> >     .. I would love to ignore this posting, but you will keep
> > posting the same bloody question every few days anyway.
> And that would be hurtful exactly how? You don't have to read it,
> or answer it.
```

a) it decreases the signal to noise ratio of the forum

b) searches in the archives return useless items

c) this approach discourages people from responding (notice that some weeks ago Gileno's postings were ignored and he had to keep posting the question.

d) its actually bad for Gilleno as well, because it may stop people from reading his postings

As far as I am concerned, if this were a newsgroup, I'd just kill-file him and get it over with. This is what I have done with ebay and Coburlin.

However, this is a free forum. If Gileno feels like posting repeatedly questions that have been answered before, I can keep flaming him (another old tradition of newsgroups) !

**vp

Edited: 18 Nov 2005, 7:06 a.m.

Re: Lif Files

*Message #7 Posted by **Vassilis Prevelakis** on 18 Nov 2005, 7:10 a.m.,*
in response to message #1 by gileno Brazil

```
gileno wrote:
> How do I do to extract files lex from a file lif?
```

By the way, are you by any chance one of my students?

CS 543 - Operating Systems Programming Assignment

:-) :-) :-)

**vp

Edited: 18 Nov 2005, 7:15 a.m.

Re: Lif Files

*Message #8 Posted by **Gileno - Brazil** on 18 Nov 2005, 5:32 p.m.,*
in response to message #7 by Vassilis Prevelakis

If you cannot help me I don't want that observation type. Please. And end point. !

Re: Lif Files

*Message #9 Posted by **Vassilis Prevelakis** on 21 Nov 2005, 10:57 a.m.,*
in response to message #8 by Gileno - Brazil

```
Gileno - Brazil wrote:
> If you cannot help me I don't want that observation type.
```

It depends what you mean by *help*.

Let me give an example, somebody posts a note saying "please help me make spagetti carbonara". How do you help this person? I would simply post the recipe. And this is what I did in your case. The link I posted in my previous posting (http://www.cs.drexel.edu/~vp/CS543/LIF/index.html) is the recipe. It provides definitions, data samples and a discussion on the format to allow undergraduate-level students to write simple programs (500 - 800 lines) to read LIF archives.

However (returning to my analogy), if by "help" you mean to come over and cook the spagetti for you, then let me know and I will not bother with your postings again.

**vp

Carbonara!

*Message #10 Posted by **Massimo Gnerucci (Italy)** on 21 Nov 2005, 1:05 p.m.,*
in response to message #9 by Vassilis Prevelakis

> Quote:
>
> Let me give an example, somebody posts a note saying "please help me make spagetti carbonara". How do you help this person? I would simply post the recipe.

Yum!

Massimo ;-)

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Algorithm used to find Q and Q^-1 on HP32E

*Message #1 Posted by **Mike T.** on 17 Nov 2005, 5:59 a.m.*

Does anyone have the details of the algorithm used to find Q and Q^-1 on the HP32E calculator - it is obviously iterative.

I suspect that it is performing a numerical integration, probably using a Trapezoid or Simpson approximation but I have not idea which or what limits are used. The manual simply states 'The HP-32E computes Q^-1 using a sophisticated iterative algorithm.' and does not give any further clues as to how the answer is calculated.

Thanks, (in advance).

Mike T.

Re: Algorithm used to find Q and Q^-1 on HP32E

*Message #2 Posted by **Namir** on 17 Nov 2005, 6:44 a.m.,*
in response to message #1 by Mike T.

The algorithms use raitonal polynomials.

Re: Algorithm used to find Q and Q^-1 on HP32E

*Message #3 Posted by **bernhard** on 17 Nov 2005, 2:55 p.m.,*
in response to message #2 by Namir

The HP29C program library shows a polynomial approximation used to calculate Q(x). The error term is < 7.5 * 10^-8. The inverted function Q^-1(x) may also be approximated by a polynomial, but the error term is worse (< 4.5 * 10^-4). So it is a good guess the HP32E uses the same (or a similar) poly approximation for Q(x) and for the inverse function Q^-1(x) uses some iterative search (like interval splitting) on the more precise Q(x) approximation to find x.

Algorithm from the manual:

f(x) = exp(-x^2/2) / SQRT(2 * PI);

R(x) = f(x)* (b1*t + b2*t^2 + b3*t^3 + b4*t^4 + b5*t^5) + err(x);

where |err(x)| < 7.5e-8

t = 1 / (1 + r * abs(x));

r = 0.2316419

b1 = 0.319381530

b2 = -0.356563782

b3 = 1.781477937

b4 = -1.821255978

b5 = 1.330274429

Q(x) = [R if (x >= 0)] or [1-R if (x < 0)]

If you want to find out the truth, I'd suggest you try the above math and whether it produces the same results as the 32E does. No warranties implied - maybe you find a typo (I didn't check it).

According to the manual, the primary source is Abramowitz and Stegun, Handbook of Mathematical Functions, National Bureau of Standards, 1970.

If the above algorithm works like the HP32E, please post a reply.. for a long time (~20years) I wanted to know what makes the HP32E Q^-1 lightshow... which is really cool, for a non-programmable calc.

best regards, Bernhard

Re: Algorithm used to find Q and Q^-1 on HP32E

*Message #4 Posted by **Mike T.** on 18 Nov 2005, 5:37 a.m.,*
in response to message #3 by bernhard

Thank you - I'll try this out some time.

I don't suppose you have an HP29C you can try the published program out on...? A 'quick' check of the results produced on an HP29C against the HP32E would give an indication as to the similarity of the algorithms used. Alternatively I could try implementing this on a HP34C...

Mike T.

Re: Algorithm used to find Q and Q^-1 on HP32E

*Message #5 Posted by **Namir** on 18 Nov 2005, 8:32 a.m.,*
in response to message #3 by bernhard

Good reason to buy the museum disks and look at the vntage calculator manuals and solution pacs. These guides contain the math equations that show the approximations used to calclate various probability distribution functions and their inverse.

You can also find these equations (for Normal, Student-T, Chi, and F) in my book:

"Mathematical Algorithms in Visual Basic for Scietists and Engineers" by Namir C Shammas
This book was published in 1996 by McGraw-Hill.

Namir

Re: Algorithm used to find Q and Q^-1 on HP32E

*Message #6 Posted by **Mike T.** on 20 Nov 2005, 2:05 p.m.,*
in response to message #5 by Namir

Some book that must be - the LOWEST price I can find on Amazon is over $1500.00 !! Think I'll have to pass on that..

Is this the book, Namir ?

*Message #7 Posted by **Valentin Albillo** on 22 Nov 2005, 11:41 a.m.,*
in response to message #5 by Namir

Hi, Namir:

Is this the book you're referring to ?

Mathematical Algorithms in Visual Basic for Scientists & Engineers

because the price is absolutely outrageous (more than $3 per page ... what was the 'new' price, then ?) and the reviews seem a little on the negative side, don't they ? Any explanation ? Lots of typographical errors at the printer's or something beyond your control ?

Best regards from V.

Re: Algorithm used to find Q and Q^-1 on HP32E

*Message #8 Posted by **hugh steers** on 18 Nov 2005, 8:37 a.m.,*
in response to message #3 by bernhard

for sure, the 32e doesnt use the Abramowitz and Stegun "Hastings" approximation. at least not the standard one, although i understand there are other hasting approxes. the polynomial you mention is the one use by most programmable libraries include those of casio.

however, it is not 10 digit accurate, but the 32e is. also for inversion (ie inv Q). my guess is that it is, in fact, an iteration, as this would be less storage than the bigger polynomials needed for 10 digit accuracy. Q, erf and gamma are all related and normally require two iterative algorithms, one that converges over 0-1 and the other for x>1.

a while back, i ran some tests on this, here, http://www.voidware.com/index.php?option=com_wrapper&page=http://www.voidware.com/calcs/hp32e.htm

in other news....

the lygea 12c emulator has added N(z) and z. which are exactly Q and inv Q. this is a huge plus for black-scholes on the 12 and why hp couldnt have done this for the 12cp, who knows. AFAIK, the lygea 12c is a true emulator and not a simulator, which means they've suceeded in adding functions to the original code (or bolted them on somehow). so this proves its possible to revise functionality.

it alsp appears to be 10 digit accurate.

http://www.lygea.com/pocket12cdetail.htm

Re: Algorithm used to find Q and Q^-1 on HP32E

*Message #9 Posted by **bernhard** on 18 Nov 2005, 4:15 p.m.,*
in response to message #8 by hugh steers

Well, Gentlemen, I did mention in my post it was only a good guess on how the HP32E might do the calculation, did I ?

To really find out the truth, it might be worthwile to try annotate the disassembled microcode listing of the HP32E microcode.

I think this should be done with all HP calc microcode once Eric's Nonpareil is perfected to a point where there are no ambiguities left as how to the ACT chip works (= all calcs simulated perfectly).

Any volunteers ?

Regards, Bernhard

Re: Algorithm used to find Q and Q^-1 on HP32E

*Message #10 Posted by **Mike T.** on 25 Nov 2005, 8:40 a.m.,*
in response to message #3 by bernhard

I think I found the right page(s) here Abramowitz and Stegun, Handbook of Mathematical Functions, National Bureau of Standards, 1970

Mike T.

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41c NiCd Pack drawing needed

*Message #1 Posted by **Stephen** on 17 Nov 2005, 1:45 a.m.*

I have been given a NiCd pack for a 41c to repair which some one has made a mess of. I need a drawing or picture of the orientation of the cells and connections to circuit board and contact terminals.

Any help would be very much appreciated.

Re: 41c NiCd Pack drawing needed

*Message #2 Posted by **Max** on 27 Nov 2005, 12:40 p.m.,*
in response to message #1 by Stephen

I've drawn the schematic of a disassembled unit a long time ago. (I assembled it without the cardboard for a new design and bigger batteries) A PN is underway. Please identify the right placing on your own.

Greetings Max

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Prices for classic calculators then and now

*Message #1 Posted by **John Nguyen** on 16 Nov 2005, 9:45 p.m.*

I recently came into possession of a "Users' Library Software Catalog for the HP-41/HP-71/HP-75" from May 1986. I want to share an interesting annnouncement in the "What's New" section of this catalog.

"Announcing Price Reductions for HP-41 Calculators!

"Effective February 1, the prices of four Hewlett-Packard handheld calculators have been reduced by an average of 22 percent. Reduced manufacturing and material costs allow HP to pass the savings on to customers.

"Reductions on the four models are: HP-11C from $75 to $56; HP-15C from $120 to $99; HP-41CV from $225 to $175 and HP-41CX from $325 to $249."

Who would've guessed almost 20 years later, on eBay, an HP-11C goes for $150-$250; an HP-15C $175-$300; an HP-41CX $200-$500.

I still kick myself for passing on a new 48GX back in 2001, on sale at an Office Max for $109. My 48G+ was working great for me at the time so I didn't think I'd need an expandable 48GX as I wasn't going to use those programs on expandable cards anyway. Plus, I thought it was just a matter of time before HP was going to release a killer new calculator to replace the aging 48G series.

I have been known to be wrong.

John

Re: Prices for classic calculators then and now

*Message #2 Posted by **Stephen Easterling** on 16 Nov 2005, 10:35 p.m.,*
in response to message #1 by John Nguyen

I felt the same way with the 48GX and 32SII. I was planning on buying them, figuring I had plenty of time. I got busy with work (for several years!), woke up, and when I went to buy them, they were gone!... only to turn up on Ebay for nearly twice their normal prices!

Re: Prices for classic calculators then and now

*Message #3 Posted by **Frank Boehm (Germany)** on 17 Nov 2005, 1:52 a.m.,*
in response to message #2 by Stephen Easterling

> I felt the same way with the 48GX and 32SII. I was planning on buying them, figuring I had plenty of time. I got busy with work (for several years!), woke up, and when I went to buy them, they were gone!... only to turn up on Ebay for nearly twice their normal prices!

Hmm, I paid about 700 Deutsche Mark (that's about 360 EUR or 430 USD) for my 48GX when it was new. (and 444 Deutsche Mark for my first HP - a 28C)

Re: Prices for classic calculators then and now

*Message #4 Posted by **Hugh Evans** on 17 Nov 2005, 3:37 a.m.,*
in response to message #1 by John Nguyen

Adjusted for inflation since 1986:

HP-11C: $56 --> $98 HP-15C: $99 --> $174 HP-41CV: $175 --> $307 HP-41CX: $249 --> $437

The 48gx would have been a nice investment. Since technology tends to depreciate no one could have anticipated anything to the contrary back in '86.

Re: Prices for classic calculators then and now

*Message #5 Posted by **Mike T.** on 17 Nov 2005, 5:14 a.m.,*
in response to message #1 by John Nguyen

Unfortunately prices for UK models were never even close to those in the US - particularly way back in 1979 when I had to work all summer to be able to buy my original HP33C!

Mike T.

Re: Prices for classic calculators then and now

*Message #6 Posted by **Dave Bernazzani** on 17 Nov 2005, 9:02 a.m.,*
in response to message #1 by John Nguyen

> Quote:
>
> Who would've guessed almost 20 years later, on eBay, an HP-11C goes for $150-$250; an HP-15C $175-$300; an HP-41CX $200-$500.

Interestingly enough, inflation in 20 years has almost doubled. Peopel earn more and average prices on consumer goods go up. I checked this last year - based on average inflation from 1981 to 2004, a single US dollar in 1981 is roughly equivilent to US$2.08 in 2004. Said in another way, a $100 calculator sold in 1981 would have the same financial impact to a wage earner as a $208 calculator today. So you're actually doing better to buy a $150 HP-11C in 2005 than you would buying it for $75 in 1981. The prices only seem high - but $100 in 1981 was quite large sum once you roll back 20+ years of inflation.

What's more mind boggling to me is that you can buy a $7 calculator that does more than these top-end models of 1981 (though without RPN and without the high quality level).

Voyager line; HP prices in the mid-1980's:

*Message #7 Posted by **Karl Schneider** on 19 Nov 2005, 4:42 p.m.,*
in response to message #1 by John Nguyen

John Nguyen posted:

> Quote:
>
> I recently came into possession of a "Users' Library Software Catalog for the HP-41/HP-71/HP-75" from May 1986...
>
> *(and, quoting from it):*

> "Effective February 1, the prices of four Hewlett-Packard handheld calculators have been reduced by an average of 22 percent. Reduced manufacturing and material costs allow HP to pass the savings on to customers.
>
> "Reductions on the four models are: HP-11C from $75 to $56; HP-15C from $120 to $99; HP-41CV from $225 to $175 and HP-41CX from $325 to $249."

For context, I bought my HP-15C in November 1983 from a US university bookstore for $109. (I don't know if that was a sale discount.) Mail-order prices also often ran lower than manufacturer's prices.

The large difference in HP's price between the HP-11C and the HP-15C might explain why the 11C was manufactured until 1989, just as the 15C was. The HP-11C was a fine product with excellent documentation. But, let's face it -- the 15C eclipsed the 11C so completely only a year after the latter's introduction, so as to render it superfluous except to occupy a price niche.

The 15C looked virtually identical to the 11C; a trained eye was practically needed to tell 'em apart without the logo. The 15C offered a vastly-expanded repertoire of useful advanced functionality, was no less easy to use, and was a bit better organized, as well. Only a substantial cost savings could justify the purchase of an 11C over a 15C, but it may not have seemed to some would-be 15C buyers that they were actually *getting* more with the 15C.

So, why did the 11C serve as the entry-level model? Because a void was left after the HP-10C was discontinued in 1984.

IMO, it was a good idea for HP to provide a simpler-looking scientific in the Voyager line, with only one shift key and less functionality. However, they probably "missed the mark" on the 10C by making it a crippled and crummy programmable, instead of a fuller-featured non-programmable.

Perhaps HP considered it unthinkable to release a scientific non-programmable, after they had developed and implemented Continuous Memory, LCD's, and low-power circuits. However, the 10C's crude programming paradigm from the HP-55 and small memory (10 registers/70 bytes) rendered progamming nearly useless, even though most of the thin user's manual was devoted to it. The "programming" usurped 10 scarce keyboard positions, which could have been dedicated to useful functions.

So, the 10C -- the original low-end Voyager -- was as poorly-designed as the high-end 15C was excellently developed. If the 10C had been a coherent low-end model, it might have continued to occupy that niche in place of the 11C, which could then have been dicontinued after prices were reduced across the board. That would have left only the *clearly and visibly* more-advanced 15C as the higher-priced alternative for those who wanted programmability and the advanced functionality to exploit it.

Who knows how many sales the 11C "stole" from the 15C, particularly from 1985-1989? I don't know the figures, but this certainly seems like a case in which misguided product design -- perhaps driven by marketing -- had some consequences.

-- KS

Re: Voyager line; HP prices in the mid-1980's:

*Message #8 Posted by **I, Claudius** on 19 Nov 2005, 5:44 p.m.,*
in response to message #7 by Karl Schneider

You are definitely an original 15C user, and know the machine well. What is your take on HP making an updated version?

Re: Voyager line; updated 15C

*Message #9 Posted by **Karl Schneider** on 19 Nov 2005, 7:40 p.m.,*
in response to message #8 by I, Claudius

As was discussed extensively in a recent thread, it ain't gonna happen, if for no other reason than lost HP-15C ROM code. Too much work to re-create that, and KinHPo doesn't have the skills or resources to pull it off.

If I were to take any enginnering test that did not require use of a "super-duper" calculator and software, and were allowed to bring and use only one calculator, it would be the 15C. All functions and advanced mathematics directly at your fingertips without menus or spelling of commands, and an easy-to-read display.

However, at work I use the HP-32SII primarily, because I can store and maintain useful programs that run quickly, and that I have a PC with Matlab for heavy stuff.

Today's users would not tolerate not having a useful alphanumeric display for program listings and meaningful error messages. Perhaps the best concept for a new scientific in the traditional HP mold would be based on the 32SII paradigm with a horizontal layout, adding a longer display, and (improved) advanced functionality present in the 15C that "went missing" in the 32S/32SII/33S. Even the HP-42S is too cumbersome in many respects.

-- KS

Re: Voyager line; HP prices in the mid-1980's:

*Message #10 Posted by **Valentin Albillo** on 21 Nov 2005, 8:30 a.m.,*
in response to message #7 by Karl Schneider

Hi, Karl:

Karl posted:

"However, the 10C's crude programming paradigm from the HP-55 and small memory (10 registers/70 bytes) rendered progamming nearly useless, even though most of the thin user's manual was devoted to it. The "programming" usurped 10 scarce keyboard positions, which could have been dedicated to useful functions."

> I fully agree. It was surprising that the HP-10C had programming capabilities *inferior* to those of the venerable HP-25, to the point that most 'complex' programs for the HP-25 couldn't be made to fit the HP-10C at all. Though it did have an important advantage over the HP-55 programming capabilities: HP-10C's program steps were *fully merged*, so that STO+5 consumed just *one* step of (unbearably scarce) program memory while it required *three* in the (equally cramped) HP-55.

"Who knows how many sales the 11C "stole" from the 15C, particularly from 1985-1989? I don't know the figures, but this certainly seems like a case in which misguided product design -- perhaps driven by marketing -- had some consequences."

> I think you're absolutely right. Speaking for myself, HP-11C prices were just about affordable (if very high) while HP-15C prices were completely out of reach, at least here in Spain.

Best regards from V.

Edited: 21 Nov 2005, 8:32 a.m.

Re: Voyager line; HP prices in the mid-1980's:

*Message #11 Posted by **Palmer O. Hanson, Jr.** on 21 Nov 2005, 5:09 p.m.,*
in response to message #10 by Valentin Albillo

I, too, found the HP-15 priced out of my range and I purchased an HP-11C instead. The up-side: I have one of the early HP-11's with the 0.0xxx bug in my collection as well as an HP-11C without the bug.

My HP-28S is a anniversary model recognizing "AMERICAN MATHEMATICS - 100 YEARS - 1888-1988". I don't know where the start date came from. I got it at a garage sale for a few dollars. The previous owner was so mad at the battery compartment cover that he "just wanted to get rid of the damn thing!"

Re: Voyager line; HP prices in the mid-1980's:

*Message #12 Posted by **Wayne Brown** on 22 Nov 2005, 10:49 a.m.,*
in response to message #11 by Palmer O. Hanson, Jr.

> Quote:
>
> My HP-28S is a anniversary model recognizing "AMERICAN MATHEMATICS - 100 YEARS - 1888-1988". I don't know where the start date came from.

That model commemorated the 100th anniversary of the American Mathematical Society which was founded in 1888.

Re: Voyager line; HP prices in the mid-1980's:

*Message #13 Posted by **James M. Prange (Michigan)** on 21 Nov 2005, 5:43 p.m.,*
in response to message #10 by Valentin Albillo

> Quote:
>
> *"Who knows how many sales the 11C "stole" from the 15C, particularly from 1985-1989? I don't know the figures, but this certainly seems like a case in which misguided product design -- perhaps driven by marketing -- had some consequences."*
>
> > I think you're absolutely right. Speaking for myself, HP-11C prices were just about affordable (if very high) while HP-15C prices were completely out of reach, at least here in Spain.

But if 15C prices were completely out of reach, how could any other calculator "steal" any sales from it? Suppose the 11C hadn't been available; wouldn't the buyer have just purchased another model, maybe not even an HP? Or would the buyer have saved up until the price of the 15C was in his reach?

But that's not to say that the 11C was necessarily a good marketing decision. Evidently the 15C's price was in reach for at least some, and sales of the 15C would probably have been better if there hadn't been a lower-cost model available.

Regards,
James

Edited: 21 Nov 2005, 6:13 p.m.

Re: Voyager line; HP-11C and prices

*Message #14 Posted by **Karl Schneider** on 21 Nov 2005, 9:57 p.m.,*
in response to message #13 by James M. Prange (Michigan)

Valentin stated,

> Quote:
>
> *Speaking for myself, HP-11C prices were just about affordable (if very high) while HP-15C prices were completely out of reach, at least here in Spain.*

James responded,

> Quote:
>
> But if 15C prices were completely out of reach, how could any other calculator "steal" any sales from it?

Context, context... From what I've read here, prices for HP calc's were and are much higher in Europe than in North America. I paid a very reasonable $US109 in late 1983 for a 15C.

James sated,

> Quote:
>
> But that's not to say that the 11C was necessarily a good marketing decision.

Well, my thesis statement was the following: HP bollixed the entry-level 10C, perhaps causing its early demise, and thereby forcing the fine 11C into the role of price leader, where it may have cannibalized sales of the 15C due to near-indistinguishability despite a large difference in price.

It's more of an indictment of unsound marketing decisions for the 10C, which apparently backfired.

A well-designed 10C, along with the 15C, could have provided buyers a clear choice between two very different models that actually looked different:

- 10C: basic mathematical functions
- 15C: that, plus programmability and advanced functionality

Instead, buyers ended up with an "entry" model (11C) that looked pretty much the same as the premium model (15C).

Back to the 11C: The 11C and its documentation comprised a fine product, but its programmability was merely a simple convenience for most users. It was computationally slow, and -- without I/O and alphanumerics -- ill-suited for maintaining a library of programs. However, the same programmability was *absolutely essential* for the 15C, in order to allow users to define functions for SOLVE and INTEGrate. With complex-number and matrix functions as well, the 15C was a masterpiece built upon the solid foundation of the 11C.

Recently, I acquired a nice HP-11C Solutions Handbook. It contains many application routines that the user can enter by keystroke, to fully utilize the 11C's capabilities. Of course, limited storage essentially restricts the user to one application at a time, and many of these were implemented

better as built-in microcoded programs on the HP-15C, HP-16C, or HP-12C.

-- KS

Edited: 21 Nov 2005, 10:28 p.m.

Re: Voyager line; HP prices in the mid-1980's:

*Message #15 Posted by **brian heally** on 21 Nov 2005, 12:35 p.m.,*
in response to message #7 by Karl Schneider

In 1987 I bought an HP11c because I couldn't think of affording the 15c, and I also didn't think that I needed its power although I was still in engineering school. I thought the 11C was an excellent product, although I never used the programming capability of it. It's value to me was based on RPN. RPN is the single most important feature to me, I value it way more than programming ability or graphing. It simply can't be beat for plain and simple number crunching, which is what I mostly did (and still do).

I agree with what you are saying. I had been thinking about getting an HP for some time before I could actually afford it, when the 10C was still available. I vaguely remember thinking that although the 11C was pricier, it had some features that I thought that I might want, and that my money was better spent on the 11C. The 11C had some additional non-programable features over the 10C. If the 10C was still around when I finally made my purchase, I probably would have bought it IF it had ALL of the features of the 11C except the programming.

HP-10C v. HP-11C: non-prog features

*Message #16 Posted by **Karl Schneider** on 21 Nov 2005, 9:20 p.m.,*
in response to message #15 by brian heally

Brian posted,

> Quote:
>
> The 11C had some additional non-programable features over the 10C. If the 10C was still around when I finally made my purchase, I probably would have bought it IF it had ALL of the features of the 11C except the programming.

And, I believe that you wouldn't have been the only one.

The only non-programming functions "missing" from the 10C that I can find are:

- delta_%
- hyperbolics and inverse hyperbolics
- permutation and combination
- gamma function
- absolute value
- roll up

The last two of these are most useful for programming, but all of them could have been accommodated with room to spare if the weak programming capability were omitted.

BTW, the 10C (and 12C) had a y-estimator function that the 11C and 15C lacked.

-- KS

Re: HP-10C v. HP-11C: non-prog features

*Message #17 Posted by **Katie Wasserman** on 21 Nov 2005, 9:45 p.m.,*
in response to message #16 by Karl Schneider

The 11C (and 15C) also have the non-obvious <RCL> <SIGMA+> function that the 10C and 12C don't have.

-kt

Re: HP-10C v. HP-11C: non-prog features

*Message #18 Posted by **Vieira, L. C. (Brazil)** on 21 Nov 2005, 10:45 p.m.,*
in response to message #17 by Katie Wasserman

Hi, Katie;

the HP15C also has a last-minute sequence (if I can say so) that I remember using once when I bought it, and another time here, later, only after Valentin to show how to use it in a very specific way. Both the HP15C and HP11C allow a number to be stored as a random seed through [STO][RAN#], but only the HP15C allows [RCL][RAN#].

My 2 cents.

Cheers.

Luiz (Brazil)

Re: HP-10C v. HP-11C: non-prog features

*Message #19 Posted by **Marcus von Cube, Germany** on 23 Nov 2005, 12:44 p.m.,*
in response to message #18 by Vieira, L. C. (Brazil)

Luiz,

> Quote:
>
> ...but only the HP15C allows [RCL][RAN#]

Yes it's allowed, but it does *not* recall the same value that you stored! The decimal point position is lost:

```
123.45
STO
#ran     (press ENTER)
RCL
#ran     (press ENTER)
```

This will return 0.12345

Marcus

Re: HP-10C v. HP-11C: non-prog features

*Message #20 Posted by **Karl Schneider** on 21 Nov 2005, 11:04 p.m.,*
in response to message #16 by Karl Schneider

Katie and Luiz pointed out several specific functions that aren't evident on the keyboard (which was my focus). However, one can add those, as well as

- random number
- clear Sigma

to the list, although the latter isn't much different from "clear reg" on the 10C.

-- KS

Re: Prices for classic calculators then and now

*Message #21 Posted by **Peter Geiser** on 21 Nov 2005, 9:43 a.m.,*
in response to message #1 by John Nguyen

Interesting idea. If you compare prices for these calculators with prices of actual calculators with the same calculation power, the "values" might be different.

But to add another hypothetical scenario: In 1986, you buy HP shares rather than the calculators. Closing price for the share
15 May 1986: USD 4.21
18 Nov 2005: USD 29.40

This is an increase of 7 times (and it is definitely not the best you could have done).
With this gain you could buy the calculators for the following prices:
HP11C: USD 56 * 7 = USD 392
HP15C: USD 99 * 7 = USD 693
HP41CV: USD 175 * 7 = USD 1225
HP41CX: USD 249 * 7 = USD 1743

It is all a matter of perspective...
Peter

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HP 48GX program

*Message #1 Posted by **Mike - uk** on 16 Nov 2005, 5:56 p.m.*

Is it possible to temporarily remove the programming ability of the HP 48GX. I know this may seem strange but as it is programmable, it is not allowed to be used under exam conditions. Hence the question?

Re: HP 48GX program

*Message #2 Posted by **James M. Prange (Michigan)** on 16 Nov 2005, 6:04 p.m.,*
in response to message #1 by Mike - uk

Temporarily remove the batteries. ;-)

Regards,
James

Re: HP 48GX program

*Message #3 Posted by **Ron** on 16 Nov 2005, 6:30 p.m.,*
in response to message #2 by James M. Prange (Michigan)

I could certainly be wrong, but I think James wanted only to disable the programs from use during an exam. Wouldn't removing batteries disable all functional capability? Does on mine

Re: HP 48GX program

*Message #4 Posted by **Howard Owen** on 16 Nov 2005, 7:00 p.m.,*
in response to message #3 by Ron

I think that was the (not quite serious) point.

The fully serious point implied by that is that there is no way to do what the questioner wants, short of making the calculator inoperable.

Re: HP 48GX program

*Message #5 Posted by **James M. Prange (Michigan)** on 16 Nov 2005, 8:02 p.m.,*
in response to message #4 by Howard Owen

Yes, the "wink" emoticon was meant to convey the idea that I was joking.

Seriously, since the compiler creates a SysRPL program every time you press ENTER or an immediate execution key with something in the command line. It's hard to see how you could disable programming and still have the calculator usable at all.

Regards,
James

Re: HP 48GX program

*Message #6 Posted by **Ron** on 17 Nov 2005, 1:09 a.m.,*
in response to message #5 by James M. Prange (Michigan)

LOL James -

Brand new to the forum, not to the product. My rookie week on the forum is full of ignorance, especially about who has been around long enough to "wink" or have tongue in cheek. My experience in other forums like MathCad tells me that such privileges are well earned by special contributors. I look forward to reading your many contributions and learning more programming tricks for the 48 and 49 critters.

My bio with handhelds started with the TI-59 circa 1975 and followed with 15c, 12c, the 48 series and now a Christmas gift the 49g+. I have enjoyed teaching such subjects as queing theory (with learning curve) and reliability calculations in computer maintenance manpower considerations, etc, not to mention some interesting on-site real estate transactions involving random patterns of cashflows. I even programmed some photography equations into the MES system of the 48 to calculate depth of field and other solutions in the field which helped me to appreciate some possible uses by surveyors and other civil engineers.

Forgive me for not taking the time to recognize your "wink." It was a faux pas and won't happen again.

Ron

Re: HP 48GX program

*Message #7 Posted by **Mike -UK** on 17 Nov 2005, 5:10 p.m.,*
in response to message #6 by Ron

Thanks for the response. Perhaps my question was not phrased correctly. In the UK any calculator that is programmable (in that they imply that it has the ability to store user-inputted programs/functions), then it is not permitted in exam conditions. However if you have a calculator that can perform a manor of operations through the main or left shift/right shift keyboard, provided it does not store formulae or programs once turned off, it is allowed in exam conditions. My intention was to remove the ‘user’ programmability off the calculator, temporarily and then replace it afterwards. All other ‘standard’ maths functions would remain as installed in the factory. Regardless I will probably have to purchases a suitably accepted calculator for exams. Thank you again for your comments. Mike

Re: HP 48GX program

*Message #8 Posted by **Arnaud Amiel** on 18 Nov 2005, 2:24 a.m.,*
in response to message #7 by Mike -UK

Although it is not possible to remove the programmability of the calculator, it is possible to wipe out all the content of the memory which means that if you had store anything before your exam and the inspector sees the memory clear, he might just allow you to use it. It is worth checking before end with the inspectors.

Arnaud

Re: HP 48GX program

*Message #9 Posted by **I, Claudius** on 18 Nov 2005, 8:17 a.m.,*
in response to message #7 by Mike -UK

"...any calculator that is programmable... then it is not permitted in exam conditions."

That definitely rules out the 48/49 series, also the 32/33. That leaves you just the 30s and 6s, currently available from HP.

Is this for any exam, including physics/engineering, or just math?

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NCEES Approved Calcs for 2006

*Message #1 Posted by **Norris** on 15 Nov 2005, 5:21 p.m.*

NCEES has just released the list of approved calculators for licensing exams in engineering and surveying for 2006. No big changes, just a few additions.

HP: the 9S and 33S remain legal, and the 30S has been added.

Casio: FX 115 MS and FX 115 MS Plus remain legal, and the FX 115 ES has been added.

TI: the 30X IIS, 30X IIB, and 36X Solar remain legal, and the 30XA has been added.

Compared to the announcements for 2004 (HP 41, 42, 48, 49 were suddenly banned) and 2005 (all other HPs, except the 9S and 33S, were suddenly banned), the lack of surprises is welcome.

Re: NCEES Approved Calcs for 2006

*Message #2 Posted by **I, Claudius** on 15 Nov 2005, 6:11 p.m.,*
in response to message #1 by Norris

I have now read from a variety of sources regarding the NCEES policy. Weighing all considerations, the NCEES made a very poor decision. I'm lucky that my professional career will be unaffected by this nonsense, I've gotten very used to the HP48/49 series. To be denied the use of such a wonderful tool for the arbitrary and capricious reasons given by the NCEES is completely asinine. My sympathies are extended to all who are affected by this.

CA-PELS Approved Calcs for 2006

*Message #3 Posted by **Norris** on 15 Nov 2005, 7:29 p.m.,*
in response to message #1 by Norris

Oh, one other point: the California Board for Professional Engineers and Land Surveyors still allows all HP calculators (and other non-QWERTY calculators) on its state-specific (non-NCEES) PE and PLS exams. But this is only relevant if you are taking certain civil-related or survey-related exams in California.

Some other states also offer non-NCEES licensing exams, but as far as I know, they all enforce the NCEES calculator policies, even on non-NCEES exams.

Has the 6S been discontinued? [re: NCEES 2006]

*Message #4 Posted by **Karl Schneider** on 16 Nov 2005, 12:05 a.m.,*
in response to message #1 by Norris

The HP-6S should be perfectly acceptable and adequate, unless it has been discontinued and is no longer available on retail shelves.

BTW, I bought one one eBay, just for fun. It's certainly not a triumph of engineering or good design, but it

isn't ugly, and it has a few functions that even the mighty HP-41C didn't have.

There is no power switch or automatic power-off function. So, as long as an expensive Type 43 button cell is installed and light is inadequate, it will keep discharging that cell. Mine arrived with a dead one, no doubt after spending much time in a dark box.

-- KS

No more 6S or 6S Solar

*Message #5 Posted by **Norris** on 16 Nov 2005, 1:39 a.m.,*
in response to message #4 by Karl Schneider

Sadly, the 6S and 6S Solar have been discontinued. The 9S, 30S, and 33S are the only scientific (non-graphing) calculators currently available at hp.com.

Calculatorsource.com is currently offering "a limited number" of "refurbished" 6S Solars (without case, packaging, or warranty) for $14.95.

I have been using a 6S Solar for a few years, mostly stored in the dark, and the battery isn't dead yet. It's a great field calculator; the combination of light weight, small size, legible display, and low power consumption is hard to beat for outdoor use.

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Keys not registering

*Message #1 Posted by **Funnel Bunny** on 15 Nov 2005, 12:54 p.m.*

I have an HP 48G+ and some of the keys are not registering keystrokes. I took the faceplate off and saw there are two small, metal buttons underneath the faceplate that are depressed when the faceplate is attached. Initially, re-adhering the faceplate--ensuring that the metal buttons were depressed--fixed the problem, but now only half the keys register keystrokes. Has anyone encountered this problem before, or is anyone familiar with a remedy?

Re: Keys not registering

*Message #2 Posted by **Randy** on 16 Nov 2005, 6:36 p.m.,*
in response to message #1 by Funnel Bunny

You attacked it from the wrong side. The problem is typically one of lost connection between the keyboard and logic board which can only be accessed by removing the case back and then the logic board. You'll find opening instructions on HP48.ORG.

The two metal tabs you refer to are there to make contact with the aluminum keyboard surround and connect it to the case for electrostatic discharge protection, they have no bearing on the problem you described.

Ultimate keyboard solution

*Message #3 Posted by **Rafael Ramos** on 20 Nov 2005, 4:39 p.m.,*
in response to message #1 by Funnel Bunny

it can be dust or ox between the layers. the easy solution (may be the only?) is:

1 - grab some cofee filters (paper) 2 - cut it into strips that can be inserted between the layers (you should end with a few strips of 7x120mm) 3 - fold them in two (now you have a double 7x60mm sheet) 4 - find a very thin metal sheet, 4x60x.5mm (i found good ones inside celular batery packs) 5 - put it ´inside´ the folded cofee filter strips. 6 - slowly insert it between the plastic layers of the keyboard. the paper must be dry. leave at least 10mm outside. 7 - spray some freon or whaterver you like to use on the paper.wait a few seconds 8 - slowly pull the paper and the metal sheet.

notes: do not use this paper again, neither insert the metal sheet without paper, under risk of damaging the trails or having some paper stuck inside the keyb.

hope this helps

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How would you price these calculators?

*Message #1 Posted by **Han** on 15 Nov 2005, 11:54 a.m.*

Hi,

I'm just starting to build upon my humble collection of HP calculators. Since I started with the 48G series, I find myself at a loss as to what most collectors would deem to be a reasonable price for older models. My main interest is to collect each and every one of the Pioneer series, and the HP48 series as they all have my favorite keyboard layout (big ENTER key). Could you seasoned collectors help me by giving what you think are good price ranges for these calculators?

Thanks, Han

Re: How would you price these calculators?

*Message #2 Posted by **Mike H** on 15 Nov 2005, 12:23 p.m.,*
in response to message #1 by Han

Check here for prices and rarity http://www.hpmuseum.org/collect.htm#diff

Try the MoHPC classifieds http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/adforum.cgi
or search eBay completed auctions
Mike

Edited: 15 Nov 2005, 12:26 p.m.

Re: How would you price these calculators?

*Message #3 Posted by **Stephen Easterling** on 15 Nov 2005, 6:38 p.m.,*
in response to message #1 by Han

Today I completed my collection. The first thing I did was collect all of the Pioneers. I already had a 28S (my first), but then wanted the 48/49 series. In addition, I have the 33S, some Voyagers (11C, 12C, 15C) and one from each of the other families. Looking back at the $5k I just dropped over the past few months!!, I think I would just collect two calculators from each family (or just one, depending on your budget). At first, I thought the 48GX was the be all - end all of calculators, but it's not. (I'd say the 49G+ is, actually.) So decide what you want to use professionally and what you want to collect. If you need a loaded 48GX to use at work or school, then get one. If you just want to collect, then I'd save the money and get just the 48S and 48G (and 49G+ since it's the latest and greatest). Then pick up one or two from each family. For instance...

Classics: HP35, HP65 Woodstocks: HP25, HP29C Topcats: omit unless you're into the big stuff Spice: HP33E, HP34C Voyagers: HP12C, HP15C, HP16C (get the 15C for sure, but decide between the 16C and 12C) Coconuts: HP41CV, HP41CX Pioneers: 32SII, 42S (the 17BII, 21S, 22S, & 27S are great substitutes, depending on what you're into) Champions: 28S,??? Charlemagnes: 48S, 48G Other: 33S, 49G+

Functionality-wise, there's a great deal of overlap here, but when you throw in a business calc (17BII),

statistics calc (21S), programmers cals (16C), RPL calcs (48G), LED models (34C), and the model that started it all (HP35), then you'll have a well-rounded collection. You may give more consideration to get something that also goes along with your profession (e.g., business, programming, science-only, math-only).

Price-wise, you're in the holiday shopping season, so prices on Ebay may be higher now. Mint versions of any of these older models will go for $250 - $400 on Ebay. Some of the guys here may give you a price break and sell for less if they're Ebay-boycotters, but then again, many selling here also make mention (in their ad) that they are also selling on Ebay, so it does you no good since you're now getting into bidding wars. A mint 29C just sold for about $357 or so on Ebay, and a brand new 15C sold for over $400, but a very nice 15C can be had for $150-$225 usually.

Oh yeah, one more thing. I mentioned I just got all of the Pioneers. That's cool. But looking back, getting one or two from each family is even more cool. All from one family is boring, really. Also, don't feel like you have to get the very best model from each family. They sell for twice as much! You won't use them every day, anyway! Don't be afraid to get the "lesser" models and give them a nice home. For instance, I just passed that beautiful 29C (selling for $357 or so) and got a mint HP25 for only $73. I also got a mint 33E. I found a new 41CV,...didn't need the more popular 41CX. A 48G will do fine,... don't need a 48GX! A 49G+ is far better than the GX anyway.

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NIB HP 15C on eBay???!!!

*Message #1 Posted by **Luis** on 14 Nov 2005, 6:07 p.m.*

It will be a real never usedNIB 15C???!!!!!http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=5827892307&rd=1&sspagename=STRK%3AMEWA%3AIT&rd=1

Re: NIB HP 15C on eBay???!!!

*Message #2 Posted by **Stephen Easterling** on 14 Nov 2005, 6:12 p.m.,*
in response to message #1 by Luis

It looks like PayPal only! Too bad. I think the seller could get more if they open it up to non-PayPal users.

Re: NIB HP 15C on eBay???!!!

*Message #3 Posted by **Jimmy P.** on 14 Nov 2005, 6:21 p.m.,*
in response to message #1 by Luis

Definately an expensive collection....

Re: NIB HP 15C on eBay???!!!

*Message #4 Posted by **Luis** on 14 Nov 2005, 6:30 p.m.,*
in response to message #1 by Luis

What I can't understand how the bidders can really knows (and pay so much money) it's never used/nib just looking to that only pic?

Re: NIB HP 15C on eBay???!!!

*Message #5 Posted by **I, Claudius** on 14 Nov 2005, 9:28 p.m.,*
in response to message #4 by Luis

They'll just have to take it on faith. But it wise to remember the very definition of faith is belief without evidence. Buyer Beware!

Re: NIB HP 15C on eBay???!!!

*Message #6 Posted by **Howard Owen** on 14 Nov 2005, 10:32 p.m.,*
in response to message #4 by Luis

What you have is a seller making a claim about his product. If you read the copy in that auction it says something like "This thing is new. If you don't agree, I'll give you your money back." There are several things to consider about this claim.

1. Do you trust eBay sellers as a matter of course?
2. Or, do you trust the seller sufficiently after having looked closely at his/her feedback?

3. Do you trust eBay to enforce its rules if you are defrauded?
4. Or, (US only) Do you trust in your credit card company to reverse the charge if you go through the necessary notification steps to comply with federal law?
5. Or, do you trust PayPal's "buyer protection" insurance, if you choose to pay that way, and to pay the insurance fee on top of the auction price?

All of these boil down to one question: do you trust the eBay marketplace? eBay is valued by the U.S. stock market at billions of dollars precisely because a large number of buyers *do* trust them to provide a fair marketplace.

Personally, I try to judge the veracity of a seller's claims by looking at the photos, and reading the claims. I also look at a seller's feedback. Not just at the percentage number, but at two or three recent transactions, and at least one negative feedback, unless these are unavailable. (Most real people who sell on eBay will have at least one or two such feedback entries.) If I were in the market for a pristine 15C, I would view a photograph like the single one included in the referenced auction as inadequate, and I would ask for more. I would decline to bid if I didn't get them, too.

But after all is said and done, I trust the eBay marketplace, in combination with consumer protection laws in the U.S. If I pay with a credit card, I can get a refund for any item for which I have a record of unsatisfactory correspondence with the seller, and proof that I returned the item to the seller. *I have never needed to resort to this for an eBay transaction!* I've been doing a lot of buying on eBay, too. But, I do read the auctions carefully, and I do scrutinize the sellers. And I will frequently pass up a chance to bid if I don't like what I see. For the last several years, that approach has worked well for me.

Hp brought back the HP 15C: Hallelujah!!

*Message #7 Posted by **Etienne Victoria** on 14 Nov 2005, 11:07 p.m.,*
in response to message #1 by Luis

Hallelujah!!

Mother Hp has listened to our prayers!!!

She brought back NIB Hp-15C and slowly auctions them one at a time on Ebay making big profit :-)

And next month, a NIB red dot Hp-35 will show up to our delight :-))))

Etienne

Edited: 14 Nov 2005, 11:09 p.m.

Re: Hp brought back the HP 15C: Hallelujah!!

*Message #8 Posted by **Howard Owen** on 14 Nov 2005, 11:20 p.m.,*
in response to message #7 by Etienne Victoria

Hahaha!

No! It's a new RPN/RPL fusion machine that reads the user's mind and presents exacly the right mix of the two, depending on the result.

Re: Hp brought back the HP 15C: Hallelujah!!

*Message #9 Posted by **Paul Brogger** on 14 Nov 2005, 11:51 p.m.,*
in response to message #7 by Etienne Victoria

What? *No* **serial I/O??!!??!!??**

:-(((

Edited: 15 Nov 2005, 6:04 p.m.

Re: Hp brought back the HP 15C: Hallelujah!!

*Message #10 Posted by **Namir** on 15 Nov 2005, 6:24 a.m.,*
in response to message #7 by Etienne Victoria

I think the REAL reason (which has been kept a tight secret) for the riots in France is tha cry for HP to bring back the HP15C. It seems to be a big favorite among immigrants there.

Edited: 15 Nov 2005, 6:25 a.m.

Re: NIB HP 15C on eBay???!!!

*Message #11 Posted by **Matthias Wehrli** on 15 Nov 2005, 12:40 a.m.,*
in response to message #1 by Luis

For my collection: A never used calculator needs a mint box and on the picture it doesn´t seems that this is fact here. We all have nice HP-15C too, do we? So: Either the machine and the box is new or the value is much less for me.

Re: NIB HP 15C on eBay???!!!

*Message #12 Posted by **JDH** on 15 Nov 2005, 4:17 a.m.,*
in response to message #1 by Luis

In the add it says they it was made in 1988, I've found that a lot of HP 15c & 11c calcultators made through mid 1987 to mid 1988 had painted over HP 12c keys, if it is actually unused I would suspect it will have the painted over HP 12c keys, which would kind of make it inferior. If you are series on bidding you might want to ask that question.

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SD card useage - HP49G+

*Message #1 Posted by **RON** on 14 Nov 2005, 3:51 p.m.*

Any word on the possible enhancement ... in a future flash ROM upgrade?"

See page 26-7 under "Storing objects in the SD Card." Has to do with building a subdirectory into port 3, which is basically limited to bulk storage.

Thanks.

Re: SD card useage - HP49G+

*Message #2 Posted by **I, Claudius** on 15 Nov 2005, 7:14 a.m.,*
in response to message #1 by RON

The memory structure of the original HP49 is actually better than that of the 49+, it simply works right out of the box, no card needed. The keys work, too!

Re: SD card useage - HP49G+

*Message #3 Posted by **Arnaud Amiel** on 15 Nov 2005, 7:32 a.m.,*
in response to message #2 by I, Claudius

The 49G+ also works directly out of the box. Its memory structure if you don't bother with the SD card is exactly the same as the 49.

Arnaud

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HP41 to PC transfer

*Message #1 Posted by **Francois** on 14 Nov 2005, 2:46 p.m.*

Hello,

I have hp41, hpil loop controler and rs232 interface. I would like to transfer programs and datas from hp41 to pc and reverse. For data, it's possible with instruction OUTA, INA and IND. For programs, it's possible from hp41 to pc with the PRP instruction. Unfortunately, i've not the 82183a extended i/o module. Is there an other possibility to put programs in the hp41 ? Isn't it possible to use the WRTP and READP instruction on the RS232 port ? (when I launch these instructions, the light on the rs232 interface blinks but I've nothing on the serial port) Thank you for your advices Francois North of France

Re: HP41 to PC transfer

*Message #2 Posted by **Doug Wilder** on 14 Nov 2005, 3:51 p.m.,*
in response to message #1 by Francois

Hi Francois,

Unfortunately either the XIO module or an MLDL type device is required to accomplish program transfer between HP41C and PC. A PC ISA HPIL IO card may also implement this transfer, I'm not familiar with these cards.

The WRTP/READP of the IL module is for mass storage device, thus it sends several HPIL commands to the loop, for example to find the file and position the device. The RS232 interface does not understand these HPIL commands. WRTP/READP send literal binary of the 41C program, causing problem when these happen to be control code.

Many people were mad when HP designed the IL module because of its severe restrictions. For example there is no way to remove the loop from remote mode and switch to local mode once REMOTE mode is entered. The LOCAL command does not function because it sends a GTL instead of the required NRE command. LOCAL is essentially an HPIL NOP. This lack can lead to difficulties programming the RS232 interface and any device that implements REMOTE/LOCAL logic.

The XIO module corrects the problems by adding a slew of new and very usefull HPIL functions including full DDL/DDT control. NOTREM fixes the problem mentioned above. OUTP/INP transfer programs via sending an Intel Hex (0-F characters only) dump of the program with attendant checksum.

Best regards

Edited: 14 Nov 2005, 4:23 p.m.

Re: HP41 to PC transfer

*Message #3 Posted by **Francois** on 15 Nov 2005, 1:13 p.m.,*
in response to message #2 by Doug Wilder

Hi Doug,

Thank you very much for your reply. It confirms what I've noticed with the hp41 and the rs232 interface : impossibility to load programs from pc to hp41 and impossibility to return to local mode. For data (X and alpha) it's possible but not for programs. I've developped a small program which permits to upload and download n succesive registers in an excel worksheet. I think I'll look for an extended IO module (82183) rather than a pc isa card which could be difficult to use with our high speed bus on the actual PC computers. Thank you again Francois France

Re: HP41 to PC transfer

*Message #4 Posted by **Etienne Victoria** on 15 Nov 2005, 1:35 p.m.,*
in response to message #3 by Francois

Bonjour François,

Xio modules are dead rare & expensive.

If you intend to use it on a regular basis or wish to use other modules not readily available, you have a very efficient hardware emulator with the Clonix: Voir par ici.

Emulating many modules in one single module enclosure, this marvel will enable you to use nearly any Rom you wish without purchasing one everytime.

I have burnt permanently the Advantage Module & Xio on my Clonix and can use them everyday.

Cordialement

Etienne

Re: HP41 to PC transfer

*Message #5 Posted by **Christoph Klug** on 16 Nov 2005, 2:56 a.m.,*
in response to message #3 by Francois

Dear Francois,

The HP-IL/PC interface card needs an ISA-Bus. By using EMU41 software the card is compatible to operating systems like DOS, WIN95, WIN98, WINXP, WINNT, WIN2000. I use this solutio also with modern fast PC hardware.

EMU41 includes data and programm transfer. Furthermore EMU41 emulates a printer and two mass storage devices and works as gateway between real HP41 and PC world...

Regards - Christoph Klug

Re: HP41 to PC transfer

*Message #6 Posted by **francois** on 19 Nov 2005, 2:45 p.m.,*
in response to message #5 by Christoph Klug

Thank you for all your response. Clonix is a nice solution but I know absolutely nothing about M code. If there is a possibility to program the OUTP and INP functions with M code, let me know. For instance, I'll save my programs with the PRP function and type them on the keyboard for entering. And use my excel macro to exchange register data until finding a 82183 ... Regards François

Re: HP41 to PC transfer

*Message #7 Posted by **Howard Owen** on 19 Nov 2005, 4:15 p.m.,*
in response to message #6 by francois

You don't need to write mcode to use a Clonix. You can just load it up with your favorite modules and leave it that way. Diego will load the modules you ask for before he ships it to you. If you want to change the modules later, then you need to know something about the HP-41's memory layout, but you still don't need mcode. (You also need the adapter that Diego will sell you, along with a PIC programmer, in order to change the contents of the Clonix.)

The NovRAM and Nov-32 modules don't strictly require mcode knowledge either, but their purpose is to emulate the HEPAX module. To fully exploit the HEPAX module, you *do* need mcode knowledge.

Regards,
Howard

Re: HP41 to PC transfer

*Message #8 Posted by **francois** on 23 Nov 2005, 3:46 p.m.,*
in response to message #7 by Howard Owen

Hello,

I've looked more closely at all these features and i was wondering if we can only put modules images or is it possible to put user programs in the clonix. In fact is it possible to convert .RAW to .MOD files to put in the clonix ? How can we know if a module is 4k or 8k long ? If a 4k module uses the upper page of a bank, can we put another one in the lower adress space ? If the clonix ram is enabled, how does it appears in the hp41 ? Regards Francois

Re: HP41 to PC transfer

*Message #9 Posted by **Howard Owen** on 23 Nov 2005, 4:27 p.m.,*
in response to message #8 by francois

My Nov32 isn't built yet (hi Diego! 8) so I'm not sure of the answers to some of your questions. I think it is possible to convert user code into .mod format, but which tools to use for that, I have no idea. I'd start my search at TOS, however. The author of V41 is the inventor of the .mod format, I believe. I think you can tell how big a module is from the PC filesize. And I believe that you can indeed load a 4K module into an upper page and another 4K module into the lower page. THe Clonix specific questions I will leave for Diego to answer.

Re: HP41 to PC transfer

*Message #10 Posted by **Doug Wilder** on 23 Nov 2005, 10:46 p.m.,*
in response to message #8 by francois

Hi Francois,

Maybe i can answer some of your questions yet i do not own a clonix. The idea is that if you have an operating system (sic) in a page of rom/ram (mine is in eprom) it will have

a program to transfer user code to rom/ram.

With the old ERAMCO system i use the function is called MMTORAM, and one supplies the user code program name in Alpha and the rom/ram address to load at in X (binary). The function takes care of putting the program in the FAT and is immediately in Cat 2. To read back into ram one uses the COPY function.

Putting user code in rom/ram is one of the best uses of MLDL as you can save very large library of your user code programs in transferable rom/ram pages.

"If the clonix ram is enabled, how does it appears in the hp41"

If the clonix works like most MLDL, it appears as nothing unless an image of microcode and/or user code is in it: then it looks like a module in that page (CAT 2). Usually pages 8-F can be used. The OS will also usually have a function (mine is RAMWR) that allows direct edit of words in rom/ram most usefull for writing mcode functions. Most OS also have mcode disassembler and functions to transfer rom image to/from MASS/PC. OS will also have binary/hex tools like COD/DECOD and a MOVE function to move chunks of code in rom/ram.

Hope this clears up the usage a little bit. Best Regards

Re: HP41 to PC transfer

*Message #11 Posted by **Hans Brueggemann [GER]** on 15 Nov 2005, 3:18 p.m.,*
in response to message #1 by Francois

hello francois, there is a chance to do hp-41 program transfer via 82164A (with some restrictions, though) simply by using the ina and outa commands.an XF/M module is neccessary to do the trick (or, an hp-41cx, of course). this is truly a bare hands method, digging deeply into synthetic programming. you have to decode your program into bytewise representation (001CC600F500434C584D16141A111911001002A2DE9672B2810000C8032D4F, for example ;o)) and then send it via HPIL to your pc, and vice versa. during coding back to "true bytes" (in our case 10 bits, that is)"simply" put the bytes into proper program storage location et voilá: your are ready to run your program on the 41 again. routines for coding and decoding are ready available (bill wickes did something about it, afaik). please, don't get me wrong here: it is just a theoretical approach to the problem. coding and decoding routines will run for ages, even if your program consists just of a handfull of bytes. well, and programming of all the stuff... truly not for the faint of the heart.

cheers, hans

Re: HP41 to PC transfer

*Message #12 Posted by **Christoph Klug** on 16 Nov 2005, 2:50 a.m.,*
in response to message #11 by Hans Brueggemann [GER]

Dear Hans Brüggemann,

now I get the HP-IL/RS232 interface :-) Please send me your program solution for HP41 / PC interfacing, including the belonging user documentation.....

Herzliche Grüße aus Hildesheim

Christoph Klug (HP41 hardware interfacing : I/O-Board & IL2000 System).

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CNG serial numbers?

*Message #1 Posted by **Scuba Diver** on 14 Nov 2005, 2:23 p.m.*

Hi everyone!

I popped into a local office supply store and took a look at their HP collection. They're selling the 17BII+, the 10BII and the 12C (NOT the platinum). The 10BII and 17BII+ show serial numbers in the CNA520XXXX range, however the 12Cs have serial numbers I've never seen before: CNG516XXXXX. CNG?

Has anyone else seen this before? I assumed the "A" represented the year (since the "5" could be 2005, or (hopefully) 2015...so I thought A5 would represent 2005, B5 2015, etc...)

Perhaps it represents WHERE in China it was manufactured? I'm sure Kinpo operates multiple facilities in China...

Anyhow, I just thought I'd ask.

Scuba

Re: CNG serial numbers?

*Message #2 Posted by **Matt Kernal (US)** on 14 Nov 2005, 7:48 p.m.,*
in response to message #1 by Scuba Diver

> Quote:
>
> I assumed the "A" represented the year ... Perhaps it represents WHERE in China it was manufactured?

From what I remember, when the "A" suffix started showing up (following the original CN country code), it was generally thought to be a second manufacturing plant. If that is the case, then the "G" would be "Plant G".

On the other hand, since they have revised the 12C(P) with some additional keys and some bug fixes, maybe the G means "Good ones".

Re: CNG serial numbers?

*Message #3 Posted by **Mark Crispin** on 14 Nov 2005, 9:03 p.m.,*
in response to message #2 by Matt Kernal (US)

My HP-12c (purchased in September) has s/n CNG507xxxxx. If they're up to CNG516xxxxx in just two months... does that really mean that they sell 450,000 HP-12c calculators each month?

If so, it's no wonder they're still producing it! :-)

Re: CNG serial numbers?

*Message #4 Posted by **Mark Crispin** on 14 Nov 2005, 9:08 p.m.,*

in response to message #3 by Mark Crispin

More seriously, I think that it's more likely that "A", "G", etc. is a factory code. They have probably allocated non-overlapping serial number block ranges, so a particular serial number actually identifies a single calculator within all HP calculators as opposed to one within a particular model.

Re: CNG serial numbers?

*Message #5 Posted by **Matt Kernal (US)** on 15 Nov 2005, 1:03 p.m.,*
in response to message #3 by Mark Crispin

Mark, I think you may be looking at the wrong part of the serial number to conclude that 450,000 units were built in two months. I believe you calculated:

```
51600000
Enter
50700000
2
/
```

450000 <-- answer

If you take a look at Decoding Serial Numbers you'll see that the "5" is the year of manufacture(i.e. 2005) and the next two digits are the week of manufacture within the year (i.e. week 07 and week 16 of year 2005). The last five digits indicate the sequentially-numbered unit produced during that particular week.

You would have to add the final number of units produced for each week from week 07 to week 16 (i.e. a 9 week period), to determine the total number of units produced. Since we don't know the final weekly production numbers, we can't accurately calculate the number of calculators made between your calculator's birthday, and Scuba Diver's calculator's birthday.

L8ter,
Matt :-)

Serial Number format: cc? Y WW

*Message #6 Posted by **Paul Brogger** on 15 Nov 2005, 4:31 p.m.,*
in response to message #5 by Matt Kernal (US)

During my call to HP Support for my 33s replacement, as I read a few serial numbers from my early units, the support person was instantly responding with (for example) "Oh, that was made in January of 2004. There's no way we're gointg to replace that without a receipt."

I took the comments as confirmation of the Serial # pattern, as in each case the interpretation was consistent with the first three digits being a single-digit year code followed by a two-digit week-of-the-year number.

Of course, that doesn't help you with the "G" in "CNGyww..." As an additional quirk, my 33s calculators all start with **CNAyww...**, except the very earliest one, which has just **CN404...**.

(Also, the two earliest have the serial # melted into the back case, while the others each have affixed a silver rectangular label with black printing.)

CNA serial number

*Message #7 Posted by **bill platt** on 15 Nov 2005, 4:48 p.m.,*

in response to message #6 by Paul Brogger

Hi Paul,

I have it from an HP support person (over a year ago) that the "A" refers to a second factory. It is not a date code.

The "A" is noticable when going from what I call the "-" revision to the "A" revision (early Walmart to 1st issue from Amazon)

I had called them with a laundry list--all of the bugs that we had found here.

She was very nice, and she pushed the list into a category that would be looked at seriously (there's some term they use). At the time, she knew about the permutations bug, but not about the H.ms or the rect-polar, or the difference between "-" and "A" with respect to ALG.

It was in this conversation that I learned that the "A" was in fact a second batch and was produced at a different facility. BTW my amazon "A" rev has an "A" in CNA and my early walmart does not (it is CN).

Edited: 15 Nov 2005, 4:52 p.m.

Typo alert

*Message #8 Posted by **Matt Kernal (US)** on 16 Nov 2005, 11:22 a.m.,*
in response to message #5 by Matt Kernal (US)

:**&$%+%# Jim!! I'm a doctor, not a 7 year-old that knows how to subtract!**

```
51600000
Enter
50700000

-      <-- (I forgot to subtract! Insert subtract operator here)

2
/

450000 <-- (answer)
```

:embarrassed:

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"True" RPN Updated Features?

*Message #1 Posted by **Howard Owen** on 14 Nov 2005, 11:25 a.m.*

What if development of high-end HP Calculators had followed the direction set by the HP-42S?

In the debate between devotees of RPN and RPL calculators, the RPL camp has a distinct advantage in that development of those machines has continued over time, albeit at a slow pace after HP drew in its horns in the calculator market. "True" RPN calculator development seems to have stopped with the HP-32SII and HP-17BII. But the pinnacle of RPN calculator development (neglecting important considerations like I/O) was probably the HP-42S.

So, what if Prof. Wickes hadn't decided to go with the radical and revolutionary architecture first exposed to users in the HP-28C? How would a more evolutionary approach to the revolutionary increases in processor power and memory size have changed high-end HP calculator models? How could some (or all!) of the advantages of the RPL calculators be realized using a more traditional RPN model?

These questions are inspired by this post by James M. Prange, in which he offers up a sharp critique of the Voyager models as programmables from the standpoint of a user/programmer who is used to RPL. Some of his points are due to the differences between RPN and RPL, but many are there because the Voyagers are old, mid-range machines. What if there were an updated RPN machine with a modern processor and memory size *and* an updated RPN OS to take advantage of them?

Re: "True" RPN Updated Features?

*Message #2 Posted by **Ed Look** on 14 Nov 2005, 2:20 p.m.,*
in response to message #1 by Howard Owen

Good post, just as good as James' which inspired yours.

This is a tough question to answer past a certain point, as the needs or preferences of different users would color their perception of the answer. Of course, I suspect the two largest camps are the surveyors and the engineers.

But from a scientific point of view, and not at all comprehensively, and from an idiot's first line of thought, I'd say somehow, merge the power of RPL with the simplicity of keystroke RPN programming (apologies to James Prange, sincerely!) along with a multiline display, for example, the ability to view at least blocks of the program if not in its entirety (tough to do with the usual one or two line display of the usual scientific programmable).

And then, as a personal preference, not necessarily a professional one, I think it'd be best to preserve the keystroke aspect, even to its display in the programming space, for the key itself, be it shifted or not, tells you what it does.

Of course, RPL has the powerful advantage of being able to express a set of instructions (particularly equations) in a more concise way than RPN keystrokes. Perhaps a blend of two, but I don't see how that can be practicably done, given that a RPN machine has only a four level stack. In fact, if a RPN machine can be given the effectively infinite stack of a RPL calculator (plus the attendant RAM increase), I think this in itself

would be a significant improvement.

Finally, I think it would be wonderful to add variables (again, with relatively big RAM) to register storage, just for the flexibility of it.

(Am I dreaming... ?)

Edited: 14 Nov 2005, 2:21 p.m.

Re: "True" RPN Updated Features?

*Message #3 Posted by **Howard Owen** on 15 Nov 2005, 11:15 a.m.,*
in response to message #2 by Ed Look

> Quote:
>
> This is a tough question to answer past a certain point, as the needs or preferences of different users would color their perception of the answer. Of course, I suspect the two largest camps are the surveyors and the engineers.

I'd love to hear a diversity of opinion about this subject. I figure I'll get my wish around here. 8)

> Quote:
>
> But from a scientific point of view, and not at all comprehensively, and from an idiot's first line of thought, I'd say somehow, merge the power of RPL with the simplicity of keystroke RPN programming (apologies to James Prange, sincerely!) along with a multiline display, for example, the ability to view at least blocks of the program if not in its entirety (tough to do with the usual one or two line display of the usual scientific programmable).

OK, I hear this:

- Preserve the simplicity of keystroke programming.
- A multiline display wih the ability to view some context around the line you are editing.
- This probably means >2 lines.

> Quote:
>
> And then, as a personal preference, not necessarily a professional one, I think it'd be best to preserve the keystroke aspect, even to its display in the programming space, for the key itself, be it shifted or not, tells you what it does.

Can you give an example of what you mean by this?

> Quote:
>
> Of course, RPL has the powerful advantage of being able to express a set of instructions (particularly equations) in a more concise way than RPN keystrokes. Perhaps a blend of two, but I don't see how that can be practicably done, given that a RPN machine has only a four level stack. In fact, if a RPN machine can be given the effectively infinite stack of a RPL calculator (plus the attendant RAM increase), I think this in itself would be a significant improvement.

OK, so why not combine the environments in some way? I like this idea. You could have a keystroke RPN mode, or a full RPL programming mode. The calculator would be capable of executing either type of program in any context. They would both share the same stack, variables, registers, and so forth. One type of program could freely call the other type.

> Quote:
>
> Finally, I think it would be wonderful to add variables (again, with relatively big RAM) to register storage, just for the flexibility of it.

Named variables should be able to act as registers in the keystroke/RPN mode. Registers would, in fact, be just predefined (but not preallocated) variables.

> Quote:
>
> (Am I dreaming... ?)

Well, yes you are. But that's what I asked for!

Thanks!
Howard

Re: "True" RPN Updated Features?

*Message #4 Posted by **Ed Look** on 15 Nov 2005, 11:36 a.m.,*
in response to message #3 by Howard Owen

> Quote:
>
> ...
>
> > Quote:
> >
> > And then, as a personal preference, not necessarily a professional one, I think it'd be best to preserve the keystroke aspect, even to its display in the programming space, for the key itself, be it shifted or not, tells you what it does.
>
> ... Can you give an example of what you mean by this? ...
>
> ... Thanks!
> Howard

Oh, by that I simply meant that while writing or viewing the program itself, what is visible is the keystroke that is recorded as a program line. I should add, as it is now done in the HP 33S, unlike the way it was in my old HP 34C, which displayed only the "coordinates" of the key(s) pressed for a given line of program. This to me is very easy or "natural"... I suppose because RPN keystroke recording was my first intro to programming any calculator.

Edited: 15 Nov 2005, 11:41 a.m.

Re: "True" RPN Updated Features?

*Message #5 Posted by **James M. Prange (Michigan)** on 21 Nov 2005, 10:02 p.m.,*
in response to message #2 by Ed Look

> Quote:
>
> This is a tough question to answer past a certain point, as the needs or preferences of different users would color their perception of the answer. Of course, I suspect the two largest camps are the surveyors and the engineers.

I suppose that surveyors would want I/O, preferably wireless and not line of sight. Maybe Bluetooth? Other than that they'd probably want to be able to store lots of data on the calculator; maybe a low cost memory card like the 49g+, which also makes it very easy to transfer data?

But basic connectivity, such as RS-232 compatible I/O, is important too.

But probably the largest market is students. What would appeal to them? Yes, apparently HP thinks glitzy colours and weird keyboards, but I mean other than that.

I expect that new users are put off by RPN itself, after being indoctrinated in the use of algebraic input models. Maybe release a low-cost very basic "4-banger" model to "catch them young", when they're first getting acquainted with a calculator. It wouldn't have to be immediately very profitable; think of it as an investment in developing a future market, or as an advertising expense.

For that matter, I'd appreciate a shirt-pocket-sized RPN model for myself, even if it didn't include the "scientific" functions or programmability.

> Quote:
>
> But from a scientific point of view, and not at all comprehensively, and from an idiot's first line of thought, I'd say somehow, merge the power of RPL with the simplicity of keystroke RPN programming (apologies to James Prange, sincerely!) along with a multiline display, for example, the ability to view at least blocks of the program if not in its entirety (tough to do with the usual one or two line display of the usual scientific programmable).

No apologies needed; I can see that keystroke programming ought to be very simple.

A multi-line display is useful, but at first thought, as long as the stack is restricted to four registers, it wouldn't seem to make much sense to have more than four lines. But maybe extra status information could be displayed in the run mode and extra code lines in the program mode? Maybe a larger display without the special annunciators would be cheaper? Maybe different font sizes?

> Quote:
>
> And then, as a personal preference, not necessarily a professional one, I think it'd be best to preserve the keystroke aspect, even to its display in the programming space, for the key itself, be it shifted or not, tells you what it does.

But if I understand correctly, the 33S, for example. doesn't always show you which key was pressed, but instead sometimes what you chose from a menu. Surely seeing a command name in the display should tell you what it does?

> Quote:
>
> Of course, RPL has the powerful advantage of being able to express a set of instructions (particularly equations) in a more concise way than RPN keystrokes. Perhaps a blend of two, but I don't see how that can be practicably done, given that a RPN machine has only a four level stack. In fact, if a RPN machine can be given the effectively infinite stack of a RPL calculator (plus the attendant RAM increase), I think this in itself would be a significant improvement.

Of course I prefer a variable stack without the t register replicating downward. But perhaps the user could optionally restrict the stack that he can use to a particular depth, and optionally with the top level replicating downward on stack drops.

Regarding equations, how far would you care to go with various object types? In the RPL models, an algebraic object is internally identical to a SysRPL secondary (program), with the differences being a different prologue, and the algebraic being restricted to RPL sequences that are logically equivalent to a valid algebraic expression. For example, if I key in 'X^2+Y^2=R^2' in the command line, then the compiler changes the order of the elements to:

```
'X' 2 ^ 'Y' 2 ^ + 'R' 2 ^ =
```

for internal use. Converting an algebraic expression to an RPN sequence and back to an algebraic expression is completely deterministic and seems well suited to a machine. But not just anything keyed in as an algebraic is valid; syntax checking is required. And not just any RPN sequence can be converted to a valid algebraic, for that matter. Without going to full-fledged RPL-style "objects", you'd still need a way to keep track of the length of the sequence, perhaps by storing delimiters.

> Quote:
>
> Finally, I think it would be wonderful to add variables (again, with relatively big RAM) to register storage, just for the flexibility of it.

Certainly being able to call an object by an associated name is a big advantage. And so is specifying the scope (global or local to a procedure). In the RPL models, local environments can be "nested", and if a local name in an "inner" procedure happens to match a name in an "outer" procedure (or global, library, or command name in the search path) then only the most recently created local variable with that name can be accessed. Directories in the RPL models (except the 28C) also serve to specify the search path. Unless the path is specified along with the global name, only names in the current and parent, grandparent, etc. directories can be found, and after searching each directory, any associated library is searched for the name.

> Quote:
>
> (Am I dreaming... ?)

Maybe, but it seems to me that the development of the 33S has been mostly getting the 32sII capabilities working on new hardware and trying to get the bugs out. Maybe they'll come out with a 33sII, 33S+, or whatever, that takes more advantage of the capabilities of the hardware.

Regards,
James

Edited: 21 Nov 2005, 10:11 p.m.

Re: "True" RPN Updated Features?

*Message #6 Posted by **Ed Look** on 22 Nov 2005, 12:11 a.m.,*
in response to message #5 by James M. Prange (Michigan)

James! That was a well thought out, but longish post, so I'll respond maybe tomorrow, but I did read it...

... and guess what I saw skimming over eBay tonight up for bid (I didn't and missed the deadline, but more on that in a second)- an old HP 32E! It is a vintage machine, a Spice series basic nonprogrammable scientific; it had had not a few features and was a rugged unit.

I bring it up because of your post: this unit was a 4 level stack RPN calculator with full scientific functions and several memory registers; something I wouldn't mind sitting on the top of my desk anywhere (provided it was safe ;))! Now, of course it wasn't programmable, but it IS 33S-like in its simplicity, minus the programming capability, BUT NO continuous memory. Now, according to this museum, it listed for $80 USD about forty years ago; (so you might see that I didn't want to top the almost $50 some guy bid on it, for a slightly above basic scientific nonprogrammable, though nostalgia almost made me do it!) which was roughly half the price of a HP 34C, a richly featured, fully programmable scientific with twenty memory registers.

Now the 34Cs were superb to use, but the 32Es were somewhat more affordable and people did happily use the 32E calculators. I'm not saying we're all asking for too much, but consider what we accepted in those days!

Anyhow, goodnight and I'll seriously respond to your thoughtful post as soon as I can, hopefully tomorrow!

Re: "True" RPN Updated Features?

*Message #7 Posted by **Ed Look** on 22 Nov 2005, 5:24 p.m.,*
in response to message #5 by James M. Prange (Michigan)

James,

In addition to that rather rambling response of mine last night, I just want to add that I sort of retracted what I said there about showing the keystroke in program mode. Of course it would be much better to display the actual command or command sequence rather than a simple set of coordinates for a key sequence.

Also, I think your idea of allowing the user to specify stack depth is a very good idea; there are times though I like the "traditional" XYZT stack configuration because that downward replicating T level keeps me from having to use up an extra storage register for a value I may not want to keep longer than for the latest calculational sequence. And then, when one needs to statistically treat a long list of numbers, a four level stack is, without saying, too restrictive. I would love to be able to have a 33S/32SII/34C-ish machine that allows a variable stack, theoretically up to infinity. That would make fast work of calculating averages, medians, and other types of calculations. I once asked someone on the comp.sys.hp48 newsgroup how I could ever get the median, maximum and minimum of a certain bunch of figures. I got an ingenious reply, but it did require, if I recall correctly, a bit of stack register and memory register swapping and essentially "max-ing out" (forgive the pun) the memory register usage. In short, I think I too would love a user-definable variable stack!

Re: "True" RPN Updated Features?

*Message #8 Posted by **Dave Bernazzani** on 14 Nov 2005, 3:42 p.m.,*

in response to message #1 by Howard Owen

I'm a big fan of RPN keystroke programming and not such a big fan of RPL. It seems most natual to me when using a calculator. If I can work the problem out manually, recording my keystrokes to automate that process seems a perfect fit. If I can't work the problem out manually, I'll use a different tool.

RPL always felt like too much of a real programming language... but as a software engineer fluent in a wide variety of mid-to-high level languages (most notably C/C++) and a dozen flavors of assembly language, it seems to come up short - constrained by the interface more than anything else. In the end, if I want to program a complex algorithm I'll do so in a language that I find more flexible and more powerful and run it on a common PC or equiv. When I want to crunch numbers (and I love to crunch numbers with a calculator), I'll do it with manual entry or keystroke programming.

I liken a good calculator to a good hammer. It's a tool. A workhorse. Something that can drive nails and occasionally pull them. I don't want it to drive screws. I don't want it to cut boards. RPL feels like it tries to do too much - which was probably useful back when PCs were expensive and not on every desktop. I want a calculator to calculate - plain and simple automation with keystroke programming sits right at the boundary of simplicity and functionality. It's probably the same reason I'm not fond of graphing calculators, though I'm fine with people that like both RPL and graphing calculators. To each, their own.

In designing Excalibur, I had the opportunity to do design my own custom language (or borrow heavily from existing syntax or lexical parsers) but I stuck with keystroke programming. Simple, clean, effective. If users need more, they can work it out with Excel, Mathcad or Matlab.

Re: "True" RPN Updated Features?

*Message #9 Posted by **valentino ducati (switzerland)** on 15 Nov 2005, 2:02 a.m.,*
in response to message #1 by Howard Owen

I second you, Howard.

What never war really discussed here, is also the difference the most evolved RPN calculator has (42S) versus the most evolved RPL has (49G+) regarding the user interface.

Many of the (complicated?) RPL commands in the big command list of a 49 (and even 48) are display related. With the step from a line interface to a graphically oriented UI you have to deliver a big bounch of output and graphic manipulation functions to the user. And having this new GUI now you have also to deal with different font types. This is a terrific PLUS in commands and dependencies to remember and that's probably one of the reasons I still feal unconfortable programming ad hoc my RPL calculators.

Returning to your toughts: IF - after the 41 series, the 42S and the last 32SII - hp invested further in functionality of RPN based systems: What UI would they have?

The 42S started with some graphical capabilities. Would this have been the way to go? Towards a fully graphical RPN calculator? I suppose, the simplicity we are looking for, would have wanished; also still having the RPN paradigma.

Since the 41 series have faded out I also dream - from time to time - of a successor. But when I think of a modern follup, I have to compete with today's state of the art calculators like a TI-89 (or hp49G+). And then I'm really not shure where the journey of a new high end calc should go...

(not yet satisfied, not yet decided...) Valentino

Re: "True" RPN Updated Features?

*Message #10 Posted by **GE** on 15 Nov 2005, 8:53 a.m.,*
in response to message #9 by valentino ducati (switzerland)

The HP42S showed the way, IMHO. First, you must stick to the 4-level stack because (as someone stated previously) unlimited stack allows or even naturally leads to complicated states which you must remember.
Then, every stack level / register / variable should be able to hold any type of data, this includes lists of any depth, matrices, variable names, strings / texts (the latter having style maybe). Indirect addressing would be extended to multiple levels or depths : if R00 contains {1 2} and R01 contains { {'A' 33} 47}, RCL IND 00 would return 33.
A big plus of keystroke programming and the fact that you have a program persistant pointer is that you can stop the program, modify it, then resume. I wonder why this is not possible in RPL ??? It is such a strong point for RPN.
I would like also parameter passing and local variables ; however how could this be done ? The 42S has a way to declare variables at the beginning of a program, this should be extended.
Also PLEASE keep GTO and LBL, the possibility to route the processing flow anywhere is just so powerful.
Last idea, operators can be combined in a logical way so there is not a gazillion keywords to remember. For example + can add numbers, integers, matrices, lists, strings, but you can have more : I recall when I used APL, a very powerful "math" oriented language, where you have for example the following rule : The matrix product is calculated like Sum (Product of an element of line... by an element of col...), you would write it like : A<-B+.xC which is "store into A the matrix of the sum (+) of products (x) of terms ... from matrices B and C".
Then you could also write something like : A<-BL.+C which would mean "store into A the matrix of the minimum (L) of sums (+) of terms ... from matrices B and C.
This kind of meta-syntax lets you combine locically building blocks.
I'm not sure this is clear !

Re: "True" RPN Updated Features?

*Message #11 Posted by **Ed Look** on 15 Nov 2005, 11:30 a.m.,*
in response to message #10 by GE

It sounds like the "replacement value" of FORTRAN to me!

But you're right about the ability to stop program and resume or resume differently because of the program step pointer in RPN. But I think primarily that was designed in as an editing feature, like the ability to step through a program in a test run showing you the results of each step in RPL.

Re: "True" RPN Updated Features?

*Message #12 Posted by **Howard Owen** on 15 Nov 2005, 11:40 a.m.,*
in response to message #10 by GE

> Quote:
>
> The HP42S showed the way, IMHO. First, you must stick to the 4-level stack because (as someone stated previously) unlimited stack allows or even naturally leads to complicated states which you must remember. ..

I think you need to be able to set the stack as you see fit. One man's complexity is another's playground. I find an unlimited stack confusing, but the RPL guys revel in it. Allowing the user to set the stack size as a preference gives us the best of both alternatives.

Of course, if I'm modifying a program someone else has written that uses a deep stack, I'm going to

have as much trouble as ever keeping track. But in my view, it's not worth taking choice away from the user in order to make that sort of thing easier.

> Quote:
>
> Then, every stack level / register / variable should be able to hold any type of data, this includes lists of any depth, matrices, variable names, strings / texts (the latter having style maybe). ..

Good idea! This is a feature of RPL machines that I would also like to see retained in an updated RPN calculator.

> Quote:
>
> Indirect addressing would be extended to multiple levels or depths : if R00 contains {1 2} and R01 contains { {'A' 33} 47}, RCL IND 00 would return 33. ..

Intersting This could be done in lots of different ways. For example, a list in R0 used as an indirect address could return a list of all the elements pointed to in the first list, assuming they all resolved either to a register number, a named variable or some other reference. Talk about complexity! Is there anything like this in current RPL machines?

> Quote:
>
> A big plus of keystroke programming and the fact that you have a program persistant pointer is that you can stop the program, modify it, then resume. I wonder why this is not possible in RPL ??? It is such a strong point for RPN. ..

I believe this *is* possible on the HP48G. But you have to be in debug mode. You can single step through a program and do anything you like in between steps. Maybe the RPL guys can comment on whether you can also change the program pointer to any point and continue execution or not?

> Quote:
>
> I would like also parameter passing and local variables ; however how could this be done ? The 42S has a way to declare variables at the beginning of a program, this should be extended.

RPL has the "-> var list << .. >>" syntax for creating local variables on the fly. Perhaps that could be adapted into the keystroke programming model?

> Quote:
>
> Also PLEASE keep GTO and LBL, the possibility to route the processing flow anywhere is just so powerful.

I agree with this, on the basis that system designers shouldn't make arbitrary limitations on what users can do if they can help it. RPL lacks a loop "break" statement, which probably reflects the distaste for GOTO that prevailed in the 1980s. "Structured" programming was supposed to make GOTO obsolete. And the construct was (rightfully) blamed for a lot of unmaintainable "spaghetti" code. If there's a danger of exciting a flame war over whether GOTO is needed or not, I'd like to avoid it if possible. So suffice it to say that some users consider GOTO to be useful, so an updated RPN programming model

should retain it.

> Quote:
>
> Last idea, operators can be combined in a logical way so there is not a gazillion keywords to remember. For example + can add numbers, integers, matrices, lists, strings, but you can have more : I recall when I used APL, a very powerful "math" oriented language, where you have for example the following rule :
> The matrix product is calculated like Sum (Product of an element of line... by an element of col...), you would write it like : A<-B+.xC which is "store into A the matrix of the sum (+) of products (x) of terms ... from matrices B and C".
> Then you could also write something like : A<-BL.+C which would mean "store into A the matrix of the minimum (L) of sums (+) of terms ... from matrices B and C.
> This kind of meta-syntax lets you combine locically building blocks.
> I'm not sure this is clear !

How does RPL handle this stuff? Are there useful constructs there that we could borrow?

Regards,
Howard

Re: "True" RPN Updated Features?

*Message #13 Posted by **Garth Wilson** on 15 Nov 2005, 3:16 p.m.,*
in response to message #10 by GE

> Quote:
>
> The HP42S showed the way, IMHO. First, you must stick to the 4-level stack because (as someone stated previously) unlimited stack allows or even naturally leads to complicated states which you must remember.

I'm not an RPL user, but I can tell you from plenty of experience in Forth that an unlimited stack does not require any more brain-twisting than a very small one. In fact, an effect of the improved data flow is that you don't need as many variables, and in most cases the need for local variables disappears altogether. Each "word" in Forth concerns itself only with its own small portion of the stack, seldom more than three items. If you have a hundred stack cells under that, it doesn't matter. For each little subroutine, you focus only the stack cells used by that one. It in turn may call others, which may call others, and so on, (even recursively!) but the modularity is part of good programming, and keeps a very complex program manageable. The depth of the stack becomes a non-issue.

> Quote:
>
> A big plus of keystroke programming and the fact that you have a program persistant pointer is that you can stop the program, modify it, then resume. I wonder why this is not possible in RPL ??? It is such a strong point for RPN.

It could be done, but (again, a comment coming again from a Forth programmer and not an experienced RPL man), you may have problems if branch locations stored in program structures get changed by your tinkering after they had already figured out where to go. All the ways I can think of to get around the problem make a big cut in performance.

> Quote:

> I would like also parameter-passing and local variables ; however how could this be done ?

Again, the stack can be used or this. Parameter-passing becomes implicit, natural, very efficient, and in the case of Forth, virtually eliminates syntax requirements. Local variables, if still needed, can be set up on the return stack since they are no longer needed when you exit the subroutine, subprogram, or similar.

> Quote:
>
> Also PLEASE keep GTO and LBL, the possibility to route the processing flow anywhere is just so powerful.

Those are nice and simple for keystroke programming. I don't miss them in Forth, although Forth does allow you to invent your own program control structures if it would help your application. A good set of them makes it much more clear what you're doing, without limiting the possibilities. The words "branch" and "0branch" in Forth are internals, meaning you normally only deal with them if you're writing a program structure. Examples of a few standard ones where the need for internal branching is obvious include DO...LOOP, IF...ELSE...THEN, BEGIN...WHILE...REPEAT, etc.. The same branching words could be used outside structures like these, but such use would usually mean that you're about to lose control of your project! I would not disagree however that GTO and LBL have their place in keystroke programming of small applications.

Re: "True" RPN Updated Features?

*Message #14 Posted by **Howard Owen** on 15 Nov 2005, 5:11 p.m.,*
in response to message #13 by Garth Wilson

Hi, Garth,

Sort of in the same spirit of not wanting to ignite a flame war over GOTO, I'd like to steer away from the debate whether a deep stack or a short one is preferable. I think it's obvious that different programmers have different opinions on this. Your point about avoiding complexity by limiting stack usage is a good one, though.

But since calculator programmers do differ on this point, what I'm most interested in is how to define a programming environment that woud allow for multiple ptogramming models to live side-by-side. It would be a simple enough matter to specify a maximum stack size, or no maximum, either globally, or locally to a particular sequence. You'd think that would get interesting when you wanted to call one model from another. But in most cases I can think of, there would be no problem. The 4-stack level routine wouldn't ever expect more than that many input parameters on the stack. The only difficulty might be when a 6 stack routine, say, wanted to call a routine that returned 7 parameters on the stack. I think that would be rare, though.

Regards.
Howard

Re: "True" RPN Updated Features?

*Message #15 Posted by **James M. Prange (Michigan)** on 22 Nov 2005, 4:30 a.m.,*
in response to message #10 by GE

> Quote:

> The HP42S showed the way, IMHO. First, you must stick to the 4-level stack because (as someone stated previously) unlimited stack allows or even naturally leads to complicated states which you must remember.

Perhaps so, depending on the user, but RPN's GTO could make quite a mess of a program too.

> Quote:
>
> Then, every stack level / register / variable should be able to hold any type of data, this includes lists of any depth, matrices, variable names, strings / texts (the latter having style maybe).

The way RPL accomplishes the stack being "able to hold any type of data" is that the stack is really a stack of pointers. That you see other objects displayed there is a bit of indirection; the system decompiles the pointees for display.

> Quote:
>
> Indirect addressing would be extended to multiple levels or depths : if R00 contains {1 2} and R01 contains { {'A' 33} 47}, RCL IND 00 would return 33.

I don't quite follow that, but in RPL you could certainly store the name B in variable A, the name C in variable B, and the number 123 in variable C, so executing A returns 123.

In RPL, for stored lists, vectors, matrices, and symbolic matrices, you can also use "indexed variables" for the elements. For example, suppose I have the list { "A" B 1 } stored in a variable X. 'X(1)' EVAL returns "A", 'X(2)' EVAL returns 'B', and 'X(3)' EVAL returns 1. To store something new in the list, I could use "C" 'X(2)' STO to replace B with "C". Of course, it's hard to see much advantaage of indexed variables over the GET and PUT commands, and they're mostly neglected, If I recall correctly, they won't work in the 49 series in some situations where they worked in the 28 and 48 series,

> Quote:
>
> A big plus of keystroke programming and the fact that you have a program persistant pointer is that you can stop the program, modify it, then resume. I wonder why this is not possible in RPL ??? It is such a strong point for RPN.

In RPL a copy of the program is placed in the runstream, and I can't modify the program (or what's left of it) there. When debugging or a program is otherwise suspended, assuming that I still have the original, I can modify that, but that won't change anything in the suspended program.

> Quote:
>
> Also PLEASE keep GTO and LBL, the possibility to route the processing flow anywhere is just so powerful.

Of course. Unless you want to go with "program structures" as imolemented in RPL, It would be hard for me to imagine making do without these.

Regards,
James

Re: "True" RPN Updated Features?

*Message #16 Posted by **Howard Owen** on 15 Nov 2005, 11:57 a.m.,*
in response to message #9 by valentino ducati (switzerland)

> Quote:
>
> .. And having this new GUI now you have also to deal with different font types. This is a terrific PLUS in commands and dependencies to remember and that's probably one of the reasons I still feal unconfortable programming ad hoc my RPL calculators. ..
>
> The 42S started with some graphical capabilities. Would this have been the way to go? Towards a fully graphical RPN calculator? I suppose, the simplicity we are looking for, would have wanished; also still having the RPN paradigma. ..

Yes, GUIs can be complicated. Yes, RPL GUIs *are* complicated! But you can provide the complicated GUI, and also document a path through the complexity for the keystroke programmer. That is, abstract out of the multi-volume user manual a thinner one that shows you how to program in RPN. This simpler mode might include simpler graphics commands, probably built up from the more powerful graphics primitives provided by RPL.

In the desktop and server computer worlds, there are a multitude of such toolkits that seek to simplify access to complicated graphics subsystems. Of course, most of them end up being complicated in themselves. I think that's because they try to be as general as possible, and also because toolkit designers tend to get carried away. 8)

But a GUI toolkit for an RPN calculator wouldn't have to be fully general. The keystroke progamming approach is aimed at relatively short programs that automate a particular mathematical task. For that, the most complicated GUI object you would need would be an equation editor. There's a pretty nice one of those in the HP-49G+. It's not awfully hard to use, either. The 33S has a less capable, but still usable and useful one.

So I say keep the fully general graphic capability, perhaps working to simplify it for its own sake, but provide high level graphic operations that a keystroke program can call to do the hard GUI work. If the user wants a GUI feature that's not in the list, well, there's still RPL and the full generality it provides.

Regards.
Howard

Re: "True" RPN Updated Features?

*Message #17 Posted by **James M. Prange (Michigan)** on 15 Nov 2005, 9:17 p.m.,*
in response to message #1 by Howard Owen

> Quote:
>
> In the debate between devotees of RPN and RPL calculators, the RPL camp has a distinct advantage in that development of those machines has continued over time, albeit at a slow pace after HP drew in its horns in the calculator market.

Huh? More nearly continuous than with RPN models, but far from continuous. I mean UserRPL models, not including models that used SysRPL for development but didn't offer UserRPL.

Development of RPL models temporarily effectively ceased with the release of the 48G series Version R,

apparently in production by April, '94. After that, development started up again with a whole new team at ACO, and the 48G+ was announced 1998-03-30. but the 48G+ took hardly any development; still version R, effectively a 48G with a 128KB RAM instead of a 32KB RAM, and a new label. The next RPL model was the 49G, announced 1999-05-21. The 49G did make significant advances, but is far from being as good as one might expect. But then ACO was disbanded 2001-11-09. I'm not sure when the new team was formed, but it did exist by September 2002, with, as far as I know, one member from the ACO team, and some plans for the future. The first 49g+es started arriving in October, 2003 and I think the 48gII not too long after that. The 49G+ and 48gII are mostly a matter of adapting to new hardware and taking advantage of some of the new hardware's built-in capabilities; notably, they don't add any UserRPL commands not already in the 49G, although there have been some bug fixes and the 49g+ has limited formatting capability for the card. The 49g+ still leaves a lot to be desired.

I can't help wondering what the RPL models would be like today if development of them really had been continuous, with new team members being trained as old team members left. I'd bet that they'd be a whole lot more advanced and usable than the 49g+.

Regards,
James

Re: "True" RPN Updated Features?

*Message #18 Posted by **Howard Owen** on 16 Nov 2005, 12:14 a.m.,*
in response to message #17 by James M. Prange (Michigan)

Quote:

Huh? More nearly continuous than with RPN models, but far from continuous. ..

Well, that's right. Apologies for making it seem like the RPL machines don't suffer from some of the same neglect as the RPN models.

But the fact remains that the RPL machines are more advanced than any RPN machine ever made. I think that at least part of that gap is due to the shift to RPL from RPN by HP, and the consequent neglect of the latter. Well, to be honest, I think *all* of the gap is due to that.

What I'm interested in is whether it is possible to come up with a high-level architecture that allows RPN and RPL to coeexist, and hopefully play off each other's strengths, in an updated machine sporting modern hardware. (Or purely in software, in the alternative.)

Quote:

I can't help wondering what the RPL models would be like today if development of them really had been continuous, with new team members being trained as old team members left. I'd bet that they'd be a whole lot more advanced and usable than the 49g+.

That's really the same question I'm pursuing, but one or two generations down the pike. So, what *do* you think they would have come up with in the way of new or improved features? I see no reason to cut of the discussion of desirable features just because they don't involve RPN. (Although I will undoubtedly try to relate anything you suggest to RPN myself. 8)

Quote:

Regards,
James

Likewise,
Howard

Re: "True" RPN Updated Features?

*Message #19 Posted by **Dave Bernazzani** on 16 Nov 2005, 8:52 a.m.,*
in response to message #18 by Howard Owen

Quote:

But the fact remains that the RPL machines are more advanced than any RPN machine ever made. I think that at least part of that gap is due to the shift to RPL from RPN by HP, and the consequent neglect of the latter. Well, to be honest, I think all of the gap is due to that.

I don't think it's neglect so much as plateau. It's hard to improve on brilliant simplicity. HP wanted more - and rather than try to tweak RPN, they took some of the best features of RPN, extended it and and came up with the LISP-like RPL. What they got, IMO, is something both more powerful... and less so.

In any event, RPN was plenty powerful enough 35 years ago and remains so now. I believe it also remains (by a wide margin) the most elegant way to crunch numbers on a calculator.

Advanced/improved RPN calculators

*Message #20 Posted by **Karl Schneider** on 16 Nov 2005, 2:07 a.m.,*
in response to message #1 by Howard Owen

The intent of Howard's post seems to be how the features of the advanced RPL-based calculators might be adapted to an advanced RPN-based model.

Well, quite frankly, my opinion is that the time for a super-duper handheld calculator may have already passed. Sure, I know that the TI-89, TI-86, and TI-83 are used extensively today in secondary education. However, this is not necessarily a positive development in the instruction of mathematics, what with the emphasis on teaching keystrokes and techniques for specific devices, instead of mathematical fundamentals.

That having been said, the best opportunity for development of a "super RPN" model would have been to design the original 48-series models around RPN, and to simplify the functionality, with emphasis on utility and expandability instead of whiz-bang mathematical functions and computer-like file and data management.

Consider a slightly-downsized 48S/SX based on Classic RPN with the following:

- A user-settable fixed stack
- Easy-to-use I/O
- Time functions and clock
- Easy-to-use 2-dimensional graphing
- High-resolution dot-matrix black LCD screen
- Unsurpassed complex-number functionality
- Matrix functionality improved from that of the 42S

Optional features:

- Plug-in cards for program applications and storage
- HP-71B BASIC with alpha labels instead of line numbers

That's what I think the 48S/SX should have been. It would offer the easy expandability and utility that surveyors and field engineers prize -- just plug in or download advanced programs. Informative and useful graphs appropraite for the machine's capabilities would be and easy to obtain -- no studying the manual to do basic things, and no crude monochrome 3-D rendering.

Comprehensible BASIC, instead of arcane RPL, would provide the programming capability for advanced applications that would be awkward or cumbersome on RPN.

But, it's probably too late for that now. In fact, I think even the 42S would be too advanced a calculator to develop today, now that PDA technology is available.

There is one conceptual non-graphing RPN calculator that I think is worth developing -- one that combines the user paradigm of the 32SII with the (improved) complex-number and matrix functions of the 15C, in a no-nonsense package about the same size as either.

- The display should be one-line, with large characters for legibility.
- The display should be longer, to accommodate equations more fully and to display complex numbers.
- The equation editor should allow insert/delete editing, support implicit multiplication, display sub- and super-scripting, and use more symbols instead of names like "SQRT" and "SQ".
- The stack should be of constant user-settable depth in RPN fashion, with only Rdown, Rup, and x<>y.

-- KS

Re: Advanced/improved RPN calculators

*Message #21 Posted by **Valentin Albillo** on 16 Nov 2005, 9:54 a.m.,*
in response to message #20 by Karl Schneider

Hi, Karl:

Two brief commentaries to your post:

- In your post you mention, "Unsurpassed complex-number functionality", you say:

  "A few of HP's calculator models have introduced useful capabilities for calculating with complex numbers. These include the 15C, the 28C, the 42S, the 48S/SX, and their direct descendants. [...] Each calculator in the former group has pioneered a good idea:

  15C: Provided complete functionality in the mathematical domain of complex numbers

  28C: Provided straightforward single-line entry and a comprehensive menu of relevant functions

  42S: Provided rectangular or polar modes for entry and calculation, with easy-to-read full display

  48S/SX: Allowed entry of complex numbers in either form while set in either rectangular or polar mode"

  Perhaps due to lack of familiarity with it, you fail to mention HP-71B's Math ROM complex number handling, which as far as I know, pioneered the 'ordered pair' mathematical concept for complex number handling, that is:

  2 + 3i is represented as **(2, 3)**

This format is highly favored in serious mathematics, as it has a number of advantages and, certainly, does away forever with the 'imaginary' stigma that complex numbers have historically been saddled with (still present in "i", short for "imaginary unit"). With this convenient format, you have:

```
(1, 0)  is the real unit
(0, 1)  is the "imaginary" unit
```

and *symmetry* is evident, both real and imaginary parts are treated *the same*, no typographical distinction between them (such as attaching an "i" to the number representing the imaginary part, while nothing at all is attached at the real part). Also, representing complex numbers that way, the 71B's Math ROM allows such expressions as:

```
( 2+5*PI/3, 5-4*PI/3 )
```

which seems more natural and less contrived than:

```
(2+5*PI/3) + (5-4*PI/3)*i
```

and you also have:

```
(1, 2) * (3, 4) = (-5, 10)
```

which is as simple and neat as it can be. Of course, this also works like this with parameters passed to functions and subprograms, results returned, matrices, and evaluating expression from the command line or in CALC mode.

For instance, in DATA statement, you can define complex data like this:

```
10 OPTION BASE 1 @ COMPLEX A(5)
20 READ A
...
90 DATA (1,2), (-3,4), (5,7), (0,13), (23, -27)
```

which reads all complex data in complex vector A at once and, again, is much more neat and elegant than what you would achieve with other constructions.

Finally, the Math ROM also implements ("pioneers") built-in, special IMAGE formats for complex numbers, where you can define each part's format, as well as have it printed with the "i" if you feel like it, etc. I think all of this fully qualifies as 'significant achievement' in complex number handling by HP handhelds.

- Also in your post, you mention:

  "HP-71B BASIC with alpha labels instead of line numbers"

  HP-71B's BASIC *does* support alpha labels, no problem. Of course, it also has line numbers because of ANSI standards compatibility, but you aren't forced to use them if you don't want to. For instance:

```
10 GOSUB "FINDROOT"
20 IF X=7 THEN "FOUND"


...
90 "FINDROOT": X=27 @ y= 28 @ ...
...
120 "FOUND": PRINT X; SQR(X) ...
```

  which is more, you can have labels in mid-line, which means you can branch at the statement level ! For instance:

```
10 ON X GOTO "HERE", "THERE", "HOME"
...
```

```
90 "HERE": (do something) @ "THERE": (do something) @ "HOME": (do something)
```

Best regards from V.

Edited: 16 Nov 2005, 10:05 a.m.

Re: Advanced/improved RPN calculators

*Message #22 Posted by **Karl Schneider** on 17 Nov 2005, 10:22 p.m.,*
in response to message #21 by Valentin Albillo

Hello, Valentin --

Thank you for the thoughtful reply.

I don't fully share your view on several points, though:

> Quote:
>
> Perhaps due to lack of familiarity with it, you fail to mention HP-71B's Math ROM complex number handling, which as far as I know, pioneered the 'ordered pair' mathematical concept for complex number handling, that is:
>
> 2 + 3i is represented as (2, 3)
>
> This format is highly favored in serious mathematics, as it has a number of advantages and, certainly, does away forever with the 'imaginary' stigma that complex numbers have historically been saddled with (still present in "i", short for "imaginary unit").

You are right about my "lack of familiarity": at the time of my original posting, I did not have a Math ROM or manual. Now I have both, but haven't thoroughly delved into it. I'm sure that the HP-71B Math ROM did pioneer some advanced complex-number capabilities that should be recognized.

Perhaps the "parenthesized" representation of complex numbers is favored in high-level math, but I'm not very enamored of it. For one, it could be confused with an ordered pair of coordinates or measured data at a point in time. True, complex numbers are graphically represented on a plane, but not every point on a two-dimensional plane is a complex number.

Also, I was more concerned with *numerical values* of complex numbers, not *expressions* of them. (A typical calculator display line could not hold an entire expression anyway.)

IMO, the HP-42S representation of, e.g.,

```
-3.141593 -i2.718282
```

is cleaner than the RPL-model representation of

```
(-3.141593,-2.718282)
```

This is especially true for complex-valued matrices, which on an RPN-based calc would be littered with parentheses, commas, and brackets.

As for the "stigma" of 'imaginariness', well -- I wouldn't know how to pay someone US$ sqrt(-1)...

In summary, my focus here is still expedient usage for calculators. I still think that my concept of an [+i*] or [i] key, handled like [EEX] or [E] would be ideal:

`[4][.][1][6][5][CHS][i][1][3][.][6][CHS]` would yield `-4.165 -i13.600`

The [i] key could be [g]-shifted to yield an angle symbol for polar-coordinate entry; it could be [f]-shifted to bring up a menu of complex-number functions.

Best regards,

-- KS

Edited: 17 Nov 2005, 10:27 p.m.

Re: Advanced/improved RPN calculators

*Message #23 Posted by **Howard Owen** on 17 Nov 2005, 11:23 p.m.,*
in response to message #22 by Karl Schneider

Here's another area where people differ according to their tastes. My approach to that would be to allow many different representations of complex numbers, but only one (rectangular form) at a time. As long as none were ambiguous, my preference would be to allow *your* preference. 8)

That's nice for the calculator as a personal machine. It gets less nice when you want to work on someone else's program. On the other hand, if I can select a particular form for complex numbers on *my* machine, then *your* program will look just fine to me when I load it there.

Re: Complex # representation

*Message #24 Posted by **Karl Schneider** on 18 Nov 2005, 1:07 a.m.,*
in response to message #23 by Howard Owen

Howard --

> Quote:
>
> My approach to that would be to allow many different representations of complex numbers, but only one (rectangular form) at a time.

This is what the 42S and RPL models already do. However, I disagree with the approach.

Voltage (V) and current (I) on an AC network are sinusoidal phasors that are invariably represented as complex numbers in polar coordinates.

Impedance (Z = R + jX) and admittance (Y = 1/Z = G + jB) are complex-valued non-phasors that are represented in rectangular form.

Complex power (S = P + jQ) is composed of real (active) and reactive power in rectangular coordinates.

Since I = (delta V) / Z, complex I (in polar coordinates) is the quotient of a difference of two complex numbers in polar coordinates, divided by a complex number in rectangular coordinates.

Since S = V * conj(I), complex S (in reactangular coordinates) is the product of two complex numbers in polar coordinates.

This is why, if I enter a complex number in one form, I do not like the calculator to change its representation when a different entry mode is selected. Remember, they are the same value in

either form, just shown differently.

-- KS

Re: Complex # representation

*Message #25 Posted by **Howard Owen** on 18 Nov 2005, 2:01 a.m.,*
in response to message #24 by Karl Schneider

I could be completely confused, (complex numbers do that to me sometimes,) but do you want to represent two complex numbers in two different *rectangular* styles in the same calculation? I don't know how the calculators do it, but if it were me, I'd allow polar and rectangular forms together, but not more than one style of the latter. I guess multiple rectangular styles would be OK, assuming an unambiguous syntax were preserved. But I'd think "A + Bi" in one place, and "C,D" in another would get pretty confusing.

Re: Complex # representation

*Message #26 Posted by **Karl Schneider** on 18 Nov 2005, 11:11 p.m.,*
in response to message #25 by Howard Owen

Howard --

I see that I may have misunderstood. I agree that complex numbers should be representable in only two ways -- one style in rectangular form, or one style in polar form. I would prefer the HP-42S style:

```
-3.00 -i4.00
5.00 <-126.87   (< = angle symbol)
```

over the HP-48 style:

```
(-3.00,-4.00)
(5.00,<-126.87)   (< = angle symbol)
```

but Valentin might not. ;-) (See other posts in this thread.)

My complaint with the 42S and the 48/49 models is that, when the user changes the entry mode between rectangular and polar, all complex-valued stack elements and register elements are displayed in the selected mode. I would prefer that all complex numbers be displayed in the format in which they were entered. My example showed "mixed-mode" calculations with complex numbers, wherein to change the display format would render values unmeaningful.

I suspect that the designers of the math capabilities did not have backgrounds in electrical power systems.

-- KS

Re: Complex # representation

*Message #27 Posted by **Howard Owen** on 18 Nov 2005, 11:38 p.m.,*
in response to message #26 by Karl Schneider

Quote:

.. I would prefer the HP-42S style:

```
-3.00 -i4.00
5.00 <-126.87   (< = angle symbol)
```

over the HP-48 style:

```
(-3.00,-4.00)
(5.00,<-126.87)   (< = angle symbol)
```

Got it. That's why I'd let you select your preferred rectangular display style, and Valentin could have his. In a modern machine, the memory and processor power to acheive that flexibility would be available.

Quote:

My complaint with the 42S and the 48/49 models is that, when the user changes the entry mode between rectangular and polar, all complex-valued stack elements and register elements are displayed in the selected mode. I would prefer that all complex numbers be displayed in the format in which they were entered. My example showed "mixed-mode" calculations with complex numbers, wherein to change the display format would render values unmeaningful.

I suspect that the designers of the math capabilities did not have backgrounds in electrical power systems.

Or perhaps the memory and/or CPU power weren't there to acheive multiple simultaneous representations. The conversion between rectangular and polar coordinates shouldn't have been a limitation in the HP-48, but the display resources might have been. You'd also have to make room in each complex object's storage for "preferred display mode" in order to implement mixed mode representation that tracked a user or (via default) a system preference. All that is doable, of course, but would have involved more overhead.

Regards,
Howard

Re: Advanced/improved RPN calculators

*Message #28 Posted by **Marcus von Cube, Germany** on 18 Nov 2005, 5:29 a.m.,*
in response to message #22 by Karl Schneider

Karl,

Quote:

True, complex numbers are graphically represented on a plane, but not every point on a two-dimensional plane is a complex number.

Are you sure? The set of real numbers *R* is a subset of the set of complex numbers *C* (with the imaginary part being zero.) So the hole plane is a represenation of the complex number set: Just take the x coordinate for the real part and the y coordinate for the imaginary part.

A two dimensional plane is just one way to represent *C*: It can likewise be treated as a vector space with each value represented by a length and an angle. This is what polar coordinates are all about.

Marcus.

Ordered pairs and complex numbers

*Message #29 Posted by **Karl Schneider** on 19 Nov 2005, 12:43 a.m.,*
in response to message #28 by Marcus von Cube, Germany

Marcus von Cube and Valentin Albillo took issue with my admittedly imprecise statement,

> Quote:
>
> True, complex numbers are graphically represented on a plane, but not every point on a two-dimensional plane is a complex number.

What I *meant* by that was, not every ordered pair -- which is typically graphed on an two-dimensional x-y or R-theta plane -- should be interpreted as a complex number.

- For example, calculated or observed points on a time-domain function could be represented as the ordered pair
(t, f(t)).
- Or, two separate characteristics (e.g., height and weight) of each person in a set could be organized as ordered pairs and plotted on an x-y graph to investigate correlation.

However, neither of these examples of ordered-pair data should reasonably be read and treated as a "complex number".

This is why I disfavor the parenthesized ordered-pair representation on the RPL-based calculators. A *bona fide* complex number could easily be confused with an ordered pair of (x,y) data intended for regression analysis, Fourier analysis, or other kind of curve fitting. But, in RPL, everything's gotta be an "object"; hence, the parenthesized ordered-pair.

Valentin also disagreed with several of my other statements, which I'd like to address:

> Quote:
>
> **K:** "(A typical calculator display line could not hold an entire expression anyway.)"
>
> **V:** In the case of the HP-71B, its 22-char display allows the representation of "(a, b)" at once in most practical cases.

Yes, but again, I'm focused on compact calculators. The small-character, two-line, free-format LCD of the HP-42S allows display of the following:

- up to 7 digits (including "E") of each component
- the "." for both
- "i" or "<" (angle symbol)
- one or two "-" if necessary
- a blank space between components

Example:

```
-30.0E102 -i40.0E102
```

That's 20 positions, plus the stack-level annunciator "x:" or "y:".

I favor the large, one-line display from the late HP-32SII. However, it has only 12 characters and a leading negative sign. With its interstitial decimals, such a display (or the 7-segment display from the HP-20S) would require five more positions for displaying an entire complex number with adequate precision in all cases. (And how would "SHOW" work? Hmm...)

> Quote:
>
> **K:**"As for the "stigma" of 'imaginariness', well -- I wouldn't know how to pay someone US$ sqrt(-1)..."
>
> **V:**You also don't know how to father 355/113 childs or -3.1415 childs, I presume, and that doesn't make rational or negative real numbers "imaginary".
>
> "Imaginary" is a stupid label attached to complex numbers for historical reasons, they aren't any less "real" than real numbers, and when you think about them as an ordered pair, the distinction all but vanishes, as (3,0) seems then as "real" as (0,3), don't you agree ?

Not the ideal analogy, I'd say. We live in the world of "real" numbers on the continuous and easily-comprehensible number line. In certain cases (e.g., count of persons), only discrete integers are meaningful. Negative numbers generally represent the polarity or orientation of a value or difference, but they still reside on that infinite line. The domain of negative numbers is like a mirror-image extension of the domain of positive numbers.

(However, it is known that the concepts of zero and negative numbers did cause considerable difficulty to certain ancient societies and mathematicians!)

In the domain of the complex-number plane, both components are equally important. Of course, a so-called "imaginary" number is merely a "real" number multiplied by the imaginary value sqrt(-1) to place it in a new, second dimension. Complex-number mathmatics offer us a powerful mathematical tool for analyzing quantities with two independent components -- especially those with sinusoidal characteristics.

"Imaginary numbers" should more-properly be termed "imaginary-*valued* numbers", if one doesn't believe that "imaginary" is pejorative.

Best regards,

-- KS

Edited: 19 Nov 2005, 3:26 p.m.

Re: Advanced/improved RPN calculators

*Message #30 Posted by **Valentin Albillo** on 18 Nov 2005, 5:33 a.m.,*
in response to message #22 by Karl Schneider

Hi, Karl:

Karl posted:

"For one, it could be confused with an ordered pair of coordinates"

That's the idea, precisely. Remember that this kind of representation is called "an ordered pair", not "a parenthesized representation". How you do typographically represent an ordered pair is up to you, but "(a, b)" is pretty usual. It could be "{a, b}" or "a|b", or whatever.

"complex numbers are graphically represented on a plane, but not every point on a two-dimensional plane is a complex number."

I disagree. There's a one-to-one correspondence between points in a 2-dimensional plane and complex numbers. Any point in a 2D plane is defined by its coordinates (x,y) which are an ordered pair, thus the representation of some complex number.

"(A typical calculator display line could not hold an entire expression anyway.)"

In the case of the HP-71B, its 22-char display allows the representation of "(a, b)" at once in most practical cases.

"IMO, the HP-42S representation of, e.g., -3.141593 -i2.718282 is cleaner than the RPL-model representation of (-3.141593,-2.718282)"

Again, I disagree, but then I'm strongly mathematically oriented, thus I'm myself quite comfortable dealing with this kind of notation. Also, it's mostly a matter of personal taste.

"As for the "stigma" of 'imaginariness', well -- I wouldn't know how to pay someone US$ sqrt(-1)..."

You also don't know how to father 355/113 childs or -3.1415 childs, I presume, and that doesn't make rational or negative real numbers "imaginary".

"Imaginary" is a stupid label attached to complex numbers for historical reasons, they aren't any less "real" than real numbers, and when you think about them as an ordered pair, the distinction all but vanishes, as (3,0) seems then as "real" as (0,3), don't you agree ?

Thanks for your interesting comments, it's always a pleasure to read your posts.

Best regards from V.

Re: Advanced/improved RPN calculators

*Message #31 Posted by **Andrés Rodríguez (Argentina)** on 18 Nov 2005, 7:01 p.m.,*
in response to message #30 by Valentin Albillo

I may add to Valentín's comments that there are some physics concepts (physics are real enough for me) in fields like electric power, radio, audio, airfoil design, etc. that are very difficult to understand or explain without resorting to complex numbers. If you are talking to a complex-aware audience, such concepts are most easy to present and discuss.

Given the very particular economical situations we have lived thru in Argentina some years ago (certainly not a matter of national pride, quite the opposite), I have already posted here a possible approach to explain such facts using a complex currency. For instance, a complex money amount deposited at a complex interest rate may give a negative balance if you are not fortunate enough with your deposit-withdrawal timing. You deposit $ 1000, wait for a certain amount of time and... you have $ -100 (!!). But, if you wait for a couple of extra years, you may have $ 500 again, and you will view such outcome as a winning proposal.

Our brazilian neigbors currency sign is the "REAL", or R$; so if argentinian currency someday becomes the "IMAGINARY", denoted as i$, our newborn common market, the Mercosur, may have a common currency which will be truly "complex" indeed.

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New version of SandMath-III

*Message #1 Posted by **Ángel Martin** on 14 Nov 2005, 11:07 a.m.*

Just to let you all (interested) know that a new version of the SandMath-III module is available at the usual site.

Also added to the module image are the QRG and the "blueprints" (i.e. source code listings).

Hope you find it useful, enjoy!

ÁM

Re: New version of SandMath-III

*Message #2 Posted by **Matthias Wehrli** on 14 Nov 2005, 11:59 a.m.,*
in response to message #1 by Ángel Martin

Can you let us knon the difference between the old and the new version? Why didn´t you change the CAT2 outpout to verify the version?

Matthias

Re: New version of SandMath-III

*Message #3 Posted by **Vieira, L.C. (Brazil)** on 14 Nov 2005, 3:54 p.m.,*
in response to message #1 by Ángel Martin

Hi, Ángel;

thank you for the updated version.

Please, forgive me asking this particular question: is it available through TOS? If so, is it just to follow existing SandMath-III link?

In time, I asked for a copy of the QRG and did not receive it (maybe I spelled the wrong e-mail address). Is the QRG available through TOS, too?

If not, would you re-send it, please?

lcvieira (at) quantica (dot) com (dot) br

Thanks you and sorry for the inconvenience... d8^)

(BTW, the 41Z.ROM is a wonderfull achievement, congratulations. Do you think that separating a block of, say, six registers in main memory, like it is done with appointments and assignments, and use these registers to emulate a complete, four-register complex stack would enlarge too much the original 41Z size? I mean, considering that separating a block of registers this way is possible. Just one thought...)

Luiz (Brazil)

Re: New version of SandMath-III

*Message #4 Posted by **Ángel Martin** on 15 Nov 2005, 3:04 a.m.,*
in response to message #3 by Vieira, L.C. (Brazil)

Hi Luiz,

Yes, everything is available at TOS (ROM image, QRG, and blueprints). Just go to the What's new section and there you'll see it.

As per enhancements to the 41Z, yes of course a 4-level complex stack will be a quantum leap (not that it doesn't work fine now, with its 2,5 level). Better yet than reserving a block of registers I thought about a dedicated memory buffer to hold the imaginary parts. Size won't be a problem (the ROM isn't full by far), but afraid time is... will have to wait for a while given my current time-management crunch!

Best, ÁM

Re: New version of SandMath-III (downloaded!)

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 15 Nov 2005, 1:31 p.m.,*
in response to message #4 by Ángel Martin

Hi, Ángel;

than you for your guidance. Also, thanks to Matthias, who helpped me as well through e-mail.

About the virtual stack, some facts called my attention. The CCD-ROM allows creating matrices in two ways: one is by 'marking' regular, existing registers, and the other is by creating specific files in X-memory, both ways to hold matrices data. The HP41 itself uses 'uncommited' registers to store either assignments or appointments. Also, the HP15C uses some sort of parallel technic to handle imaginary stack registers. That's why I thought about the 4-level complex stack. And implementing it might lead to a detailed look at how to handle uncommited registers when using complex resources, and mostly how to leave them back to the operating system without disturbing.

Just guesses, I never programmed in MCODE. And thinking of the fact that this is a specific, 26 Y.O. technology, makes me think of the time spent to assimilate it...

Thanks again.

Luiz (Berazil)

Re: New version of SandMath-III (downloaded!)

*Message #6 Posted by **Raymond Del Tondo** on 18 Nov 2005, 8:50 p.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

Hi,

creating and maintaining a buffer for the complex parts
and some status data wouldn't be a problem.

Just use the least expensive buffer maintaining routine.
The one of the CCD ROM is too complicated for this,
because it has to handle several additional things,

like seeds, matrices, other buffers, etc...
Maybe the one of the Extended IL or the Advantage Pac
should be suitable, using an appriorate buffer number, of course;-)

Raymond

Re: New version of SandMath-III

*Message #7 Posted by **Marcus von Cube, Germany** on 17 Nov 2005, 1:22 p.m.,*
in response to message #1 by Ángel Martin

Hi Ángel,

the two PDFs ...low and ...up start with "PDF-1.6" and cause my older Acrobat Reader to fail. I've no way of upgrading. Would it be possible to recreate the document with an older PDF level (PDF-1.4, like the QRG?)

Marcus

Re: New version of SandMath-III

*Message #8 Posted by **Ángel Martin** on 18 Nov 2005, 3:48 a.m.,*
in response to message #7 by Marcus von Cube, Germany

Marcus,

did you try upgrading to a more current Acrobat version? As far as I know you can get it free from the Adobe site.

I can send you a pdf-3-compatible version of the QRG (not the blueprints though), just let me know your email address.

Best, ÁM

Re: New version of SandMath-III

*Message #9 Posted by **Meindert Kuipers** on 18 Nov 2005, 4:34 a.m.,*
in response to message #8 by Ángel Martin

Angel,

I was wondering how you create the blueprints. Do you use a special tool for this or is it handwork (all the arrows) in Excel or Word?

Meindert

Re: New version of SandMath-III

*Message #10 Posted by **Marcus von Cube, Germany** on 18 Nov 2005, 5:17 a.m.,*
in response to message #8 by Ángel Martin

Ángel,

> Quote:
>
> did you try upgrading to a more current Acrobat version? As far as I know you can get it free from the Adobe site.

...only if you run Windows as your main system; mine is OS/2. I can still read the docs on one of my other computers. I'll probably print them out from my Mac mini.

> Quote:
>
> I can send you a pdf-3-compatible version of the QRG (not the blueprints though), just let me know your email address.

PDF-4 is fine, the QRG opens without problems. What are the reasons to prepare the blueprints in the new PDF format? Any formatting which is not possible with older versions?

Marcus

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HP-65 back label replacement

*Message #1 Posted by **Thomas** on 14 Nov 2005, 7:50 a.m.*

Recently I've repaird two HP-65 and for one of them I'd like to replace the back label by a new one. The former owner just pushed a hole into the lable to unsrew the back cover. I remember seeing on eBay someone selling replacement lables some time ago. If someone knows, where to get and maybe can give me some advice if the lables are worth to pay for in case of material and visual appearance. Cheers Thomas

Re: HP-65 back label replacement

*Message #2 Posted by **Gordo** on 16 Nov 2005, 12:55 a.m.,*
in response to message #1 by Thomas

I purchased a replacement label for my 35 from eBay. The label is printed on thick foil with adhesive on one end, and it fit the 35 perfectly.

However, I do notice that the printing on the back does come off easily compared to the original label. I held it once again another HP back to back. And the label was scratched in multiple places in the process. I have not seen similar problem with my other HP Classic series with the original label.

So if you decide to get it, you should be extremely careful with what you rest the calculator on.

Re: HP-65 back label replacement

*Message #3 Posted by **Thomas** on 16 Nov 2005, 2:24 a.m.,*
in response to message #2 by Gordo

Thank's for your coments. I was expecting something like that. Maybe this can be improved by some kind of transparent hard coating afterwards. Do you still have the seller contact information available?

Re: HP-65 back label replacement

*Message #4 Posted by **Etienne Victoria** on 18 Nov 2005, 12:52 a.m.,*
in response to message #3 by Thomas

Yes, his Ebay Id is obh8899

Etienne

Re: HP-65 back label replacement

*Message #5 Posted by **Gordo** on 24 Nov 2005, 9:04 p.m.,*
in response to message #3 by Thomas

Yes, I think the best thing to do is to apply the new label, then put a piece of wide transparent tape over it to protect it. Or those PDA screen protector may work as well (which is less shiny).

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HP 71B factory reset

*Message #1 Posted by **inaki** on 14 Nov 2005, 7:42 a.m.*

Is there a way to factory reset the 71B ?

Re: HP 71B factory reset

*Message #2 Posted by **Diego Diaz** on 14 Nov 2005, 1:20 p.m.,*
in response to message #1 by inaki

Hi,

Just press and hold [/] while pressing [ON]

You'll see "INIT: 1" on the display

Press [3] to change it into "INIT: 3" (full reset)

and then [END LINE] to execute.

You'll get "Memory Lost"

Cheers.

Diego.

Re: HP 71B factory reset

*Message #3 Posted by **inaki** on 14 Nov 2005, 7:45 p.m.,*
in response to message #2 by Diego Diaz

Following this sequence I cannot get the intended message 'memory lost'. The calculator locks when I press end-line, after changing INIT:1 to INIT:3.

Thereafter I cannot return back to the starting point! The only thing I can do is entering the same INIT loop again! What happens here ?

Re: HP 71B factory reset

*Message #4 Posted by **Garth Wilson** on 14 Nov 2005, 8:02 p.m.,*
in response to message #3 by inaki

After non-BASIC programming mistakes, there was a time or two I had to remove the batteries, short the terminals together, and hold the ON button down for awhile to get it back on its feet again. I also had to do this after making the mistake of doing something like DIM D$[128](30) (with the maximum string length and the array size in the wrong order) in a text file and then TRANSFORMing to BASIC. There's a serious bug there that causes a crash that even INIT:3 won't always bring it back from.

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HP-85 disassembler?

*Message #1 Posted by **Vassilis Prevelakis** on 13 Nov 2005, 11:42 p.m.*

i.e. a program that creates assembly source from HP-85 binary programs?

Thanks

**vp

Re: HP-85 disassembler?

*Message #2 Posted by **Olivier De Smet** on 14 Nov 2005, 1:41 a.m.,*
in response to message #1 by Vassilis Prevelakis

I have a buggy one in Python language, tell me if you are interested.

It's a VERY buggy one :) used to disassemble ROM and binaries so you should help it a bit.

Olivier

Re: HP-85 disassembler?

*Message #3 Posted by **Patrice Torchet** on 15 Nov 2005, 11:21 a.m.,*
in response to message #1 by Vassilis Prevelakis

Hi, Do you want an HP85 binary disassembler as a binary for HP85, along with source code ? If yes, let a little time to put my hand on it.

regards Patrice

Re: HP-85 disassembler?

*Message #4 Posted by **Vassilis Prevelakis** on 16 Nov 2005, 6:04 a.m.,*
in response to message #3 by Patrice Torchet

```
Patrice Torchet wrote:
> Do you want an HP85 binary disassembler as a binary for HP85,
> along with source code ? If yes, let a little time to put my hand on it.
```

Absolutely. This is even better than a dissembler running on another platform (keeps it in the family, so to speak :-)

Please post here when you find it, or send me email via www.series80.org

Best Regards

**vp

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Weird HP-21S problem

*Message #1 Posted by **bennyboy6** on 13 Nov 2005, 11:16 p.m.*

Hi, I realize this forum is not for ads and I am not trying to use it as such. I ran into a weird issue while listing an HP-21S on eBay. It doesn't work right when I hold it vertically, but works fine when it's placed horizontal on a table.

Have any of you ever heard of a weird orientation issue like this?

A broken connection inside, maybe...

*Message #2 Posted by **Karl Schneider** on 13 Nov 2005, 11:30 p.m.,*
in response to message #1 by bennyboy6

... such that gravity pulls a lead away from its normal point of connection?

If it isn't fixed, you should idntify the calc as non-operational. It may be worth fixing, because the 21S isn't as common as many other models.

-- KS

Re: A broken connection inside, maybe...

*Message #3 Posted by **bennyboy6** on 14 Nov 2005, 8:27 a.m.,*
in response to message #2 by Karl Schneider

When I listed, I discussed this problem of course! Non-operational is a little strong, because it is partially operational. I didn't list it as "untested" like some less scurpulous people do.

Re: Weird HP-21S problem

*Message #4 Posted by **Wayne Brown** on 14 Nov 2005, 5:33 p.m.,*
in response to message #1 by bennyboy6

> Quote:
>
> Have any of you ever heard of a weird orientation issue like this?

I once read about an even weirder issue involving a mainframe computer. The operator complained that the computer would run flawlessly while he was in the room, but every time he returned from the bathroom he would find the mainframe had crashed while he was gone. It took a while to track down the problem, which was a faulty connection inside one of the mainframe's cabinets. That cabinet was against a wall that the computer room shared with the bathroom. When the toilet was flushed the water pipes in the wall would vibrate; that vibration was transmitted through the wall into the cabinet, causing the intermittent connection to fail and bring down the system.

The same place where I read that story had another weird one. A user reported that her user id and password would work *only* if she was sitting down. If she tried to log in while standing up it would give her an "invalid id or password" error. The tech support guy thought she was nuts, but he watched her logging in, and sure enough she was right. Closer inspection revealed the problem. She was a touch typist, and while sitting down she would type without looking at the keyboard. But when she was standing up she couldn't place her hands on the keyboard in their normal positions, so she would type with one or two fingers while looking at the keys. Sometime in the past someone apparently had dropped the keyboard and a couple of the keycaps had popped off, and they had been switched when they were put back on. As long as she was touch-typing she hit the right keys by habit, but when she looked at the keys she pressed a wrong one because it had the wrong label.

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Thank you.

*Message #1 Posted by **Geir Isene** on 13 Nov 2005, 11:01 p.m.*

I just want to take the opportunity to thank everyone in this forum.

It is good that all of you help breathe life into the HP forum. It is neat that others out there help fuel my passion for old HP calculators.

-> Geir :)

Re: Thank you.

*Message #2 Posted by **Ed Look** on 14 Nov 2005, 2:25 p.m.,*
in response to message #1 by Geir Isene

I suspect, sir, you are welcome!

These are really great folks who frequent this here joint.

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HP 48g+: How do I solve multiple eqns with multiple variables?

*Message #1 Posted by **Tiffany** on 13 Nov 2005, 8:00 p.m.*

I have a hp 48g+ calculator. I need to solve multiple equations (containing complex number) with multiple variables but I do not know how. I was trying to follow the section in the user manual about solving multiple eqns with the Multiple Eqn Solver but I kept getting errors. Can anybody help me with this please? This relates specifically to solving AC circuits using nodal analysis. Thanks! Tiffany

Re: HP 48g+: How do I solve multiple eqns with multiple variables?

*Message #2 Posted by **Gerson W. Barbosa** on 13 Nov 2005, 10:55 p.m.,*
in response to message #1 by Tiffany

Say your equations are:

```
'7*V1 + 11*(V1-V2) = 3'
'5*V2 + 11*(V2-V1) = 2'
```

Your system matrix should be:

```
     A       *   X    =    B

| 18  -11 |   | V1 |     | 3 |
|         | * |    |  =  |   |
| -11  16 |   | V2 |     | 2 |
```

All you have to do is the following:

```
[ [ 3 ] [ 2 ] ]

ENTER

[ [ 18 -11 ]  [ -11 16 ] ]

/
```

(in fact, the actual operation is X=B*[A]^-1, since matrices cannot be divided one by another)

you should obtain

```
[ [ .419161676647 ]
  [ .413173652695 ] ]


Or V1 = 0.419161676647 and
   V2 = 0.413173652695
```

(Of course, you could have complex numbers in your equations, like (3,/_120) or (1.5,2.6) for instance.)

Or just read the manual at page 18-11 (Solving a System of Linear Equations:)

Green arrow SOLVE ^ ^ OK. Perhaps you find this easier.

You can also use the program below and enter your equations exactly as they appear:

```
'7*V1 + 11*(V1-V2) = 3'

ENTER

'5*V2 + 11*(V2-V1) = 2'

ENTER

{ V1 V2 }

SYS
```

You would get a menu with

```
V1 = 70/167

V2 = 68/167

MAT = [ [ 18 -11 3 ]
        [ -11 16 2 ]]

EQS = (a list with the two equations)

For clean-up, use .<- (all objects at left will be purged)
```

Regards,

Gerson.

Program by Francisco Matheus, who has authorized his free use. He was one of my colleagues in Circuit Analyses classes many years ago. At the time, we ran this program on our 28S's. It was useful as we didn't to rework the equations by hand to obtain the system matrix. This saved some time for larger systems (up to 5 x 5). If results in rational form are not needed, use ->NUM or change the program.

```
%%HP: T(2)A(D)F(.);
DIR
  ·\<-
    « VARS 1 OVER
'·\<-' POS 1 - SUB
PURGE
    »
  SYS
    « DUP SIZE \-> l
n
      « n \->LIST
'EQS' STO 0 n
        FOR i 1 n
          FOR j i j
== 1 0 IFTE l j GET
STO
          NEXT 1 n
          FOR j '
EQS(j)' \->NUM
          NEXT n
\->ARRY i
          IF NOT
          THEN NEG
'VET' STO
          ELSE VET
```

```
+ ARRY\-> DROP
          END
        NEXT { n n
} \->ARRY l PURGE TRN
CONJ 'MAT' STO VET
MAT / n 1
        FOR i DUP i
GET \->Q l i GET STO
-1
        STEP DROP
MAT VET n 1 + COL+
'MAT' STO 'VET'
PURGE
      »
    »
END
```

Re: HP 48g+: How do I solve multiple eqns with multiple variables?

*Message #3 Posted by **Tiffany** on 14 Nov 2005, 10:16 a.m.,*
in response to message #2 by Gerson W. Barbosa

Thanks for the information. I wanted to just be able to put the equations in my calculator as is after finding them from the circuit since the problems usually entail at least 4 equations. I know the TI 89 can do this with a function called 'C Solve' which most of my classmates have. On the test I will not have time to simply these kinds of problems.

One of my problems looks like this:

1) V1-V2 = 10Ix

2) V1/j20 + (V1-V3)/20 + V2/10 + (V2-V3)/-j10 = 0

3) V3/j10 + (V3-V2)/-j10 + 2<-45 + (V3-V1)/20 = 0

4) Ix = -V3/j10

where: j is sqrt of -1 all V's and I are phasors 2<-45 is 2 angle -45

And if the HP 48g is not able to do this, do you know if the 49 is able to do so? I have had my calcualtor for about 8 years and I was thinking of upgrading anyways. Thanks again for the help! Tiffany

Re: HP 48g+: How do I solve multiple eqns with multiple variables?

*Message #4 Posted by **Gerson W. Barbosa** on 14 Nov 2005, 12:39 p.m.,*
in response to message #3 by Tiffany

Using the given program, you'd enter the four equations and the list of unknowns on the stack:

```
'V1-V2 = 10*IX'

'V1/(0,20) + (V1-V3)/20 + V2/10 + (V2-V3)/(0,-10) = 0'

'V3/(0,10) + (V3-V2)/(0,-10) + (2,|_-45) + (V3-V1)/20 = 0'

'IX = -V3/(0,10)'

{V1 V2 V3 IX}
```

In the second equation, |_ stands for the angle symbols (right arrow + SPC). Notice that if your calculator is in rectangular mode, as soon as you enter this equation (2,|_-45) will be automatically

converted to rectangular coordinates.

After entering these five objects, just press SYS. The answer will show up in about 15 seconds. It is necessary to press left arrow + EVAL, that is, ->NUM, since the answer will be in a rational form. It will be convenient to identify the section at the end of the program that does this and eliminate it.

If I haven't made any mistake, the answer will be:

```
V1=(-1.886,-24.513)
V2=(-1.886,-5.657)
V3=(-18.856,0.000)
IX=(0.000,-1.886)
```

Change the coordinate mode to polar, if you need the answer this way. You might want to press EQS in the menu, then VIEW, and check if the equations were keyed in correctly.

You should replace IX in the first equation with -V3/(0,10), so that you have to solve a 3x3 system rather than a 4x4 one.

As you can see, there's no need to upgrade your 48G+ just because of this. By the way, I haven't been able to put this program to work in the 49G (perhaps I should also read the manual).

Regards,

Gerson.

P. S.:

You can copy and paste the program to a file named LSYS, for instance, and then transfer it to the 48G+ (ASCII, cksum=3, translate=2). Or create a directory named 'LSYS' and key in both programs.

Just replace

\<- with <- (right arrow + 0)

Save the first program as '.<-' and the second as 'SYS', in this order.

Re: HP 48g+: How do I solve multiple eqns with multiple variables?

*Message #5 Posted by **Tiffany** on 14 Nov 2005, 1:31 p.m.,*
in response to message #4 by Gerson W. Barbosa

Thank you so much for your help!! Tiffany

Re: HP 48g+: How do I solve multiple eqns with multiple variables?

*Message #6 Posted by **Ed Look** on 14 Nov 2005, 2:40 p.m.,*
in response to message #5 by Tiffany

Hold on to that 48G+!! It's hard to "upgrade" that unless you get a 48GX or... dream of dreams... get a 41CX!

Re: HP 48g+: How do I solve multiple eqns with multiple variables?

*Message #7 Posted by **Gerson W. Barbosa** on 14 Nov 2005, 3:25 p.m.,*

in response to message #5 by Tiffany

You're welcome!

I wrote:

> Quote:
>
> It will be convenient to identify the section at the end of the program that does this and eliminate it.

Just remove \->Q in the 9th line from the last.

Correction: This program won't run on the HP-28S and on the 48 series, because they lack the COL+ instruction . This is due to a slight modification I made later. Matheus's original program ends like this:

```
    FOR i DUP i GET
l i GET STO -1
    STEP VET ARRY\->
DROP {n 1} \->ARRY
'VET' STO DROP
  »
»
```

Regards,

Gerson

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HP 97 card reader rebuild, How many white beads

*Message #1 Posted by **Frederick Harvie** on 13 Nov 2005, 6:56 p.m.*

I have a HP 97 card reader apart for a rebuild and I can't tell wether I have lost a bead . I have 4 but there seems to be place for 5. On the other hand if I use all 5 spots it appears that 2 of them would make the same contact.

Re: HP 97 card reader rebuild, How many white beads

*Message #2 Posted by **Katie Wasserman** on 13 Nov 2005, 7:10 p.m.,*
in response to message #1 by Frederick Harvie

There are 4 balls and one roller. Look here: http://www.hpmuseum.org/guest/davis/97repair/step13.jpg . The balls are easy to replace, Small Parts sells exact replacements http://www.smallparts.com/products/descriptions/bn.cfm; the nylon roller is another issue -- I hope that you didn't lose that!

Re: HP 97 card reader rebuild, How many white beads

*Message #3 Posted by **Tony Duell** on 14 Nov 2005, 1:40 p.m.,*
in response to message #2 by Katie Wasserman

One of my 67's has a brass roller, not the official HP plastic one. It was missing when I was given the machine, I didn't have a spare, so I spent a little time turning a replacement from a bit of scrap brass....

I don't recomend this :-)

WOW, that's impressive!

*Message #4 Posted by **Mike H** on 14 Nov 2005, 3:33 p.m.,*
in response to message #3 by Tony Duell

> Quote:
>
> One of my 67's has a brass roller, not the official HP plastic one. It was missing when I was given the machine, I didn't have a spare, so I spent a little time turning a replacement from a bit of scrap brass....

Having lost two of those tiny rolling pins during the same card reader repair, I could not imagine trying to turn one out on a lathe! Maybe if I had a micro-CNC machine and an electron microscope.... still, no.

Mike

Re: WOW, that's impressive!

*Message #5 Posted by **Tony Duell** on 15 Nov 2005, 8:08 a.m.,*

in response to message #4 by Mike H

CNC, we don't need no CNC :-)

No, I made it by hand on a Myford 7... Unlike most UK lathe owners, I didn't get this machine to make model steam engines, I got it to make spare parts and special tools for vintage computers, calculators and other electronic/mechanical devices

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Update & sales

*Message #1 Posted by **Matthias Wehrli** on 13 Nov 2005, 2:46 p.m.*

Just some updates on my website: new datas, new pictures, new HP-41 module list (sorry, I,ve had some bugs in the last version).

Second, I have some new items for sale on ebay, just look for the seller "hp-collection". (Yes, I know that is not the correct place here for this, but I wanted to let you know all news in one line.)

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Special Functions 2 Finished

*Message #1 Posted by **Eddie Shore** on 13 Nov 2005, 12:45 p.m.*

Special Functions 2 expands on the Special Functions library, and contains new functions which include:

* Set Theory (Union, Intersect, Relative Compliment) * Complex Analysis (Derivative [Cauchy-Reimann Equation Test], Gradient) * Stopwatch (that flicks on and off Flag +83) * Expanding the library on special functions (Si, Ci, Li, Ei, GD, Zeta, now with Roman Factorial, Pochhammer Function) * Number Theory (Perfect Integer test, Arithmetic-Geometric Mean, Bernoulli Numbers [5 decimal place approx], and Fibonacci Numbers) * Two week calendar: just give the date and the calculator displays this week and next week * Finance (including net present value, internal rate of return, depreciation, net future value, PITI)

* Includes six One-Minute Marvels [Joseph Horn, Wlodek Mier-Jedrzejowicz and Richard Nelson] ported from the 48 series.

* FHELP - lists the syntax of each command. * FMENU - a choose menu that allows the user to choose the command easily

I will be posting on www.hpcalc.org today, but I will be happy to send the file for anyone interested.

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EPROM module for HP71B

*Message #1 Posted by **Thomas Falk** on 13 Nov 2005, 9:16 a.m.*

Hi folks,

I have a HP71b with an EPROM module made by a company called Hand Held Products. It contains a 32KB EPROM with an application for hospitals, which is not very usefull for me.

I found the dump of the JPC-ROM some time ago in the web and would like to use it with this module. Do I have to take care of something when burning the EPROM, or when inserting it in the HP71?

I have tried it, but the HP71 doesn't seem to use the new EPROM.

Any hints?

Thanks,

Thomas

Re: EPROM module for HP71B

*Message #2 Posted by **J-F Garnier** on 13 Nov 2005, 2:37 p.m.,*
in response to message #1 by Thomas Falk

I didn't program an EPROM for the HHP since a long time, but I remember that the content of the EPROM is complemented, i.e. EPROM's 00 bytes are read as FF, and FF bytes are read as OO. I believe it was designed so an empty EPROM (full of FF) behaves like non-exiting memory (returning 0, the RTNSXM opcode).

J-F

Re: EPROM module for HP71B

*Message #3 Posted by **Bill (Smithville, NJ)** on 13 Nov 2005, 7:44 p.m.,*
in response to message #1 by Thomas Falk

Hi Thomas,

If possible, please save copy of eprom file of the Hospital Application. While I have no use for it, there's probally someone here that might want to see it. I don't know how the dump would be done, but I'm sure someone here knows how to do it.

I just hate to see any application disappear.

Bill

Re: EPROM module for HP71B

*Message #4 Posted by **Diego Diaz** on 14 Nov 2005, 1:26 p.m.,*
in response to message #3 by Bill (Smithville, NJ)

Hi Thomas,

In line with Bill's previous post, and if you dont have the time/equipment/skills to perform the EPROM copy, just let me know.

I'll gladly send you a pair of blank ERPOM chips (of the same type) so you can re-program your module without having to erase the original Hospital application.

Diego.

NOTE: Of course, the above offer is ovbiously free of charge.

Edited: 14 Nov 2005, 1:28 p.m.

Re: EPROM module for HP71B

*Message #5 Posted by **Thomas Falk** on 14 Nov 2005, 3:04 p.m.,*
in response to message #4 by Diego Diaz

Hi Bill and Diego,

do not fear!

If I get a new (old) computer, the first thing is to read the EPROMs, just in case.

The application on my HP71 is calling itself STAT-TRAC/RT and made by STAT Systems Inc.. This company still exists, have a look at http://www.statsystems.com/.

Is there a place for storing such EPROM images somewhere in the web?

Hopyfully I will have time to test the tip given by J-F. at the weekend.

Bye,

Thomas

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nonpareil HP 41 emulator

*Message #1 Posted by **Guido Ostkamp** on 13 Nov 2005, 8:42 a.m.*

Hello,

I am using the "nonpareil" emulator for HP41 C/CV/CX available at http://nonpareil.brouhaha.com. Unfortunately the mailing lists mentioned at the site don't work, which is why I ask the following question here:

Does somebody know how to address the USER, PRGM, ALPHA, SHIFT(GOLD), SST and R/S keys using the keyboard only?

Every other key works when pressing the usual digit or character for alpha mode.

Regards,

Guido

Re: nonpareil HP 41 emulator

*Message #2 Posted by **Eric Smith** on 13 Nov 2005, 2:30 p.m.,*
in response to message #1 by Guido Ostkamp

There's not currently any standard keyboard mapping for that. You can edit the keyboard mapping in the files 41cv.kml and 41cx.kml. The lines that begin with "scancode" control that. Example:

scancode 105 map 105 24 end # i

is the line that maps the "i" key on the keyboard to row 2 column 4 of the keyboard.

The numbers after "scancode" and "map" have to match. The values that are available may be found in gdkkeysyms.h .

You're welcome to suggest some standard mappings for those keys.

I'm considering F4 for ON, F5 for USER, F6 for PRGM, and F7 for ALPHA, F8 for SST, F9 for R/S, and TAB for shift (gold). If you want to try those, you can use these KML files:

- 41cv.kml
- 41cx.kml

Re: nonpareil HP 41 emulator

*Message #3 Posted by **Guido Ostkamp** on 13 Nov 2005, 3:14 p.m.,*
in response to message #2 by Eric Smith

Hi Eric,

Quote:

There's not currently any standard keyboard mapping for that. You can edit the keyboard mapping in the files 41cv.kml and 41cx.kml.

You're welcome to suggest some standard mappings for those keys.

---

thanks for the modified files. I would like to suggest to stay compatible to Warren Furlows windows emulator as closely as possible. I think he uses F1 for help, then F2 for POWER, F3 for USER, F4 PRGM, F5 for ALPHA as well as Shift for Shift as far as I remember.

By the way: I send you email twice now (today and back in October) to the address given on your webpage because of the disfunctional mailing lists, but never got anything back. I hope your email address there works and is read.

Also hope the picture postcard that I sent from my location (Munich, Germany) some weeks ago to honor the QSL idea has reached you.

Best regards,

Guido

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So hot!!!! Check out this case!

*Message #1 Posted by **Han** on 13 Nov 2005, 12:43 a.m.*

Awesome HP32 / HP42 case

Re: More pictures of HP luxury case for 32/42 series

*Message #2 Posted by **Han** on 13 Nov 2005, 1:55 p.m.,*
in response to message #1 by Han

> Quote:
>
> Awesome HP32 / HP42 case

Some new photos were added to this listing. Does anyone know when this type of case was produced? I don't ever recall seeing them in the EduCalc catalogues.

Re: More pictures of HP luxury case for 32/42 series

*Message #3 Posted by **Bill (Smithville, NJ)** on 13 Nov 2005, 7:52 p.m.,*
in response to message #2 by Han

This is the second case like this I'm seen for sale. The same seller offered one last year on e-bay. I tried to bid on it, but the price went way too high before I even had a chance to bid.

At the time I asked the same question here, but no one seemed to know. The best guess was that it was some sort of presentation case that HP may have used.

With the way it's hinged, I really don't think it would make a good case for daily use. The Astech hard case is much better for that.

But it is a pretty neat case.

Bill

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32sii increased availability on Ebay (?)

*Message #1 Posted by **ECL** on 12 Nov 2005, 8:28 p.m.*

Hi all,

I've noticed alot of 32sii's on Ebay lately. Quite a few of the latest silver bezels (NIB) and they always have a BuyItNow price of about $400.

In terms of use-time, the majority of my time was spent on the 32sii until it died this summer. Since, I've been using a few 33s', and currently have the improved radix display with spaced out numbers. I'd say that the only misgiving I can think of is the canted key rows.

I've adjusted well enough to the ENTER key, and find the PLUS pad to be convenient for programming. But seeing so many 32sii's for sale has refired my want for one. The 32sii never caused me any grief, despite its memory deficiency. I even benefitted from that, being forced to get inventive with my programs.

Bullets:

```
1. Is the silver bezel keyboard reliable ($400-worth of reliability)?
2. I am also quite hesitant to fork over 0.4k for a memory-shy unit.
3. Does anyone here wish to sell a spare?


(I'm still in school, which underscores my hesitation to spend a semester's worth of books on
something I can't test for functionality).
```

Thanks, ECL

Re: 32sii increased availability on Ebay (?)

*Message #2 Posted by **Nguyen** on 12 Nov 2005, 8:29 p.m.,*
in response to message #1 by ECL

$400 means its about a buck per byte

:P

Re: 32sii increased availability on Ebay (?)

*Message #3 Posted by **Stephen Easterling** on 13 Nov 2005, 1:57 p.m.,*
in response to message #1 by ECL

I have owned both and would not buy the 32SII with silver bezel. It is not because of functionality. In fact, it looks great and works extremely well. The only problem I had was with the lack of contract between the colors chosen for the shifted keys and funtions. It looks nice to hold in your hand, but when you start using it on a day-to-day basis, the lack of contrast and visibility will aggrivate you very quickly and you'll soon want to get rid of it. I now own both the brown 32SII and the 33S and keep the brown 32SII safe at home and use the 33S at work. If I were you, stick with the 33S. After two days I got used to its chevron-shaped keys and love its speed and display (and looks!).

Re: 32sii increased availability on Ebay (?)

*Message #4 Posted by **Howard Owen** on 13 Nov 2005, 3:05 p.m.,*
in response to message #3 by Stephen Easterling

I agree. It surprised me how fast the weird looking keys on the 33S became a non-issue. The small enter key was harder. Not so much for its size but for its location. But that too became natural after a few hours of use.

Re: 32sii increased availability on Ebay (?)

*Message #5 Posted by **bill platt** on 14 Nov 2005, 12:03 a.m.,*
in response to message #1 by ECL

There is *no* reason to spend US$400 on a 32sii. They just aren't worth that much.

32sii prices have actually come down on bid auctions. Foir a while, they were topping $200. Y oucan now easily get one for between $100 and $130 if you are patient.

But you might as ell switch to the 33s.

Re: 32sii increased availability on Ebay (?)

*Message #6 Posted by **brian heally** on 14 Nov 2005, 12:58 p.m.,*
in response to message #1 by ECL

I agree with the others-don't get the silver bezel 32sii. A few years past I tried to replace my old 32sii because some keys were loosened, probably the result of being dropped several times, and having stacks of books fall on it. Once it got speared by an aluminum stick file. But it still kept on working. This is one of the earlier units from Singapore with the double shot keys. I ordered a new one from HP, and was horrified over what they had done to the 32sii. The choice of green and "lilac" colors is unexcusable, and the quality was way down, with numerals painted on the keys, and many of the keys also make annoying snapping sounds. I then got myself an older version of the 32sii on ebay for about $150, but this was berfore the 33s came out.

Now that HP has dealt with decimal point and keyboard issues, I consider the 33s a usable machine, and it is now my preimary use calculator. I still don't like the color scheme or the slanted keys-bad styling gimmicks. However, I find the green and purple of the revised 32sii to be more distasteful than the color scheme of the 33s, because the 32sii started out as a well designed and quallity machine, and then was taken downhill by degrading quality and design. At least with the 33s, the trend is one of improvement. I compare the choice of HP to change the color scheme and quality of the 32sii to the choice of Coca-Cola to come up with New Coke-a dumb move that almost nobody liked. At least Coke listened and did away with New Coke. On the other hand, I am grateful that HP still makes a basic RPN calculator, and the 33s is way better than nothing at all or getting ripped off on ebay.

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41cx on button

*Message #1 Posted by **Hal** on 12 Nov 2005, 7:41 p.m.*

Hi folks,
Does a 41cx On button actuate a discrete micro switch, or is it just part of the keyboard contact matrix.
Thanks, Hal

Re: 41cx on button

*Message #2 Posted by **Diego Diaz** on 12 Nov 2005, 8:01 p.m.,*
in response to message #1 by Hal

Hi Hal,

The CX (all 41 series for that matter) does not have microswiches.

Every key (including [ON]) is handled by the Nut processor keyboard matrix.

Hope this helps.

Diego.

Re: 41cx on button

*Message #3 Posted by **Hal** on 12 Nov 2005, 9:22 p.m.,*
in response to message #2 by Diego Diaz

Thanks Diego for your response.
I was afraid that would be the case with the on switch. My cx requires a bit of excessive pressure on the switch to turn it on or off. Is there a remedy for that?
Hal

Re: 41cx on button

*Message #4 Posted by **Diego Diaz** on 13 Nov 2005, 8:32 a.m.,*
in response to message #3 by Hal

It's a somewhat common problem on used machines.

Mostly due to some dirtiness between the steel key-dome and the KB PCB.

Light cleaning involves taking your 41 apart, turn the upper half (keyboard) upside down, place one drop (means *just* one) of iso-propyl-alcohol thru the small PCB hole under the afected key(s) while repeatedly pressing such key.

This will fix mostly any not-so-bad key contact. For the severe cases (of dirtiness) you should get a very thin and soft paintbrush. Thin enough to pass thru said small hole, and soft enough to bend its

whiskers inside the key dome. DO NOT PUSH, just rotate CW-CCW gently after placing one IPA drop and pay attention not to leave any loose whisker around.

Keyboards with physical damage (not just dirtiness), may require complete disassembling of the KB PCB, which is by no means advisable unless you are a very skilled technician...

Hope this helps.

Diego.

Re: 41cx on button

*Message #5 Posted by **Dave Bernazzani** on 15 Nov 2005, 12:42 p.m.,*
in response to message #4 by Diego Diaz

One more thing to add about cleaning with Isopropyl alcohol: make sure you use the 91% Isopropyl alcohol found in most drug stores or larger shopping centers. The 70% (usually sold right next to it) is a few pennies cheaper but contains mineral oils. This will still clean effectively but will leave the surface coated with mineral oils which will attract dirt and other foreign particles rather quickly. The 91% solution contains 9% inert materials (mostly water). If you don't want such as strong solvent, you might want to dilute this further 50/50 with water (distilled water is best... but not necessary). In any event, stay clear of the 70% "rubbing" alcohol.

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HP 41 number display

*Message #1 Posted by **Guido Ostkamp** on 12 Nov 2005, 2:32 p.m.*

Hello,

let me say first that I have been using mostly TI and later Casio calculators as I could not afford an HP at school in the late '70s / early 80's. Now I am trying to get familiar with HP 41 emulators on my PalmOS device and on PC (Windows/Linux) as those are the best programmables available and out of historic interest.

The TI and Casio calculators when running in standard display mode (default), always use a variable size display of number, so e.g. the number 0.125 displays as 0.125 and 0.3 displays as 0.3 etc. - with the number of fraction digits as needed. This kind of display fits my needs best.

However I could not find a way to get the HP-41 into this kind of display mode - it appears the number of digits after the decimal point is always fixed and it starts up with 4 (I am aware how this can be changed to other fixed sizes).

Question:

Am I overlooking something?

Is there a way to get variable digit display with the HP-41 and if yes, how can it be set up?

Thanks for any hints.

Regards,

Guido

Edited: 12 Nov 2005, 2:34 p.m.

Re: HP 41 number display

*Message #2 Posted by **Etienne Victoria** on 12 Nov 2005, 3:49 p.m.,*
in response to message #1 by Guido Ostkamp

Hello Gileno,

Sorry, there is no floating point display available on the Hp-41 and most Hps by the way...

Why not try the Hp-35 ;-)

Best regards

Etienne

Re: HP 41 number display

*Message #3 Posted by **Guido Ostkamp** on 12 Nov 2005, 6:34 p.m.,*
in response to message #2 by Etienne Victoria

Hello Etienne,

> Quote:
>
> Hello Gileno,
>
> Sorry, there is no floating point display available on the Hp-41 and most Hps by the way...
>
> Why not try the Hp-35 ;-)

by the way, my name is Guido, not Gileno ;-)

Thanks for your response and sorry to hear this functionality is not available with the HP 41 although I thought it was pretty standard.

May I ask how you deal with the fact that this is not available?

Do you frequently change the fixed number of digits to maximum and back when you see that the last digit displayed is not zero after a calculation?

Or do you simply go with the rounded version?

I have a bad feeling when leaving the setting at maximum fixed digits because then its hard to recognize due to the possibly high number of zeroes.

(It's however clear to me that even if not everything of a number is displayed, it will still internally be used for the following calculations).

Regards,

Guido

Re: HP 41 number display

*Message #4 Posted by **Hal** on 12 Nov 2005, 7:33 p.m.,*
in response to message #3 by Guido Ostkamp

Hello Guido,

I just set the the display to the disered number of decimal places and carry on. Any fractional part of a calculation that falls outside the display format is insignificant anyway. That said, however, I sometimes do set to 9 decimal places and back just to have a look...it's 6 keystrokes and really no big deal.
Best Regards, Hal

Re: HP 41 number display

*Message #5 Posted by **Etienne Victoria** on 13 Nov 2005, 3:11 a.m.,*
in response to message #3 by Guido Ostkamp

Hello **Guido**!

I apologize for the name change (I was alsobtrying to post to another member named Gileno).

Many fellow members have already responded inb this thread about useability of the digit.

For myself, and even if I like Hps, I definitely miss the floating point because fixed decimal is NOT the way I write numbers on the paper myself or even pronounce them when I talk :

- at work, I deal with financial amounts, so Fix 2 is fine, no problem to use nearly all my Hp calcs. - at home, when I want simplicity, I use an Hp-35, an Hp-71B, an SR-50 or SR-51.

I just can't explain to my 8-years old daughter that 5 x 6 = 30,000

and I certainly won't...

Best regards from France!

Etienne

Re: HP 41 number display

*Message #6 Posted by **Andrés Rodríguez (Argentina)** on 12 Nov 2005, 8:08 p.m.,*
in response to message #1 by Guido Ostkamp

Newer HPs have an additional display mode, ALL, which suits your preference. But HP41 hasn't it.

Usually you just choose the number of digits appropriate for your current task, and answers will be so formatted. Internal representation, as you said, is always kept at maximum precision. Once you get familiar with this usage, you like it very much.

Non-zero values will never be shown as zero. In such particular case the display temporarily switches to SCIentific notation and will show something like 1.0000 -05 (instead of 0.0000).

Best regards

Re: HP 41 number display

*Message #7 Posted by **Palmer O. Hanson, Jr.** on 12 Nov 2005, 11:19 p.m.,*
in response to message #6 by Andrés Rodríguez (Argentina)

I won't presume to tell you whether or not the least significant parts of the mantissa are important for the work that you are doing. I will suggest that you can view those least significant digits in the HP-41 in the same way that you viewed the so-called "guard digits" in the TI and Casio machines. Some examples follow. Start with the calculator in Fix 9.

Playing with pi:

1. Place the value of pi in the display; i.e. the ten digit value 3.141592654

2. Divide pi by 4 and see 0.785398164 in the display but you know that the pi value in step 1 divided by 4 should be 0.7853981635 .

3. To see all ten digits of the mantissa simply multiply the displayed value (x register contents) by ten and see 0.7853981635

4. Place pi in the display and see 3.141592654

5. Square the displayed value and see 9.869604404

6. Square the displayed value again and see 97.40909109

7. Take the reciprocal of the displayed value and see 0.010265982; i.e., ten digts but only eight digits of the mantissa.

8. Multiply by 100 and see 1.026598225; i.e., all ten digits of te mantissa.

By now you should be able to see that what was done to see the least significant digits of the mantissa is the same kind of thing that you do with TI and Casio machines to see the guard digits.

Some trigonometry in DEG mode:

1. Enter 45, press sin and see 0.707106781 in the display.

2. Multiply by ten and see 7.071067812; i.e., all ten digits of the mantissa in the display.

3. Again, enter 45, press sin and see 0.707106781 in the display.

4. Enter 45, press cos and see 0.707106781 in the display.

5. Subtract and see 0.000000000 in the display.

Some trigonometry in RAD mode:

1. Enter pi, divide by 4, press sin and see 0.707106781 in the display.

2. Enter pi, divide by 4, press cos and see 0.707106781 in the display.

3. Subtract and see 2.0000000- 10 in the display.

To understand the result in step 3 above:

1. Enter pi, divide by 4, press sin and multiply by ten to see 7.071067813; i.e., all ten digits of the mantissa of the sine of pi/4.

2. Enter pi, divide by 4, press cos and multiply by ten to see 7.07106811; i.e., all ten digits of the mantissa of the cosine of pi/4.

3. Note that the two mantissas are different by two in the least significant place.

4. Why are the sine and cosine of pi/4 slightly different? Because the actual value of pi/4 is 0.78539816339... while the value of pi/4 in the HP-41 is 0.7853981635 slightly higher than the exact value. The sine of an angle slightly higher than pi/4 should yield a value slightly higher than the sine of pi/4. The cosine of an angle slightly higher than pi/4 should yield a value slightly lower than the cosine of pi/4. You can do the arithmetic.

Re: HP 41 number display

*Message #8 Posted by **Garth Wilson** on 13 Nov 2005, 1:45 a.m.,*
in response to message #6 by Andrés Rodríguez (Argentina)

One of the things in my startup routine (automatically executed when I turn the 41 on) is to put the calc in ENG 3 since that's what I usually use. Rarely I'll do ENG 6, and even more rarely, need to view the final digits in something right near 1 (like 1.000000042), so I'll just subtract 1 to see what's out there. My HP71

has STD which is the type of display you're asking about, but I've never missed it on the 41 at all.

Re: HP 41 number display

*Message #9 Posted by **Les Bell** on 13 Nov 2005, 2:00 a.m.,*
in response to message #1 by Guido Ostkamp

I'd have to say that the 41 does it right, as do most of the older HP calcs. I vividly remember one of my university tutors marking me down on a problem for providing more significant digits in the answer than the problem - and the measurement technology implicit in it - warranted.

When I acquired my HP-45 a few months later, I was pleased to notice that it defaulted to FIX 2, although with large values, even that provides the unsophisticated novice with an unjustifiable impression of accuracy.

Lots of digits is something mathematicians might like - but engineers should know better.

;)

Best,

--- Les
[http://www.lesbell.com.au]

Re: HP 41 number display

*Message #10 Posted by **Palmer O. Hanson, Jr.** on 14 Nov 2005, 11:27 p.m.,*
in response to message #9 by Les Bell

I have no problem with the idea that some engineering disciplines do not need the full ten digits available from the HP-41. Some do; e.g, inertial navigation, which was my field of engineering from 1960 through 1990.

The issue of how many digits are enough is not a new one. Back in the early 1980's much of my analysis software was in BASIC on a company-owned time-share computer. A friend suggested that I transfer my programs to an Apple computer since the company was providing Apples as desk-top computers. I converted a program but it wouldn't run my test case satisfactorily. Another friend suggested that I should use Microsoft BASIC rather than Applesoft BASIC. When I did that I got resonable answers to my test case. About that time in the June 1982 issue of *Call Apple* a user asked the Apple Doctor ""I wonder if you could explain why the Apple languages Applesoft, Pascal and Fortran have used only 32-bit floating point numbers which will give only six-seven place accuracy. Microsoft Basic-80 and Fortran used with the Z-80 Softcard offer the additional double precision numbers with 64 bits. ..." Part of the answer in defense of of lesser numerical precision of the Apple software said "It is derned difficult to measure something to nine significant figures ..."

I didn't move away from the time-share computer even though it was S - L - O - W and it was inconvenient to go to the terminal rather than work at my desk. What it offered was an extended BASIC including double precision calculations, matrix arithmetic including calculation of determinants, inverses, transposes, scalar products, vector products, and the like. I had started using the time-share computer in 1967 and was using it regularly when the HP-35, HP-45, HP-65 and HP-67 came on the market. I had no use for any of those devices. They simply didn't offer the calculating power that I had become used to. The TI-59 was the first hand-held capable of doing the work that I needed.

Re: HP 41 number display

*Message #11 Posted by **Les Bell** on 15 Nov 2005, 11:16 p.m.,*

in response to message #10 by Palmer O. Hanson, Jr.

> Quote:
>
> I have no problem with the idea that some engineering disciplines do not need the full ten digits available from the HP-41. Some do; e.g, inertial navigation, which was my field of engineering from 1960 through 1990.

Funny you should mention that, Palmer - I'm currently reading "Feynman's Tips on Physics" (the missing lectures from the Lectures books), in which Chapter 4 (Review Lecture D) is on the topic of "Dynamical Effects and their Applications", covering gyroscopes and accelerometers, and their application to inertial navigation, which was very new in the early sixties. The end of the chapter is a transcript of Feynman's conversation with students as they examine a gyroscope (his mike was left open and the tape recorder running).

As a pilot myself, I've had exposure to the principles; I can still remember learning how a laser ring gyro works and being amazed that we can use light travelling around a fiber in that way.

So I agree with you about the need for precision in some applications, and of course, we need to preserve that precision through intermediate calculations. We also need to understand numerical methods, so we know when precision is being lost. But all in all, I *like* being able to set the display to round to two digits after the point as a reminder that all the digits I'm not seeing are generally not justified.

Best,

--- Les
[[http://www.lesbell.com.au]]

Re: HP 41 number display

*Message #12 Posted by **Palmer O. Hanson, Jr.** on 16 Nov 2005, 8:26 p.m.,*
in response to message #11 by Les Bell

As I see it the obvious use for fix 2 is in financial calculations, where in other modes the extra zeroes are annoying.

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MLDL2000: ROM images and the like

*Message #1 Posted by **Vieira, L. C. (Brazil)** on 12 Nov 2005, 1:08 p.m.*

Hi MLDL2K owners, all;

I want to know who of you is/are interested on sharing experiences, ROM images and related stuff about the HP41. I myself have only a few ROM modules and peripherals, most of them are already available to be downloaded form other places. Anyway, I have two different card reader versions (F and G), one of them (F) with the weird bug when keying in parameters and using correction key (maybe it is due to hardware instead of software, who knows). I also have an Extended IO module that, surprisingly, returns BAD after ROMCHK. The others are X-Functions (don't remember version), Financial 1C and Navigation 1B. And we can count on the existing ROM of my 82143A peripheral printer, Wand (82153), HPIL and IR Printer Module 82242A.

I want to go ahead with MCODE programming, too.

Maybe some guys think it is some sort of time wasting when dealing with such past-due technology, but what calls my attention to the HP41 is that high-tech, current technology seems to be too close to it that it seems the HP41 is up-to-date technology as well. Seeing Meindert´s boards connected to the HP41 ports and working so tuned with it makes me wonder about what the HP41 represented in its time.

Please, anyone that actually wants to share experiences, I'm 'all ears'. I have never programmed in HP41 MCODE before, and I am yet studying, so I have too much more to read and listen than to talk, but I'd like very much to share whatever I achieve as well.

In time: should MLDL2000 related discussions be posted here with others? Although it agrees with the MoHPC Terms of Use and is related to old HP calculators, I prefer having it as consensual use of the forum space than to have the feeling of being an invader. Just my own thoughts, though.

Best regards and thanks.

Luiz (Brazil) - lcvieira (at) quantica (dot) com (dot) br

Re: MLDL2000: ROM images and the like

*Message #2 Posted by **Meindert Kuipers** on 14 Nov 2005, 3:54 a.m.,*
in response to message #1 by Vieira, L. C. (Brazil)

I would like to continue using this forum for any discussions about mcode and the MLDL2000/Clonix/NoVRAM. This is the favourite hangout for most who have experience with these, and also those who do not have the hardware can offer comments. The alternative is to create a (Google) Group or maillist, but I really prefer to have one place for all HP related talk: this forum!

Meindert

Re: MLDL2000: ROM images and the like

*Message #3 Posted by **Etienne Victoria** on 14 Nov 2005, 5:29 a.m.,*

in response to message #1 by Vieira, L. C. (Brazil)

Hi Luiz!

I'd really like to keep the MLDL & Clonix/Novram discussions in this forum!

After all, we're not so numerous to constitute a real nuisance to other users and, for myself, I've learned a lot on the Hp-41C innards even before owning one of these devices!

Maybe, we should check with Dave Hicks that talking about the Rom images doesn't go against his forum/site policy.

I fully intend to respect his options because we're hosted here - even if I've tried to bypass them from time to time...

BTW, thanks for your mail and sorry for not responding yet :-)

Friendly regards from France!

Etienne

Re: MLDL2000: ROM images and the like

*Message #4 Posted by **Diego Diaz** on 14 Nov 2005, 1:48 p.m.,*
in response to message #1 by Vieira, L. C. (Brazil)

Hi Luiz, all...

I'd also prefer a common "meeting point" to discuss about our beloved machines/accesories.

Obviously, it's Dave's last word what really matters as all of you have already stated, and I'll also accept whichever decision he adopts.

Copyright issues have been dicusssed over the time (and will surely be in the future) but I don't think our new devices/modules by themselves make any difference with previous ROM/RAM-Boxes or ZEPROM, CMT, HEPAX... modules. Just new technology and more memory but same functional principles.

Cheers.

Diego.

Re: MLDL2000: discussions here, then!

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 15 Nov 2005, 12:26 a.m.,*
in response to message #1 by Vieira, L. C. (Brazil)

Hi Meindert, Etienne, Diego, guys;

I thank you for your comemnts and thoughts. I was just in the need to read(hear) from others, because I`d like that anyone interested on knowing/sharing information about the HP41 new tools from you, guys, could find the MoHPC as the place to do so. And I prefer it as well.

About updates and the like: I read some news from Diego's NoVRAM and have already downloaded the updates. I also visit Meindert's www.kuipers.to/hp41 whenever I have the time to. Should we, users, consider these as the references for updates so far? Also, I see that some updating data is available through TOS, and they are somehow related to your modules' primary activities.

Are there any other places to search for news?

Best regards.

Luiz (Brazil)

Re: MLDL2000: ROM images and the like

*Message #6 Posted by **chic** on 15 Nov 2005, 5:27 a.m.,*
in response to message #1 by Vieira, L. C. (Brazil)

hi all

i'm a fairly regular lurker here (1 or 2 times/week) and would think it would be an obvious place to share experiences, thoughts etc.

chic :MLDL 2074

(status : basic testing done, just trying to pucker up the courage to take a dremel to the cardreader shell! just doesn't seem right somehow!)

Re: MLDL2000: ROM images and the like

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 15 Nov 2005, 7:47 a.m.,*
in response to message #6 by chic

Hi, Chic (AKA 2074... 8^)

Please, have a look at the pictures here (maybe you have probably already seen). Some of them show only the PCB's and connections, others show the cuts. Some are new, added now, and show what I used to cut the upper square little hole.

Hope you find encouragement in these images. Afterall, if by any reason you decide ti use the car reader holder, filling the holes back will be easiear than making them up...

Best regards.

Luiz

Re: MLDL2000: ROM images and the like

*Message #8 Posted by **GE** on 15 Nov 2005, 9:47 a.m.,*
in response to message #7 by Vieira, Luiz C. (Brazil)

Back in the days there was a form of snobbery by which you "needed" the smallest possible registration number to the various clubs to prove your early commitment and the fact that you were an "old hat" not easily disproven by young fellows. I wonder if there is such a trend here ? GE /2064/
Only kidding !

Re: MLDL2000: ROM images and the like

*Message #9 Posted by **chic** on 16 Nov 2005, 2:50 p.m.,*
in response to message #8 by GE

No offence taken, You still see people rolling off all their serial Nos in sigs too!

I hadn't seen Luiz's pics before, they show a level of care and attention to detail that is wonderful, a real inspiration to be patient, thoughtful and get this construction right, as befits the work that has already gone into the whole MLDL project.

I'll report back when i get some progress

Chic (2074 still in bits!)

That's the spirit! (and thanks 8^)

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 16 Nov 2005, 11:06 p.m.,*
in response to message #9 by chic

I added the pictures with the very intention of showing that you can go further. Meindert himself encourages this sort of inspired modifications, even if you want to use a different case.

BTW, GE, I was not known about the common hierararchy (snobbery?) related to the early, smallest numbers... although I agree with the fact that it makes some sense. And yes, I am following the spirit of the 'Only kidding!' as well, so, please, just read this for fun, O.K.? I had no intention at all, mainly when I think that the first unit belongs probably to Meindert and the others close to it are the ones used by the brave Beta-testers. As I am ordering another unit (once you get to it, you can't live without it...), this new one will surely have a bigger serial#, so I can even make a choice... d8^D

Best regards and thanks for your kind words, guys. I appreciate.

I still miss the other MLDL2000 owners and their related paritcipation and experience sharing (just know who are a few of them). This module is a dream come true, at least for me...

Luiz (Brazil)

Edited: 16 Nov 2005, 11:07 p.m.

MLDL serial numbers

*Message #11 Posted by **Meindert Kuipers** on 17 Nov 2005, 3:27 a.m.,*
in response to message #10 by Vieira, Luiz C. (Brazil)

About the serial numbers and a bit of history:

There are four units designated as Beta units (#B2001 to #B2004). Two are with myself (one unit for daily use and one working unit on a breadboard for testing). One of the beta's is in the field with a user and number four is damaged after unsoldering the FLASH memory chip.

The regular units start with serial number #2001 (someone is very happy to have this lowest serial number!). All units with serials below #2050 have double capacity SRAM, these have been assigned based on order date. The 2* SRAM is there because at production time there was a shortage in the original size SRAM chips, and I was offered 2* the size at the same cost, so about half the units have 2* SRAM. This capacity is currently not being used nor supported (but it is tested), and for possible future support a handsoldered wire connects the A19 line (which is not connected on the 1* SRAM chips).

Serial numbers >= 2050 have 'just' 512K*16 bits SRAM chips.

The serial number is programmed in the EEPROM on the USB interface, and allows the M2kM software to recognize the unit and show the serial number.

Personally I do not really care aboutserial numbers, since I am a user, nota collector. However, I do care about the kind words you have for the MLDL2000, thanks for that.

Meindert

Re: That's the spirit! (and thanks 8^)

*Message #12 Posted by **James MacPhail** on 17 Nov 2005, 4:50 a.m.,*
in response to message #10 by Vieira, Luiz C. (Brazil)

> Quote:
>
> I still miss the other MLDL2000 owners and their related participation and experience sharing (just know who are a few of them).

That sounds like a request for lurkers to reveal themselves...

I feel very fortunate to have an MLDL2000 too (some very high serial number, I'm sure :-), but my experience so far is only to gaze at the pieces in amazement.

I ordered the USB connector just today, but I don't know when I will have the nerve and patience to start the assembly.

Once it is assembled, I will be of little assistance to others as I am an mcode novice and don't have a lot of time to spend with it, but I do share the enthusiasm.

I am certainly paying close attention to the MLDL2000 threads, so please keep up the reports so I may learn! (Great pictures too!)

Thanks again Meindert!

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MoHPC *The Museum of HP Calculators*

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41Notes - Maintenance

*Message #1 Posted by **Gileno - Brazil** on 12 Nov 2005, 12:24 p.m.*

41Notes (HP-41CX or HP-41C/CV with X-Function)

My small contribution to store small notes

```
01 LBL "41NOTES"
02 "NOTES"
03 RCLPTA
04 FIX 0
05 CF 29
06 LBL 52
07 CF 21
08 "A:F:I:P:V?   " '3 spaces
09 ASROOM
10 ARCL X
11 AVIEW
12 GETKEY
13 X=0?
14 GTO 15
15 CLD
16 XEQ IND X
17 GTO 52
18 LBL 11
19 CLA
20 AON
21 PROMPT
22 AOFF
23 APPREC
24 RTN
25 LBL 24
26 SF 25
27 "NOTES"
28 20 ' Modify for large number of notes
29 PURFL
30 CRFLAS
31 RTN
32 LBL 15
33 CLD
34 FIX 2
35 STOP
36 LBL 62
37 CLX
38 SEEKPT
39 SF 25
40 LBL 61
41 GETREC
42 AVIEW
43 PSE
44 "-:+:D:R:S?"
45 FC? 25
46 GTO 52
47 AVIEW
48 GETKEY
49 X=0?
50 GTO 52
51 XEQ IND X
52 GTO 61
53 LBL 51
54 CLX
55 SEEKPT
56 RCLPT
57 INT
58 1
```

```
59 -
60 SEEKPT
61 RTN
62 LBL 14
63 DELREC
64 RTN
65 LBL 43
66 SF 21
67 CLX
68 SEEKPT
69 SF 25
70 LBL 00
71 GETREC
72 FC? 25
73 RTN
74 AVIEW
75 GTO 00
76 LBL 53
77 "SRC?"
78 AON
79 PROMPT
80 AOFF
81 CLX
82 SEEKPT
83 POSFL
84 INT
85 SEEKPT
86 END


Instructions


XEQ "41NOTES"


First time: press I 'Initialize "NOTES" file in X-Memory


Option


A ' Add Notes (Max 24 bytes) R/S
E ' End
I ' Initialize (First time or Clear all Notes !!!)
P ' Print or View Records
V ' View ------ + ' Next Record
                - ' Previous Record
               D ' Delete Present Record
               R ' Return
S ' Search a string


* In the main menu if there is not any key pressed in 10 seconds the program concludes.
* In the visualization way if there is not any key pressed in 10 seconds returns for the main
menu
```

Re: 41Notes - Maintenance

*Message #2 Posted by **Geir Isene** on 12 Nov 2005, 4:18 p.m.,*
in response to message #1 by Gileno - Brazil

For the usual VIM 41 syntax/ftplugin compatability: (also corrected an error in line 008, the "F" in the original should read "E")

```
001 *LBL'41NOTES
002  'NOTES
003  RCLPTA
004  FIX 0
005  CF 29
006  LBL 52
007  CF 21
008  'A:E:I:P:V?   " '3 spaces
009  ASROOM
010  ARCL X
011  AVIEW
```

```
012  GETKEY
013  X=0?
014  GTO 15
015  CLD
016  XEQ IND X
017  GTO 52
018  LBL 11
019  CLA
020  AON
021  PROMPT
022  AOFF
023  APPREC
024  RTN
025  LBL 24
026  SF 25
027  'NOTES
028  20 ' Modify for large number of notes
029  PURFL
030  CRFLAS
031  RTN
032  LBL 15
033  CLD
034  FIX 2
035  STOP
036  LBL 62
037  CLX
038  SEEKPT
039  SF 25
040  LBL 61
041  GETREC
042  AVIEW
043  PSE
044  '-:+:D:R:S?
045  FC? 25
046  GTO 52
047  AVIEW
048  GETKEY
049  X=0?
050  GTO 52
051  XEQ IND X
052  GTO 61
053  LBL 51
054  CLX
055  SEEKPT
056  RCLPT
057  INT
058  1
059  -
060  SEEKPT
061  RTN
062  LBL 14
063  DELREC
064  RTN
065  LBL 43
066  SF 21
067  CLX
068  SEEKPT
069  SF 25
070  LBL 00
071  GETREC
072  FC? 25
073  RTN
074  AVIEW
075  GTO 00
076  LBL 53
077  'SRC?
078  AON
079  PROMPT
080  AOFF
081  CLX
082  SEEKPT
083  POSFL
084  INT
085  SEEKPT
086  END
```

Edited: 12 Nov 2005, 4:20 p.m.

Re: 41Notes - Maintenance

*Message #3 Posted by **Geir Isene** on 12 Nov 2005, 4:58 p.m.,*
in response to message #1 by Gileno - Brazil

Maybe do this at the start?

```
002  SF 25
003  'NOTES
004  RCLPTA
005  FC?C 25
006  XEQ 24
```

Re: 41Notes - Maintenance

*Message #4 Posted by **Gileno - Brazil** on 12 Nov 2005, 5:14 p.m.,*
in response to message #3 by Geir Isene

```
I thank for the line 8: -)


To create the File Notes


'NOTES' <--- Alpha
20
CRFLAS


or


002  SF 25
003  'NOTES
004  RCLPTA
005  FC?C 25
006  XEQ 24
```

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HP-41's NoV-32 SW update.

*Message #1 Posted by **Diego Diaz** on 12 Nov 2005, 8:09 a.m.*

Hi all,

The latest version of NoV-32 programming software is now on-line:

http://www.clonix41.org/Projects/Nov32/NoV-32_SW.zip

This handles overlapped RAM pages as described in the manual.

Thanks and kind regards.

Diego.

Re: HP-41's NoV-32 SW update.

*Message #2 Posted by **Vassilis Prevelakis** on 12 Nov 2005, 4:39 p.m.,*
in response to message #1 by Diego Diaz

Is the NoV-32 module available?

**vp

Re: HP-41's NoV-32 SW update.

*Message #3 Posted by **Diego Diaz** on 12 Nov 2005, 7:55 p.m.,*
in response to message #2 by Vassilis Prevelakis

Hi Vassilis,

Yes it is, please check:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/adforum.cgi?read=14254

for details, and feel free to mail me with any questions/doubts you may have.

Best regards.

Diego.

Edited: 12 Nov 2005, 7:56 p.m.

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Ultimate Flame Topic

*Message #1 Posted by **Paul Brogger** on 11 Nov 2005, 6:56 p.m.*

A tongue-in-cheek bumper sticker cries, "Nuke the unborn gay whales!"

For this site, a guaranteed flame topic might be:

"Cobubba should lower the prices on his 15C's so we won't have to use RPL!"

(Anyone care to top that one?)

Enjoy . . .

Re: Ultimate Flame Topic

*Message #2 Posted by **Howard Owen** on 11 Nov 2005, 7:13 p.m.,*
in response to message #1 by Paul Brogger

Hah! Reminds me of the country song about rain, prison, a pickup truck, momma and a train.

Let's see, how about "Coburlin is forcing unsuspecting college freshmen to code in RPL." That's just a refinement on yours. How about "The only way you'll ever get a new calculator like a 15C is with emulation, because anything involving hardware is impractical. Nobody on Earth, including HP will ever build one."

Putting Our Money Where Our Mouth Is

*Message #3 Posted by **Namir** on 11 Nov 2005, 11:19 p.m.,*
in response to message #2 by Howard Owen

We all heard that "If you want to get something done, do it yourself!"

Well, for the folks who want to bring back the HP-15C, I say, If you want the 15C so bad then:

1. Quit your regular jobs 2. Mortgage your houses and get whatever loans you can 3. Start a company that makes calculators 4. Make that HP-15C you always talk about

After step 4 you will realize why HP is soooo wize by not bringing the HP-15C.

You can take my word for it or you can find out for yourselves! It's really your call.

It's what you really do about that matters and NOT what you write on the web. Talk was, is, and will remain cheap!

Re: Putting Our Money Where Our Mouth Is

*Message #4 Posted by **Howard Owen** on 12 Nov 2005, 12:32 a.m.,*
in response to message #3 by Namir

Oops. Got one! 8)

The *joke* was the combination of the "emulators are hardware - no they're software" flame fest with the "15C is impractical - no it isn't" flame fest. The challenge is to find the most provocative such combination you can. Based on your reaction, I'd say I have an early lead. 8)

Re: Putting Our Money Where Our Mouth Is

*Message #5 Posted by **Ed Look** on 12 Nov 2005, 1:43 a.m.,*
in response to message #4 by Howard Owen

Reeeddd LE.... nahh, I won't say it.

Re: Putting Our Eyes Where Red LEDs Are

*Message #6 Posted by **Thomas Radtke** on 12 Nov 2005, 12:49 p.m.,*
in response to message #5 by Ed Look

Red LED is not a winner here. Everyone wants to have them back, no doubt.

Re: Ultimate Flame Topic

*Message #7 Posted by **Vassilis Prevelakis** on 12 Nov 2005, 7:48 a.m.,*
in response to message #1 by Paul Brogger

```
Paul Brogger wrote:

> For this site, a guaranteed flame topic might be:
>     ...
> (Anyone care to top that one?)
```

Sure, no problem

RPL sucks big time

**vp

Re: Ultimate Flame Topic

*Message #8 Posted by **Karl Schneider** on 12 Nov 2005, 1:13 p.m.,*
in response to message #7 by Vassilis Prevelakis

That's been stated here before:

Good reading, I think!

-- KS

Re: Ultimate Flame Topic

*Message #9 Posted by **Vassilis Prevelakis** on 12 Nov 2005, 3:02 p.m.,*
in response to message #8 by Karl Schneider

```
Karl Schneider wrote:
> That's been stated here before:
>
> Good reading, I think!
```

You have missed the sarcasm in my remark!

**vp

No, I didn't....

*Message #10 Posted by **Karl Schneider** on 12 Nov 2005, 3:33 p.m.,*
in response to message #9 by Vassilis Prevelakis

... I'm not uncomprehending of the thread(s) or of the English languages.

Your "tagline" just offered a fine lead-in to what I thought was one of the most insightful posts of the RPN/RPL "wars".

-- KS

Re: No, I didn't....

*Message #11 Posted by **Howard Owen** on 12 Nov 2005, 4:18 p.m.,*
in response to message #10 by Karl Schneider

It was not!!!

8) 8) 8)

Re: Ultimate Flame Topic

*Message #12 Posted by **Valentin Albillo** on 14 Nov 2005, 8:28 a.m.,*
in response to message #1 by Paul Brogger

Hi, all:

**** Warning **** Warning **** Warning **** Warning **** Warning **** Warning **** Warning ****

Absolutely *all* that follows is in good jest, and no offence or disrespect is meant to anyone, far from it, nor do I think or subscribe the absolute nonsense that follows. It's just my best attempt at Paul's challenge, and I think you'll agree it is a pretty good one at that.

**** Warning **** Warning **** Warning **** Warning **** Warning **** Warning **** Warning ****

Paul Bragger posted:

"Ultimate Flame Topic" [...] (Anyone care to top that one?)

This is my best attempt at an "Ultimate Flame topic", but first make sure you've read and understood the **Warning** above:

Do you think that Dave Hicks is making a good money with the lousy CDs/DVDs he sells, choke-full with materials for which he doesn't own the copyright, while prohibiting access to "The Other Side" and blaming its creator for allegedly doing what he's exactly doing, in order to eliminate unwanted competence ?

I think that, in this particular forum, this will be difficult indeed to top. If enraged and outraged and ready to flame me, please read and understand the **Warning** above once more.

Best regards from V.

Re: Ultimate Flame Topic

*Message #13 Posted by **Paul Brogger** on 14 Nov 2005, 11:25 a.m.,*
in response to message #12 by Valentin Albillo

Oooohhh. A touchy one!

Thanks to the careful warning, the only thing I'd flame about in the previous is the misspelling of my name. (*"Bragger"?*)

In fact, I encounter that one often. MS Word's spell check suggests "braggart" when encountering my name. Now, I'm not above tooting my own horn from time to time, but I think *braggart* is a bit much.

;->

Re: Ultimate Flame Topic

*Message #14 Posted by **Howard Owen** on 14 Nov 2005, 11:28 a.m.,*
in response to message #13 by Paul Brogger

That would be your ultimate *personal* flame topic then? 8)

I occasionally still get something similar with Howard/Harold.

The true Ultimate Flame Topic...and the shorter one!!!

*Message #15 Posted by **Etienne Victoria** on 15 Nov 2005, 2:17 p.m.,*
in response to message #1 by Paul Brogger

EQUAL >

Re: The true Ultimate Flame Topic...and the shorter one!!!

*Message #16 Posted by **Howard Owen** on 16 Nov 2005, 12:41 a.m.,*
in response to message #15 by Etienne Victoria

Well, it's certainly shorter.

But you left out a graphic for the equals sign, which shows that you really favor the converse relation. A crypto-ENTERist, eh?

As Long as we are getting graphical, how about this one?

http://retrocalculator.com/images/ti.gif http://retrocalculator.com/images/gt.gif
http://retrocalculator.com/images/hp.gif

Re: The true Ultimate Flame Topic...a non graphical one!!!

*Message #17 Posted by **Nenad (Croatia)** on 16 Nov 2005, 10:06 a.m.,*
in response to message #16 by Howard Owen

HP Invent > Hewlett Packard

Re: The true Ultimate Flame Topic...a non graphical one!!!

*Message #18 Posted by **Crawl** on 17 Nov 2005, 9:45 a.m.,*
in response to message #17 by Nenad (Croatia)

How about, "Only weirdos have more than one calculator."

Re: The true Ultimate Flame Topic...a non graphical one!!!

*Message #19 Posted by **Chris Dean** on 17 Nov 2005, 12:08 p.m.,*
in response to message #18 by Crawl

You forgot to add "and are proud of them"!

To sum up..

*Message #20 Posted by **Howard Owen** on 17 Nov 2005, 12:21 p.m.,*
in response to message #1 by Paul Brogger

ahem (Takes **deep** breath)

"Cobubba should **nuke** the last 15C ever to be made, **and** all red LED models, including *software emulated* ones, so RPL and the equals key will make TI ***even better*** than HP which is worse than HP Invent anyway, because Dave Hicks censors **all** the proud multiple calculator ***weirdos!***"

Edited: 17 Nov 2005, 12:29 p.m.

Exactly !

*Message #21 Posted by **Valentin Albillo** on 17 Nov 2005, 12:44 p.m.,*
in response to message #20 by Howard Owen

Best regards from V.

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HP Forum Archive 15

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HEX <-> Decimal

*Message #1 Posted by **gileno** on 11 Nov 2005, 6:25 p.m.*

I need for the hp41 a routine of conversion of Hex <-> Decimal very small. Thank you.

Re: HEX <-> Decimal

*Message #2 Posted by **Randy** on 11 Nov 2005, 6:30 p.m.,*
in response to message #1 by gileno

See if one of these will meet your needs:

http://www.hpmuseum.org/software/41tfbase.htm

http://www.hpmuseum.org/software/41hexcon.htm

http://www.hpmuseum.org/software/41/41dechex.htm

http://www.hpmuseum.org/software/41/41hexdec.htm

Edited: 11 Nov 2005, 6:37 p.m.

Re: HEX <-> Decimal

*Message #3 Posted by **Gileno** on 12 Nov 2005, 7:14 a.m.,*
in response to message #2 by Randy

The best solution for my needs. I thank all.

http://www.hpmuseum.org/software/41hexcon.htm

Re: HEX <-> Decimal

*Message #4 Posted by **Vieira, L.C. (Brazil)** on 11 Nov 2005, 6:33 p.m.,*
in response to message #1 by gileno

Hi, Gileno;

(I was typing it in while Randy was faster... I'll let my answer here, though.)

I have a converting routine that uses X-Functions, would that be a problem? Unfortunatyely I do not have it right now. As soon as I get back home I'll post the listing.

Maybe you already have it, but there is a converting program in the HP41 standard pack. I actually think it is too long and somehow odd, but maybe it can help you.

I'll be back in a couple of hours, O.K.?

Cheers.

Luiz

Edited: 11 Nov 2005, 6:34 p.m.

Re: HEX <-> Decimal

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 11 Nov 2005, 10:58 p.m.,*
in response to message #4 by Vieira, L.C. (Brazil)

Hi, Gileno;

sorry taking too long.

Please, have a look at this set of programs and you'll probably find something usefull. HEX to DEC and DEC to HEX listings are in page 14. You can use only the H-D and D-H listing, that is 73 steps long (it is surely more than 100 bytes long). ALENG, AROT, ATOX and XTOA are from the X-Functions module.

Hope it helps.

Luiz (Brasil)

Re: HEX <-> Decimal

*Message #6 Posted by **Garth Wilson** on 11 Nov 2005, 7:02 p.m.,*
in response to message #1 by gileno

The Advantage module has the base conversions, and work just about as fast as the LCD can respond.

Re: HEX <-> Decimal on the 41C

*Message #7 Posted by **Karl Schneider** on 12 Nov 2005, 2:27 a.m.,*
in response to message #6 by Garth Wilson

Garth posted,

> Quote:
>
> The Advantage module has the base conversions, and work just about as fast as the LCD can respond.

True, but the hexadecimal numbers are limited to unsigned integers up to 32 bits. This differs from most other implementations of integer base conversions on calculators, which assume 2's-complement signed integers of word size 32 bits, 36 bits, or 40 bits.

See my base-conversion thread in the Archives. NOTE: The 41C Advantage module is not covered, because it was not a *built-in* capability.

-- KS

Edited: 12 Nov 2005, 2:45 a.m.

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Wiring of the 97 paper advance switch

*Message #1 Posted by **Arnaud Amiel** on 11 Nov 2005, 4:55 p.m.*

Could anyone tell me in which order I should resolder the red, black and white wires on the 97 paper advance switch. They just broke off while I openned it to show my repairs. I don't have notes on this.

The service manual tell me to check continuity between black and red but I can not find more information.

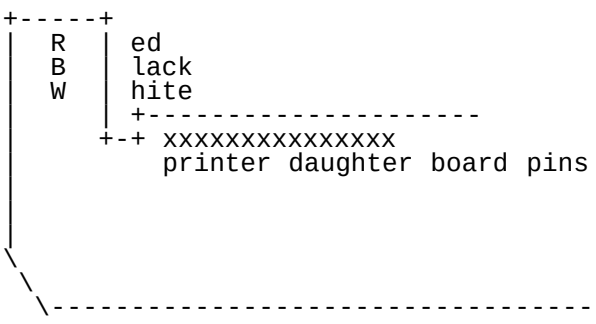
Thanks for your help.

Arnaud

Edited: 11 Nov 2005, 4:56 p.m.

Re: Wiring of the 97 paper advance switch

*Message #2 Posted by **Randy** on 11 Nov 2005, 6:36 p.m.,*
in response to message #1 by Arnaud Amiel



Re: Wiring of the 97 paper advance switch

*Message #3 Posted by **Arnaud Amiel** on 12 Nov 2005, 2:37 a.m.,*
in response to message #2 by Randy

Thanks for your answer but I am looking for the other end of the wires.

I know that when not pressed I should have close circuit between Red and Black so the white wire has to be soldered to the centre of the switch.

One of the other pins seem to be always open circuit and the other close circuit with the centre one when pressed.

Which one is which????

Thanks,

Arnaud

Edited: 12 Nov 2005, 10:48 a.m.

Re: Wiring of the 97 paper advance switch

*Message #4 Posted by **Tony Duell** on 13 Nov 2005, 6:18 a.m.,*
in response to message #3 by Arnaud Amiel

Yes, the service manual does not properly explain the switch wiring.

I can't remember the colours, but I think I can remember what the 3 switch contacts should connect to. Maybe that will help. It's a changeover switch, there is a common tag, a normally-closed tag and a normally open tag. When the button is not pressed, there's continuity between 'common' and 'normally closed'. When it is pressed, there's continuity between 'common' and 'normally open'.

The common tag is electrically connected to logic ground. The -ve side of the battery is also ground

The normally closed tag is electrically connected to one of the pins to the printer PCB, and via that PCB to one of the out-of-paper contacts in the printer.

The normally open tag is electrically connected to one of the flag inputs on the ACT chip (22 pin). I think it's either pin 3 or 4

A bit of work with a continuity tester should tell you which of the 3 pins on the logic board is which, then you can connect them to the right switch pins.

Re: Wiring of the 97 paper advance switch

*Message #5 Posted by **Arnaud Amiel** on 13 Nov 2005, 6:51 a.m.,*
in response to message #4 by Tony Duell

Thanks a lot, that is exactly what I was looking for. Now just a bit of cleaning and soldering to do.

Just for the Archive, GND is Black normally closed connected to OOPS Red. This is indicated in the service manual. White is ACT normally open connected to GND Black when the switch is pressed.

Arnaud

Edited: 13 Nov 2005, 6:56 a.m.

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HP-85 Error 23

*Message #1 Posted by **Juergen (CH)** on 11 Nov 2005, 4:04 p.m.*

I've got another HP-85 which displays ERROR 23 : SELF TEST when turning on. I've entered ERRL {ENDLINE } and got a result of 0. I guess one or more of the RAM IC's are bad. Can anyone confirm that this diagnosis is correct?

Can I cannibalize a 16K memory module to get replacement RAM IC's, or are these IC's different?

Any help is highly appreciated!

Thanks, Juergen

Re: HP-85 Error 23

*Message #2 Posted by **Vassilis Prevelakis** on 12 Nov 2005, 7:44 p.m.,*
in response to message #1 by Juergen (CH)

Have you tried running the diagnostics from the Service ROM?

You can download the service ROM for the HP-85 from http://www.series80.org/Images/index.html a service training course manual from http://www.series80.org/PDFs/HP85-RepairCourse.pdf

while the service manual itself is in the MoHPC DVD collection.

**vp

PS if you do not have the ROM itself you can burn the image from the series80 site on a standard 2764 EPROM and use the 82929A Programmable ROM drawer. If you do not have an 82929A, then check John Shadbolt's site http://www.vintagecomputers.freeserve.co.uk/hp85/prm85.htm for the modern equivalent.

**vp

Re: HP-85 Error 23

*Message #3 Posted by **Juergen (CH)** on 14 Nov 2005, 1:20 p.m.,*
in response to message #2 by Vassilis Prevelakis

Unfortunately, I do not have access to a Service ROM. I have the Service Manual, and there I found the hint to enter ERRL {ENDLINE} after an ERROR 23 : SELF TEST. The result was 0 which indicates bad RAM IC's.

My idea was to replace all RAM IC's by the IC's of a working 16K Memory Module. But I do not know if the IC's are really the same (the labels are different). Has anybody out there ever tried that?

Regards, Juergen

Re: HP-85 Error 23

*Message #4 Posted by **Etienne Victoria** on 14 Nov 2005, 2:13 p.m.,*
in response to message #3 by Juergen (CH)

Hallo Jürgen,

The problem could be with one or more RAM ICs or with a RAM controller.

You normally have 8 RAM ICs on your board. Are they socketed or soldered ?

Could you email me your faulty RAM IC references ?

I will look in my parts (basically a "parts" Hp-86B) to check if I have them.

Grüzi aus Frankreich.

Etienne

Edited: 14 Nov 2005, 2:24 p.m.

Re: HP-85 Error 23

*Message #5 Posted by **Tony Duell** on 14 Nov 2005, 2:23 p.m.,*
in response to message #3 by Juergen (CH)

I thought the RAM ICs used in the 85A were just standard 16K*1 DRAMs, as used in many other computers of the time.

I _think_ (without looking at the service manual) that they are the very common 4116 (or equivalent) chips, they certainly are in the 9915. These need 3 power supply voltages (-5V on pin 1, +12V on pin 8, +5V on pin 9), you could check these with a voltmeter (pin 16 of the RAM chips is ground) to be sure.

Re: HP-85 Error 23

*Message #6 Posted by **Etienne Victoria** on 14 Nov 2005, 2:33 p.m.,*
in response to message #5 by Tony Duell

Hi Tony, Jürgen,

In the Hp-85 service manual, page (pdf) 210, I have only the Hp part numbers :

1MA2-002 RAM Controller

1818-1396 RAM IC

As I have sold my Hp-85, I don't know the correspondence between the Hp part nr & standard ICs.

Jürgen, can you confirm these are standard 4116 ?

http://homepage.mac.com/etienne.victoria/.Pictures/Photo%20Album%20Pictures/2005-11-14%2011.58.03%20-0800/Image-CBD9FAC1554811DA.jpg

Etienne

Edited: 14 Nov 2005, 3:00 p.m.

Re: HP-85 Error 23

*Message #7 Posted by **Juergen (CH)** on 14 Nov 2005, 4:04 p.m.,*
in response to message #6 by Etienne Victoria

Yes, the IC's are MOSTEK 4116 (MK4116J-3). The IC's in the Memory Module are labeled MB8116E. Somewhere on the Internet I found a hint that MB8116 = MK4116 so I guess it should be possible to cannibalize the Memory Module to replace the IC's in the HP-85. What do you think?

Thank you, Juergen

Re: HP-85 Error 23

*Message #8 Posted by **Etienne Victoria** on 14 Nov 2005, 4:19 p.m.,*
in response to message #7 by Juergen (CH)

So this means Tony is right!

Therefore, it's not necessary to destroy you memory module! These are off the shelf components.

You can purchase 4116 Drams with standard pins readily available in an electronic store.

For example (french sorry): Mostek DRAM 4116

Mostek is just the manufacturer so I guess any standard 8 pins 4116 will do!

Price per IC is roughly 2,5 Euros

Etienne

Edited: 14 Nov 2005, 5:25 p.m.

Re: HP-85 Error 23

*Message #9 Posted by **Etienne Victoria** on 14 Nov 2005, 4:25 p.m.,*
in response to message #7 by Juergen (CH)

BTW, I think you should anyway follow Tony's advice to check voltages on the Chips because there is a possibility for the RAM controller to be faulty and not the Rams themselves.

Etienne

Thank you

*Message #10 Posted by **Juergen (CH)** on 14 Nov 2005, 4:36 p.m.,*
in response to message #9 by Etienne Victoria

Tony & Etienne, thank you much for your advice!

Re: HP-85 Error 23

*Message #11 Posted by **Tony Duell** on 15 Nov 2005, 8:07 a.m.,*
in response to message #9 by Etienne Victoria

The service manual diagram posted a couple of messages back confirms that there are 3 supply rails to the RAMs, as I thought. There was a rarer 16K bit DRAM that used +5V only, I wanted to make sure those were not used in the 85A.

However, you should still check the power supply voltages at the RAM chips. These don't come from the RAM controller IC (which handles the logic signals), they come from the power supply board. If one is missing or incorrect you need to troubleshoot that area.

Of course the RAMs might be good, and the RAM controller IC the problem. That is an HP custom part, alas.

I hate to say this, but you really need to do a lot more tests before replacing chips. I know the 'modern way' is to replace components more or less at random until the fault goes away, but that's never worked for me. I would (at least) check all power supply outputs, the clock signals, the address and data lines to the DRAMs, etc. Only when I had a pretty good idea as to the fault would I change parts.

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Announcement: The HP49g+ / HP48gII Advanced Users Reference Manual now available!

*Message #1 Posted by **Gene Wright** on 11 Nov 2005, 12:42 p.m.*

New Advanced Users Reference Manual!

This has been in process for nearly 18 months. Quite a team of people participated in the development of this manual. We hope the user community finds this useful.

Corrections (in particular), suggestions and comments are welcome.

hpcalc.org has a bugzilla system with an entry for the AUR. That will probably be the best place to enter mistakes and corrections.

Enjoy! Gene

Re: Announcement: The HP49g+ / HP48gII Advanced Users Reference Manual now available!

*Message #2 Posted by **Arnaud Amiel** on 11 Nov 2005, 12:59 p.m.,*
in response to message #1 by Gene Wright

Great I am starting now. And I already notice that is assumes RPL mode but I haven't seen where this is explicitely said. I was hoping it would help me learn how to program in ALG mode.

Arnaud

Edited: 11 Nov 2005, 1:14 p.m.

Re: Announcement: The HP49g+ / HP48gII Advanced Users Reference Manual now available!

*Message #3 Posted by **Gene Wright** on 11 Nov 2005, 1:27 p.m.,*
in response to message #2 by Arnaud Amiel

Well, chapter 1 is RPL programming. :-)

For the command reference, the input diagrams show "Level 1 / Argument 1" for any inputs to the commands. The algebraic mode takes arguments in the order shown in these diagrams. So, what's listed will work in both modes.

Programming? anyone program the 49g+ in ALG mode?

Re: Announcement: The HP49g+ / HP48gII Advanced Users Reference Manual now available!

*Message #4 Posted by **Scott** on 11 Nov 2005, 1:24 p.m.,*

in response to message #1 by Gene Wright

Wonderful! Thanks for the effort!

Any word as to when the print version will be available?

Thanks, Scott

Re: Announcement: The HP49g+ / HP48gII Advanced Users Reference Manual now available!

*Message #5 Posted by **Namir** on 11 Nov 2005, 1:26 p.m.,*
in response to message #1 by Gene Wright

Thank you Gene for the wonderful news! It's news like this that makes the website shine!!

Namir

Re: Announcement: The HP49g+ / HP48gII Advanced Users Reference Manual now available!

*Message #6 Posted by **Daniel Diggelmann** on 11 Nov 2005, 2:00 p.m.,*
in response to message #5 by Namir

Well done! This was an important effort to make the HP-49G+ a valuable tool. Many thanks to all contributors! I like the layout, examples and illustrations. What's next? Will there ever be any additions to the CAS? In my opinion there's still room for bug fixes and improvements. Watch out, on the TI side the development goes on. If HP want to have the best graphing calc they need to invest in development. Of course the manuals will have to kept up to date. I always was a HP fan and I use a HP-49G+ from time to time. I'm actually still waiting for the keyboard to be fixed in order to use it everyday. I'm still hoping...

Regards from Switzerland Daniel

Things to note that are in the new AUR:

*Message #7 Posted by **Gene** on 11 Nov 2005, 2:08 p.m.,*
in response to message #1 by Gene Wright

1) A chapter on the development library. (Chapter 6)

2) A comprehensive (I hope) list of all keyboard shortcuts. This has always been a common complaint that we wanted to rectify.

3) A complete! listing of all error messages.

4) The equation library reference includes a 1-page table of contents that is more a QRG to the equation libary more than anything else.

While doing this, we did find and correct mistakes going back all the way to the HP28S reference manual. It was amazing! Unfortunately, I'm sure there are still lots remaining. :-(

But we have really tried. :-)

Things that I KNOW are really needed:

1) Internal links in the PDF (this was a time constraint...there are thousands of links needed and we really wanted to go ahead and get this released!)

Gene

Re: Things to note that are in the new AUR:

*Message #8 Posted by **Chan Tran (USA)** on 11 Nov 2005, 2:59 p.m.,*
in response to message #7 by Gene

I guess it's time for me to buy a 49G+.

Re: Things to note that are in the new AUR:

*Message #9 Posted by **Howard Owen** on 11 Nov 2005, 6:14 p.m.,*
in response to message #7 by Gene

Gosh, Gene, *that* sounds like real, capitalist validation! 8)

I've already got a 49G+, but this will certainly encourage me to study it more. Thanks!

Edited: 11 Nov 2005, 6:15 p.m.

Re: Things to note that are in the new AUR:

*Message #10 Posted by **ECL** on 12 Nov 2005, 1:41 a.m.,*
in response to message #7 by Gene

Gene,

This may be inappropriate, but I noticed a heading in the AUR on writing code on the PC and then transferring them to the 49g+, is it fairly simple? I ask because my 49g+ is on loan until next week, and I cannot try til then.

Thanks, Eric

Re: Things to note that are in the new AUR:

*Message #11 Posted by **James M. Prange (Michigan)** on 12 Nov 2005, 2:17 a.m.,*
in response to message #10 by ECL

Very easy. If the code is at all complicated and the PC is available, this is my preferred way of doing things.

Advantages of writing the source code on the PC include:

- More of the code can be seen at one time in my text editor.
- I can use all of my text editor's capabilities.
- I have a qwerty keyboard on the PC; no need to deal with the calculator's alphabetical layout or remember the proper keystrokes for a command or go to the right menu; just type it in.
- I have the original source code, including my formatting and comments, stored on the PC.
- If I care to post my source code in this forum or in the newsgroup, it's already available in a text file. It's just a matter of opening the file, and then copying and pasting.

Regards,
James

Edited: 12 Nov 2005, 2:19 a.m.

Re: Things to note that are in the new AUR:

*Message #12 Posted by **Howard Owen** on 12 Nov 2005, 2:36 a.m.,*
in response to message #10 by ECL

I think all it takes is your HP connectivity software. You transfer the program to the calculator as a text object, and it gets "compiled" when it's EVALuated.

The other way works too, even if the code contains binary objects on the calculator. They get converted to textual forms that are equivilant to the binary form when EVALuated.

Re: HP49g+ / HP48gII AUR -- Available in Hardcopy?

*Message #13 Posted by **Paul Brogger** on 11 Nov 2005, 6:47 p.m.,*
in response to message #1 by Gene Wright

Will this be made available, printed & bound, via HP (or whatever)?

Thanks!

Re: HP49g+ / HP48gII AUR -- Available in Hardcopy?

*Message #14 Posted by **ECL** on 11 Nov 2005, 6:53 p.m.,*
in response to message #13 by Paul Brogger

Yes,

I ditto support for a bound version. Also thanks for the effort in producing the doc!

ECL

Re: HP49g+ / HP48gII AUR -- Available in Hardcopy?

*Message #15 Posted by **RON ALLEN** on 14 Nov 2005, 3:22 p.m.,*
in response to message #14 by ECL

A DEFINITE PROSPECT FOR HARD COPY

Are we talking about the 861-page user manual for the 49G+? I just heard from HP support today on this very question among two others. The response was that a policy decision was made at HP to conserve paper by using the Adobe Reader and the PDF file. FWIW, I use my old 48G series manual for most (probably 90%) of my reference needs.

I haven't downloaded the "Advanced User Manual" for the 49 yet. Is it a more reasonable size?

The other question I posed to HP was about RECURSIVE CALLS in 48-49 programs and functions. I have performed some recursive calls and have often wondered if I might be creating some unstable situations since the stack is being asked to perform at least one additional tracking task, e.g., same-named local variables and stacked recursive calls. Just a little surprised that HP does not address the subject at all.

ANY COMMENTS?

Ron

Re: HP49g+ / HP48gII AUR -- Available in Hardcopy?

*Message #16 Posted by **Gene Wright** on 11 Nov 2005, 7:23 p.m.,*
in response to message #13 by Paul Brogger

Given that this has an official HP part number, I hope so.

That's different from the HP 12c platinum solutions book (also available online in PDF form) which does not have an HP part number.

When I know for certain when and how to get one, I'll post here (unless someone finds out first!)

Re: HP49g+ / HP48gII AUR -- Available in Hardcopy?

*Message #17 Posted by **Ed Look** on 11 Nov 2005, 10:07 p.m.,*
in response to message #13 by Paul Brogger

Let me, too, weigh in in favor a a bound, printed version!

While I love freely downloadable literature, especially quality items like a 49G+ AUR, there's nothing that beats having the book! It's hard to brush up on RPL in bed if you only own a desktop PC.

Many Thanks Gene and Team!

*Message #18 Posted by **Namir** on 11 Nov 2005, 11:14 p.m.,*
in response to message #1 by Gene Wright

Gene,

I would like to express much appreciation for you and the other distnguished writers who contributed to the AUR. As a technical writer myself, I know that putting such a document together is no easy task. It's an elaborate task to organize the document, write and double check the facts, and do the editing.

On behalf of the members of thsweb site, I want to send you and the rest of teh team a warm thak you!

Namir

TEAM is the proper word

*Message #19 Posted by **Gene** on 12 Nov 2005, 12:23 a.m.,*
in response to message #18 by Namir

This was a huge team effort. Please don't mistake this for some sort of solitary work. The team as listed on the inside front page of this book helped out in various ways.

Some of this team are frequent posters here and if they wish to comment on this, great!

Team - (as my former employer used to say) means "Together Everyone Accomplishes More".

Re: Announcement: The HP49g+ / HP48gII Advanced Users Reference Manual now available!

*Message #20 Posted by **Eddie Shore** on 13 Nov 2005, 12:33 p.m.,*
in response to message #1 by Gene Wright

Great! Thank you HP people in advance!

Re: Announcement: The HP49g+ / HP48gII Advanced Users Reference Manual now available!

*Message #21 Posted by **Ron Allen** on 17 Nov 2005, 12:22 a.m.,*
in response to message #1 by Gene Wright

Where do we get them? I spoke with tech support only this Monday and they didn't know about them. Is yours a third party source of pubs?

Thamks - anxious to buy

Ron

Re: Announcement: The HP49g+ / HP48gII Advanced Users Reference Manual now available!

*Message #22 Posted by **Gene Wright** on 17 Nov 2005, 6:49 a.m.,*
in response to message #21 by Ron Allen

You get it by going to the link in the original post in this thread and downloading the PDF.

There is not a printed copy available at this time. That's why tech support doesn't know anything about it.

PDF only right now. Hoping for printed later, but not yet.

Re: Announcement: The HP49g+ / HP48gII Advanced Users Reference Manual now available!

*Message #23 Posted by **Ron** on 17 Nov 2005, 3:11 p.m.,*
in response to message #22 by Gene Wright

Thanks for the clarification. I already have one huge .pdf edition of the guide about half copied into a massive volume of 2-sided note paper. From the size of the file it must be about 250 pages. A lot better than the 861 pages of the guide. Can't fault HP policy saving trees, but it kind of spoils the effect of having a powerful field instrument that fits in one's pocket and reference material that is accessed through a full size screen on a pc or a two volume set of 3" notebooks.

Thanks for the work effort, and I will stay tuned for the news,

Ron

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MLDL2000 assembly pics

*Message #1 Posted by **Vieira, L.C. (Brazil)** on 11 Nov 2005, 11:28 a.m.*

Hi MLDL2000 owners, all;

After trying many possible solutions, I could not find a suitable connector to be used between the CPDL and the USB boards, so I used a cut of flat cable. This link leads to the pictures of the boards with connectors and their arrangement. The MLDL2000 works perfectly fine the way it is. Main final stages are 1) to build a suitable block of pins to connect the interface board to the CPLD board and 2) to fimrly locate the USB connector so it does not slip when plugging the cable in or out.

The last picture shows my own solution for an external DC input. Although it can be seen, the box has already been cut to hold the USB

These are just intermadiate pictures. As I have it finished and completely assembled I'll post others.

Hope you enjoy. Feedback is welcome.

Cheers.

Luiz (Brazil)

Edited: 11 Nov 2005, 11:34 a.m.

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Latitude & Longitude Conversion

*Message #1 Posted by **Robin** on 11 Nov 2005, 7:24 a.m.*

Greetings;

I am using an hp 48gx. Is there any built in function that will allow me to convert latitude and longitude values easily?

By convert I mean from decimal degrees to degrees minutes seconds and back again.

Thanks in advance for any help.

Cheers,

Re: Latitude & Longitude Conversion

*Message #2 Posted by **Vieira, L.C. (Brazil)** on 11 Nov 2005, 7:41 a.m.,*
in response to message #1 by Robin

Hi, Robin;

the HP48 has two converting tools that will surely help:

```
[->HMS] and [HMS->]
```

I'm not with my own HP48 in hands right now, but you could, please, have a look at both TIME menus: [left-shift][TIME] and [right-shift][TIME]. If I am not wrong, in one of the pages you'll find both converting commands.

(PLease, consider that the characters -> are, in fact, a whole right arrow).

Let us know if you found what you want.

Best regards.

Luiz (Brazil)

Re: Latitude & Longitude Conversion

*Message #3 Posted by **Robin** on 11 Nov 2005, 7:57 a.m.,*
in response to message #2 by Vieira, L.C. (Brazil)

Hello Luiz;

You are correct, left shift time on the second page.

I am going to assume [->HMS] is from decimal to hours, minutes, etc. And [HMS->] is from hours, minutes, etc to decimal.

I would like to clarify the formatiing if anyone knows. If I input 55.975056 decimal degrees and use [->HMS] the output is 55.58302016. I believe this translates to 55 degrees 58 minutes 30.2016 seconds. Is this correct? It certainly seems to make sense.

I really appreciate all the help.

Cheers.

Re: Latitude & Longitude Conversion

*Message #4 Posted by **Tim Wessman** on 11 Nov 2005, 8:47 a.m.,*
in response to message #3 by Robin

Yup. That is the correct format. If you want, it is pretty easy to write a little program that will add in o ' " for display purposes should you want to use it in a fancy display.

TW

Re: Latitude & Longitude Conversion

*Message #5 Posted by **Ron** on 16 Nov 2005, 5:09 p.m.,*
in response to message #2 by Vieira, L.C. (Brazil)

Hi, Luiz, good direction on HMS. (RE: HP49G+ HP 48GX)Do you happen to have either the equations or knowledge of an algorithm to work with surface navigation. Conversion from short distance dead reckoning to great circle, etc,? I use short cut math estimating the distance in nautical miles between longitudes as in the vicinity of cos(latitude). While this is good enough for tracking hurricanes at home, the compounding errors for headings and distance when sailing could lose the race.

I plan to research the internet like in "Ask Dr. Math" for equations, but decided to follow up to see if you happened to have anything all ready to share.

Thanks in advance,

Ron

Re: Latitude & Longitude Conversion

*Message #6 Posted by **James M. Prange (Michigan)** on 16 Nov 2005, 6:09 p.m.,*
in response to message #5 by Ron

Maybe try a search at http://www.hpcalc.org/.

Regards,
James

Re: Latitude & Longitude Conversion

*Message #7 Posted by **Dave Shaffer** on 16 Nov 2005, 11:30 p.m.,*
in response to message #5 by Ron

Ron,

What kind of "formulas" do you want?

Navigation on the surface of the Earth is no more complicated than applications of spherical trigonometry. A book with MORE than you ever will want to know about this stuff is "Textbook on Spherical Astronomy" by Smart.

Basically, if you imagine a triangle drawn on the surface of the Earth, then you can describe the angles between adjacent sides (i.e. where the sides meet) as A, B, and C (other than being on the surface of the sphere, these angles are the same as the interior angles of a plane triangle - i.e. the angles you would measure with a protractor). Opposite each of these interior angles is a portion of a great circle, of arc length respectively a, b, and c (where a, b, and c are opposite the relevant angles, and the angular value is the angle that the portion of the great circle subtends as viewed from the center (inside) of the sphere.

Then, the relations between angles and sides are

sin a sin b sin c ------- = ------- = ------- (the "sine" formulae), sin A sin B sin C

and cos a = (cos b)*(cos c) + (sin b)*(sin c)*(cos A)

(the "cosine" formulae, with appropriate permutations).

Some practice in envisioning and drawing spherical triangles relevant to the problem at hand is necessary. For starters, imagine a spherical triangle defined by the North Pole, a point on the equator at longitude zero, and a point on the equator at longitude 90 degrees. Then, the interior angles will all be 90 degrees and the lengths of the sides will also all be 90 degrees.

For navigation in general, you probably know your current location (in latitude and longitude) and your destination (also in latitude and longitude) and want to know what direction you need to go in order to reach your destination in the quickest possible manner (ignoring windage, current, etc. - i.e. what is the heading of your destination) and how far away is your destination.

The side of the triangle between you and your destination is then the interesting one. Its length (in angular measure, converted to linear measure via the radian formula) and direction (i.e. angle between it and due north) are what you need to calculate.

To do this, draw a spherical triangle with corners at the north pole, your current location, and your destination. Then, the interior angle at the top (A) will be the difference on longitudes of your current location and destination, and two of the sides (b and c) will have angular lengths that are 90 degrees minus the latitudes.

From the cosine formula above, you can then find the length (a) of the third side: you know A and b and c. Convert a from angular measure to linear distance (the distance to your destination) using the radius of the Earth as (approximately!) 6370 km.

Once you know a, you can find your desired heading by finding the angle b (assuming you are now at the point which is the junction of sides a and c.

Be careful when taking inverse trig functions!

These instructions are specifically a bit incomplete in that I hope you will draw some triangles and derive the relevant results!

Note that you can also accomplish much of this with vector products. For instance, the dot product (done with unit vectors) will give you the angle between two points on the Earth: convert your lat, lon (of both current position and destination) to x,y,z coordinates

x = cos(lat) * cos(lon) y = cos(lat) * sin(lon) z = sin(lat)

and take the dot product to get the cosine of the angular separation. use the radius of the Earth, as above, to then get the distance to your destination.

All of this assumes a truly spherical Earth, which ain't quite the case, but close enough unless you are trying to land ballistic missiles on the bad guys a continent away (in which case you may miss by 20-40 kilometers)!!

Re: Latitude & Longitude Conversion (minor corrections!)

*Message #8 Posted by **Dave Shaffer** on 16 Nov 2005, 11:35 p.m.,*
in response to message #7 by Dave Shaffer

I forgot about the formatting conventions!

The "sine" formulas should have

sin a

over

sin A

and similarly for b,B and c,C.

Also, I should have said:

"Once you know a, you can find your desired heading by finding the angle B ..." (angles are capitals!)

Re: Latitude & Longitude Conversion

*Message #9 Posted by **Ron** on 17 Nov 2005, 9:48 p.m.,*
in response to message #7 by Dave Shaffer

[quote] Ron,

What kind of "formulas" do you want?

****

Don't recall using the word "formulas" or "formulae." The nearest I recall was equations.

I do appreciate the time you took to expound on what must be your favorite subject, math in general, trig in particular. I continue in my efforts to communicate better the first time, but have a tendency to cut the corners a little close to the line. What I intended to convey when I approached the forum was that I could use an algorithm suitable for use in the 49g+ to quickly calculate heading and distance based on the spherical model of the earth. My experience with forums has been based on something like a barter economy - I exchange a service I can perform to members who contribute to others who borrow from others, etc..... So far I have had tremendous success exchanging ideas and services in photography and math (mathcad). I figured (no pun) that after 30 years making good use of programable calculators, beginning with the TI-59, my experience might contain some trick or treat here or there that just might be the "thing" (formula maybe?) to contribute in exchange for all the favors I am likely to request.

Thanks for your response. I will see if I can reduce it to an algorithm or two. If I perform a

complete analysis of the ballistics problem you offered I would expect the need to solve at least one differential equation to account for drag in the atmosphere, right?

Ron

PS you like oxymorons? I saw a car today with conflicting chrome labels on the trunk "Limited" "Infinity"

Re: Latitude & Longitude Conversion

*Message #10 Posted by **Les Bell** on 18 Nov 2005, 12:03 a.m.,*
in response to message #9 by Ron

Sorry, I didn't notice this thread earlier. The answer is easy: see Ed Williams' Aviation Formulary, at http://williams.best.vwh.net/avform.htm. I've successfully used the equations there to implement C++ and Java classes for use in flight planning and navigation programs.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Latitude & Longitude Conversion

*Message #11 Posted by **Ron** on 18 Nov 2005, 11:25 a.m.,*
in response to message #10 by Les Bell

WOW!

Thank you, Les! Everything I wanted to see plus a whole course in navigation. I'm sure the translations will go smoothly and I can reduce what I want to 48 and 49 g+. Should be fun.

For the benefit of others who might need some of this, the basic file is previewed as 32 pages, but at first glance might expand with several imbedded urls. Looks to me like a complete course, excuse the play on words.

Thanks again, Les

Ron

Re: Latitude & Longitude Conversion

*Message #12 Posted by **Rafael Ramos** on 20 Nov 2005, 8:44 p.m.,*
in response to message #10 by Les Bell

here is a homemade equation to evaluate the distance between two given coordinates

dist=pi*6371*asin(sqrt(sq(6371*sin(lat2-lat1))+sq(6371*cos(lat2-lat1)*sin(lon2-lon1)))/6371)/180

the "6371" is the average earth radius in kilometers. you can change it for miles (make an if() if you wish ;)

can anyone estimate the precision of this equation?

i am working on a formula to consider the diff between the polar and equatorial radius.

Re: Latitude & Longitude Conversion

*Message #13 Posted by **Wayne Brown** on 20 Nov 2005, 6:22 p.m.,*
in response to message #9 by Ron

> Quote:
>
> PS you like oxymorons? I saw a car today with conflicting chrome labels on the trunk "Limited" "Infinity"

Well, in calculus, functions often have limits as they approach infinity... **:-)**

Re: Latitude & Longitude Conversion

*Message #14 Posted by **Ron** on 21 Nov 2005, 2:18 a.m.,*
in response to message #13 by Wayne Brown

the irony of the superior technical/math training in Japan and a "limited" infinity was enjoyable to say the least. Yes, we do have the limits of the errors of our calculus which gives me cause to wonder if the differential doesn't have something to do with "chaos" as it creeps into such things as turbulence and jets. At least most of us seem satisfied with "Close enough for all practical purposes." I still want my jets limited before they approach infinity.

Thanks for the thoughts and chuckles,

Ron

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Free manual hp 15c

*Message #1 Posted by **Carlos** on 10 Nov 2005, 3:00 p.m.*

Visit the web site for free manual on HP15c

http://hp15c.org/about.php

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HP Should Really Bring Back The 15C - To Make Money!

*Message #1 Posted by **I, Claudius** on 10 Nov 2005, 7:24 a.m.*

I'm really not passionate about scientific calculators, but many (including most who post here) obviously are. Look at this eBay auction (current bid $300) for a 15C in apparently decent condition:

http://cgi.ebay.com/HP-15C-Scientific-Calculator-with-Manual-More_W0QQitemZ5827219760QQcategoryZ58039QQrdZ1QQcmdZViewItem

If people are willing to shell out $300 up for a years old, used machine, HP should bring back an improved version of the 15C if for any reason to just make money. HP could easily ask $100 up per unit and I'd bet they sell like hot cakes. Good sales would go a long way to help finance the entire calculator division, resulting in hopefully better calculator quality all round.

Re: HP Should Really Bring Back The 15C - To Make Money!

*Message #2 Posted by **Stephen Easterling** on 10 Nov 2005, 7:53 a.m.,*
in response to message #1 by I, Claudius

According to a recent auction, Hewlett Packard should bring back the HP67! Did you see that last auction go for just over $400! In all seriousness, I'd love to see some sort of "special" edition (anniversary or not) for a 15C Platinum to go with the 12C Platinum. Imagine, 32k and lots of go-fast parts inside!

Re: HP Should Really Bring Back The 15C - To Make Money!

*Message #3 Posted by **Dave Bernazzani** on 10 Nov 2005, 8:56 a.m.,*
in response to message #1 by I, Claudius

I've seen this argument before but it doesn't hold much water, IMO. Something selling for $300 on ebay in small quantity doesn't mean that it can be marketed for anywhere near that nor does it indicate a demand anywhere near large enough to support selling the product in significant quantities. It comes down to basic supply and demand (one of the few things I learned in my non-Engineering classes that has been of immesurable value). In any given week there are, for the sake of example, 10 people selling 15C calculators. There may be 20 people looking to buy said calculators. The price is driven up because there are more willing buyers than sellers. The demand is high. The number of available units for sale is low. The price reflects this ratio.

If HP mass produces the HP-15C (or equiv.) then the market gets saturated quickly - those few that want them can easily get them, demand goes down, supply goes (way!) up and nobody is willing to pay the high price anymore. HP isn't going to sell enough at the ebay-price or by keeping the demand high because they can't survive on handfulls of $300 sales per week. If the HP-15C were to be re-released, a few hundred (or thousand) of us would be happy, and would buy one (or two!). Then the rest would have to compete on the open market with a $15 calculator (admittedly inferior) hat could do everything but clean the kitchen sink. It just doesn't seem viable.

This is a big misconception when people see the prices out of print items fetch. I see this with 'rare' video games as well (my other hobby). In a few cases, companies have been persuaded to re-release a product which

often sells well for a couple weeks for those that have been wanting a copy until the supply/demand ratio changes. Then they are stuck with lots of product that ends up competing poorly.

Re: HP Should Really Bring Back The 15C - To Make Money!

*Message #4 Posted by **Frank Travis** on 10 Nov 2005, 9:12 a.m.,*
in response to message #3 by Dave Bernazzani

I see your point about supply and demand. When I was at HHC 2005 in Chicago this year I gave a presentation on bringing back the HP 15C (in an updated version). I used my current HP 12C as an example of the basic layout/mold needed. Lee Kuan-Goh and Cyrille DeB. of HP who were there said that HP would have to do their own marketting survey to see if they could recoup their investment costs and sell enough new version HP 15Cs to bring it back. Lee said they have gotten a lot of hot response on bringing back the HP 15C. The only way of knowing for sure how many new HP 15Cs would sell is for HP to do the marketting survey. In the 1970s the Nissan "Z" sports car was very popular. It is now being re-issued. The Ford Mustang car from the 1960s was re-introduced (with modifications) in the 1970s as Mustang II, and more recently in a newer version. I also made a point at HHC 2005 about the documentation for the original HP 15C already being available (the CD/DVD documentation on www.hpmuseum.org) and whole book form manuals on www.ebay.com HP would not have to redo the who manuals, just make necessary modifications.

some economics classes would help here

*Message #5 Posted by **john** on 10 Nov 2005, 10:13 a.m.,*
in response to message #4 by Frank Travis

Cars like the Mustang II would be bought by people whether or not they ever liked the Mustang I.

there just are not enough people to buy 15c calculators to ever make this worth doing to HP.

I find it humorous that so many people waste their time like this rather than moving on with their lives.

The 15c will not be brough back.

Compare with slide rules

*Message #6 Posted by **Norris** on 10 Nov 2005, 12:54 p.m.,*
in response to message #5 by john

If you check eBay or Sphere Research, you will find that collectors routinely pay $100 to $500 for good slide rules. Does that mean that there is a place for new K&Es or Picketts on the shelves at Office Depot or Staples? Realistically no, not even at a fraction of those prices.

There is an informal association of slide rule enthusiasts, the International Slide Rule Group, that occasionally does commission new slide rules from a Japanese manufacturer. They can round up a few hundred people worldwide for each order. So the community, while passionate, is very small. HP calculator enthusiasts are probably a larger group, but not large enough to represent a significant market, especially for a big company like HP.

Edited: 10 Nov 2005, 12:56 p.m.

Re: Compare with slide rules

*Message #7 Posted by **Chris Dean** on 10 Nov 2005, 3:17 p.m.,*
in response to message #6 by Norris

I have a collection of slide rules and treasure them but I would not dare take any of them to work to solve a problem. But I would a 15C as it is still a viable instrument for doing calculation. With respect to the Pontiac GTO mentioned in an earlier response haven't Ford recently recommissioned the old style Mustang?

Edited: 10 Nov 2005, 3:20 p.m.

'stang

*Message #8 Posted by **bill platt** on 10 Nov 2005, 3:40 p.m.,*
in response to message #7 by Chris Dean

The new 'stang is as much an old pony as der neue beetle is the old bug.

Why would anyone seriously wnat to re-create the 15-c? It's ludicrous.

The only reasdon you like it is beacause it is "beautiful" and "pwerful" within the context of its era.

What's wrong with it.

1-line dsplay?

No alpha?

the matrix stuff is great, except it is old-fashioned and anyone is going to say, "what't the point" when you can go to a "graphing" and get much more effective matrix interfaces and manipulation.

can you say slooooow?

RPN? OK, so let's all throw out our windose machines and go LINUX. Never mind that none of the programs we *need* to be productive will *work * on linux. RPN is nice, but it is not viable as a stand-alone approach anymore. It's like apple and linux--great for the "informed" but useless if you actually do something useful in the broader context.

Keycodes? You must be joking if you thing that is a way to program today.

In short, it is just not Worth it to think about bringing it back. Let it live on a a piece of history.

Re: 'stand?

*Message #9 Posted by **Howard Owen** on 10 Nov 2005, 4:58 p.m.,*
in response to message #8 by bill platt

I will refrain from contributing to an off-topic flame war by limiting myself to the observation that your attitude toward Linux may not have been refreshed in the last couple of years. http://www.ibm.com/linux is one place you can go to get a more recent take on its value in the "broader context."

Re: 'stand?

*Message #10 Posted by **Garth Wilson** on 10 Nov 2005, 5:27 p.m.,*
in response to message #9 by Howard Owen

or check out Linspire Linux at www.linspire.com . All the Microsoft stuff is mimicked (without the bugs, virus susceptibility, lousy MS support, etc.) in Linux. For a single, small yearly fee (something like $40), they offer unlimited access to 2000+ software titles, plus Win-to-Lin which allows things that were designed to run under Windows to run under Linspire Linux instead, without Windows. In a few days I expect to be MS-free here.

Edited: 10 Nov 2005, 5:29 p.m.

linux

*Message #11 Posted by **bill platt** on 10 Nov 2005, 5:30 p.m.,*
in response to message #9 by Howard Owen

Don't get me wrong--I love UNIX and I like Linux. And it makes a great server--so far much more secure than windose.

But when it comes to the "front end" no small to medium business can afford to be using equipment that simply will not run the software they need.

I used macintosh back in the day. Much better than early windows.

But I had to buy a DOS machine. I needed the software that was writen for ms-DOS shell, so the hardware and shell had to be DOS.

Some of the IT geeks like to make alot of hay about how Linux is catching up etc.

I won't believe it until I see the programs that I *use* being offered to run native in Linux. At that point, Linux will be the "standard". But it is not there yet. Not even on the radar yet.

Re: linux

*Message #12 Posted by **Howard Owen** on 10 Nov 2005, 6:10 p.m.,*
in response to message #11 by bill platt

What do you use, Bill?

linux

*Message #13 Posted by **bill platt** on 10 Nov 2005, 6:19 p.m.,*
in response to message #12 by Howard Owen

Prosurf Nautilus Autohydro GHS Solidworks Autocad Maestro Algor NAPA Aerohydro surfaceworks

Those are the show-stoppers

Micro$oft Access ('m sure I could port my database--would not miss Access for sure!)

The following are used but I don't care who's, as long as they write/read formats perfectly: Wordperfect (current release--a client uses it) Word,Excel,Powerpoint all that sh** Paint, Photoeditor

Re: linux

*Message #14 Posted by **Howard Owen** on 10 Nov 2005, 7:32 p.m.,*
in response to message #13 by bill platt

Codeweavers has a program going until the end of the year in which they will work with you to get *any* Windows app to install on Linux with CrossOver Office. Now, just installing is one thing, and running well is another. But the first has to happen before the last can be acheived. And some Win32 apps will run great under the existing WINE, which is at the heart of CrossOver Office. AutoCAD will, for example, although I don't recognize the others on your list. Microsoft Office, at least through Office XP, runs great. Including Access in the newer releases, I believe. Visio runs well too.

So for basic Office productivity on Linux, you have a choice betweem M$ Office (Or WordPerfect) and some pretty substantial office software from Sun and others. In most cases, it's not the widely deployed apps that stand in the way of Linux desktop deployments. It's the vertical apps, like the ones you mentioned. But I hope I've given you at least a glimmer of an idea that Linux may be "on the radar" after all.

Re: 'stang

*Message #15 Posted by **Thomas Okken** on 11 Nov 2005, 8:24 p.m.,*
in response to message #8 by bill platt

Sorry, getting a wee bit of-topic here, but I couldn't resist...

RPN? OK, so let's all throw out our windose machines and go LINUX.

Why throw anything out? I've been running Windows AND Linux on all my PCs for the last 10 years. Good ol' dual boot.

*Never mind that none of the programs we *need* to be productive will *work * on linux.*

Speak for yourself! All the programs *I* need to be productive are available on Linux, and usually they work better than the Windows equivalents... One thing that's keeping me from ditching Microsoft altogether is that Windows is still the premier *gaming* platform! Not much of a productivity booster, that, but hard to ignore. ;-)

Incidentally, the Windows version of Free42 was developed almost entirely under Linux -- using Win4Lin with Windows 98SE and Microsoft Visual C++ 6.0. No getting around using M$ products if you want to develop software that runs on M$ platforms, but at least I could do it while still having access to all my cool Linux goodies and no need to reboot.

Re: Compare with slide rules

*Message #16 Posted by **Wayne Brown** on 11 Nov 2005, 12:20 p.m.,*
in response to message #7 by Chris Dean

> Quote:
>
> I have a collection of slide rules and treasure them but I would not dare take any of them to work to solve a problem.

I'm curious: Why wouldn't you use a slide rule at work? I keep a few of mine at the office and enjoy using one now and then just to surprise my colleagues.

Re: Compare with slide rules

*Message #17 Posted by **Chris Dean** on 11 Nov 2005, 1:29 p.m.,*
in response to message #16 by Wayne Brown

I suspect I could take one in and use it during a 'maintenance period'. This I suspect would surprise my work mates!

Re: Compare with slide rules

*Message #18 Posted by **Paul** on 12 Nov 2005, 4:06 a.m.,*
in response to message #17 by Chris Dean

Slide rules are still used by Flight engineers of Lockheed C-130H/E model cargo aircraft in some Air Forces, the batteries seem to last forever (joke) and are totally reliable. They are also unaffected by EMP.

Cheers Paul

15c

*Message #19 Posted by **bill platt** on 10 Nov 2005, 9:07 a.m.,*
in response to message #1 by I, Claudius

One of the axioms of economics:

Price is set by buyers and sellers. For any class of items for which a large body of items exist, the price is set nty by any "intrinsic" value, but rather by the small percentage of that class that is actually for sale, and the buyers who are buying. This is as true for calculators as it is for real estate.

The great fallacy of your reasoning is caused by you confusing what is actually happening, as compared with the concept of "supply and demand" *as applied to consumables*. Calculators are *durable goods* more akin to real estate, at least over medium time spans. (Obviously over time, they will become scarce--as any collectible will, whereas real estate is fixed).

Note that Pontiac does not go and re-produce the 1969 GTO. Sure, you can spend 50 grand on one, but there aren't that many people out there willing to spend it!

"They Won't"

*Message #20 Posted by **Ron Ross** on 10 Nov 2005, 9:36 a.m.,*
in response to message #1 by I, Claudius

And the reason why: Anything more complex than the Hp33s would then start to rob sales from the Hp49G line. Hp has the history of the Hp42s to refer to for this (falacy maybe, but they should still have the sales data, which I would certainly interpret differently from their brilliant marketing bunch).

The Hp42s was designed to support 32K RAM and a serial I/O had been in the works. As it was, it was priced above the Hp48G AND it STILL SOLD. Every sale was a no SALE for the higher powered Hp48G. "Man, are those DIMWIT ENGINEERS STUPID!" is all Hp marketing could think of. So as to not produce a competing line (as anyone who bought an Hp42s, wouldn't buy anything but Hp, why not reduce their choices ie buy

either an Hp32s or an Hp48G). Most would step up to the Hp48G and those that needed less would buy an Hp32s (with units conversions, and still some programming).

The Hp42s (larger number than 41) was supposed to supercede the 41. Only near the end was it then marketed to replace the Hp15c (after abandoning the serial I/O development, the RAM support was already there).

I could RANT and gripe all day, but at least there is still the Hp33s now available. That it is distinctive is another BIG PLUS (ugly to some, maybe most).

I also feel that is why the Hp20s was NEVER offered as an RPN/algebraic option calculator. That would have ROBBED sales from the Hp32s (retail $70 vs $30 for the Hp20s).

Sometimes Hp marketing stratagies backfire, but hey, they have degrees in these areas, so who are we to argue with their brilliant decisions?

Re: "They Won't"

*Message #21 Posted by **John** on 10 Nov 2005, 10:14 a.m.,*
in response to message #20 by Ron Ross

Alas, this is also true.

Marketing picks strange colors for machines they don't even know how to use.

"Let's try a blue and pink model. How do I turn it on again?"

Re: "They Won't" (Long)

*Message #22 Posted by **ECL** on 10 Nov 2005, 11:42 a.m.,*
in response to message #21 by John

To comment on the intra-product line competition of a beefed up 33/42s style machine and the 49 line-

My university carried a slew of the 49g+ in 2003. They also carried the 48gII. I haven't seen a 49g+ since early 2004, but they do have several stacks of 33s' (the new ones- larger dot,spacing between numbers).

In fact, I can't seem to locate the 49g+ in any store here. I have one of the earlier models with a stiffer keyboard and latest ROM (I'm not looking for one, in other words). Whatever HP may have in the works, I suspect that I will still react with "is THAT the new HP?" They never really live up to the nostalgia-fueled expectations on first impression, although, YES, the 33s is pocketable-RPN for under US50.00, and it works quite well.

My engineering dept is fairly small (300 students), and of the few people I know, 4 people use RPN. We all seem to do very well, too :) Of note is that no one using a Ti grapher seems to have written code, or really used the graph capability. But, what is garbage to me is...

Also, there is a bit of a 'sleeper' component to the 33s (or any non-graphing RPN). And if I sit and program at a cafe, the ladies don't suspect that I'm playing video games :) Lay people at worst assume you are doing math, which is fine, and often the case.

Re: "They Won't"

*Message #23 Posted by **Jake Schwartz** on 10 Nov 2005, 11:50 a.m.,*
in response to message #20 by Ron Ross

Quote:

The Hp42s was designed to support 32K RAM and a serial I/O had been in the works. As it was, it was priced above the Hp48G AND it STILL SOLD. Every sale was a no SALE for the higher powered Hp48G. "

I'm afaraid that some of this is revisionist history. If you check Craig Finseth's hpdatabase at http://www.finseth.com/hpdata/hp42s.html, it shows that the HP42S was introduced in October of 1988 at a price of $120. and was discontinued in March of 1996. The HP48G was introduced in June of 1993 at a price of $165. and discontinued in mid 1999. From this, it was to be five years after the 42S came out before the 48G was introduced. Did you possibly mean the 48S? It was introduced in April of 1991 (still a year and a half after the 42S) at $250. and was discontinued in June of 1993, right as the 48G came out. Either way, it looks like the price of the 42S was never higher than either the 48G or 48S. I distinctly remember when the 42S was introduced, because I had a 28S at the time and saw no need to revert back to traditional FOCAL language a la hp41 after having just obtained my second (28C, then 28S) RPL machine.

Jake Schwartz

Re: "They Won't"

*Message #24 Posted by **Ron Ross** on 10 Nov 2005, 12:09 p.m.,*
in response to message #23 by Jake Schwartz

I purchased my first Hp42s for $90 (Hp discount) and an Hp48s for $140 (again, an Hp discount). However, shortly there after the Hp48G was introduced at $160 and within a year was down to $100 while the Hp42s was then available for list at $120.

This was now around 93-94 and I had just given my Brother in law my Hp48s and was looking to replace. I was surprised that the Hp42s was priced higher than the newer Hp48G. I then forked out a $100 for a new Hp48G from Educalc. I remember thinking, "Why hasn't Hp reduced the price of the Hp42s? They will never sell any if they are priced more than an Hp48G." Shortly afterwards, the 42s was discontinued. Don't have to be to bright to realize why, it didn't sell. But then it couldn't be expected to sell well in its market niche except to die hard Hp calculator nerds. The typical engineer buys the most he can for what he wants. The Hp48G blows an Hp42s away for features and I/O.

But a 48G aint a pocket calculator either. As a student, I would use a 48G for much of my work, but if I just needed a customizable calculator, I would vote (and buy) an Hp42s. That it was marketed poorly is another matter.

Now I use the newer Hp's because they are fast, fairly reliable and replacable. However, they aren't nearly as well made as the older line.

Re: "They Won't"

*Message #25 Posted by **brian healy** on 10 Nov 2005, 12:46 p.m.,*
in response to message #24 by Ron Ross

Since HP still makes one of the voyagers (12c), why not do a calculator that has the functionality of the 33s (with some improvments) but is in the form of the 12c?

Re: "They Won't"

*Message #26 Posted by **John** on 10 Nov 2005, 12:52 p.m.,*

in response to message #25 by brian healy

That's the whole point of this "Bring back the 15c" stuff.

Problem is that developing a calculator takes a lot more than just a case and keys.

And, these days, corporations won't come out with something that just breaks even. It must compete for scarce capital against other projects with high rates of return.

If you can't show a high net present value, forget it.

Bringing back the 15c would not make HP money. Therefore, they won't do it.

It is simple economics. 10 units a week at ebay may bring $300-500 each.

Making 10,000 units a month of a new 15c and they'd be lucky to command $100 each. Probably more like $60-80 each.

For what? A calculator without alpha capabilities? With programs showing keycodes? Competing against graphing models selling for the same price? competing against casio and sharp models with pretty much the same capabilities selling for $20?

The only reason the 12c survives is that enough people buy them to make it nuts to discontinue it.

If the 15c had sold like the 12c did and still sells, it would still be made.

Not enough people bought it when it was on sale the first time to make it financially smart to keep selling it.

It certainly wouldn't be any different today.

Re: "They Won't"

*Message #27 Posted by **Chan Tran** on 10 Nov 2005, 3:36 p.m.,*
in response to message #26 by John

It won't fly! We all know how much the 42S, 32SII, 48GX go for these days on ebay. Remember HP couldn't sell the 42S at $80, the 32SII at $58 and the 48GX at $100. They only command a high price when they are not available from HP. The 42S was never priced higher than any version of the 48.

Re: "They Won't"

*Message #28 Posted by **brian healy** on 11 Nov 2005, 11:25 a.m.,*
in response to message #26 by John

Then what is the perceived future for the 33s, or a 33s class machine? For a 33s class of calculator, are we then forever going to have the current case and buttons of the 33s? If HP stays in the market, then presumably at some point they will have to change or update the styling of the 33s, as well as add some features, even if only incrementally in nature.

Re: HP Should Really Bring Back The 15C - To Make Money!

*Message #29 Posted by **hugh steers** on 10 Nov 2005, 5:20 p.m.,*
in response to message #1 by I, Claudius

i'd like to turn this discussion on its head and ask, what people think a viable market price today would be for a calculator, in the spirit of the 15c, but nevertheless totally new.

with:

- high quality buttons & case.
- pocket sized/landscape design,
- fast/large memory (eg 400Mhz/2MB).
- installable software libraries (eg into flash).
- pc interface (eg usb).
- alpha (and indeed greek and other letters).
- bitmap display.
- programmable
- rpn/aos/formula operational modes.
- advanced features (complex, matrices, solve, quadrature etc.)
- financial functions of the 12c.

without:

- expandibility.
- graphing (takes too much actual size).
- decades of battery life.
- exempt from exams/not for education market.

would you pay $200?

turn the 15c on its head

*Message #30 Posted by **bill platt** on 10 Nov 2005, 5:34 p.m.,*
in response to message #29 by hugh steers

Yes. I'd pay $200.

Only becase such a product is way superior to any other current or previous product in it's *size*.

If it didn't have the small size, I'd stick with buying a 49G+ or something.

Note that what you are suggensting is *not* a 15c. It is not a 42S. It is way better!

Re: turn the 15c on its head

*Message #31 Posted by **Walter B** on 10 Nov 2005, 6:18 p.m.,*
in response to message #30 by bill platt

IMHO that's exactly what at least some people in this forum mean when talking about a "new hp15c" or a "new hp42s". So, to avoid ongoing confusion and further wars, let's baptize the baby hugh steers outlined:

Let's call it the **IQ43s**

(for the older audience: remember 2001)

Re: turn the 15c on its head

*Message #32 Posted by **Howard Owen** on 10 Nov 2005, 9:40 p.m.,*
in response to message #31 by Walter B

Wouldn't that be the 'IQ53t' then?

Re: turn the 15c on its head

*Message #33 Posted by **Walter B** on 11 Nov 2005, 11:59 a.m.,*
in response to message #32 by Howard Owen

You are almost right! But "s" stands for "scientific". 8)

Re: turn the 15c on its head

*Message #34 Posted by **Howard Owen** on 11 Nov 2005, 2:34 p.m.,*
in response to message #33 by Walter B

Yeah, but "t" could stand for "terrific!" 8)

Re: turn the 15c on its head

*Message #35 Posted by **Walter B** on 11 Nov 2005, 3:13 p.m.,*
in response to message #34 by Howard Owen

OK, this point is yours! d:^D

Anyway, I like scientific calcs more. The world is full of terrific calcs. You will agree that's reflected in this nice forum quite well.

Hugh, I apologize for having written your name with small letters. The time I realized it, it was too late to correct it.

Edited: 11 Nov 2005, 3:15 p.m.

Re: HP Should Really Bring Back The 15C - To Make Money!

*Message #36 Posted by **Mike DiGirolamo** on 10 Nov 2005, 8:08 p.m.,*
in response to message #29 by hugh steers

Hi Hugh,

I really LOVE HP stuff. I bought a HP-67 when it first was introduced in the 70's and today I have HP-67's, HP-97's, a HP-12C, HP-15C, a HP-41CX and HP-75C. I especially love working using RPN. BUT, most of the time when I need to work out some calculus or statistics problem, or even an EE problem -- I hate to say this, but I just turn on my TI Voyage 200. It's available all over the place for $150 or less, brand new. Gosh, I wish HP had something equivalent to that Voyage 200 in RPN. That's the competition HP is up against.

This is honest input from tried and true HP lover,

Mike, W4XN

Re: HP Should Really Bring Back The 15C - To Make Money!

*Message #37 Posted by **Howard Owen** on 10 Nov 2005, 9:41 p.m.,*
in response to message #36 by Mike DiGirolamo

Hmm, I've been thinking about getting one of those..

Re: HP Should Really Bring Back The 15C - To Make Money!

*Message #38 Posted by **Hugh Evans** on 10 Nov 2005, 11:20 p.m.,*
in response to message #29 by hugh steers

That sounds somewhat familiar. How about 200MHz, USB/RS232/IrDA, and room for a single flash card inside?

http://openrpn.org/images/userimages/CAD/Landscape-iso-top.jpg
http://www.openrpn.org/images/userimages/CAD/Landscape-iso-top-front.jpg

Does OpenRPN stand a chance?

*Message #39 Posted by **X** on 10 Nov 2005, 11:41 p.m.,*
in response to message #38 by Hugh Evans

Yawn. CAD images are one thing, a working product is another.

Let me know when OpenRPN actually produces something.

Re: HP Should Really Bring Back The 15C - To Make Money!

*Message #40 Posted by **Tizedes Csaba [Hungary]** on 11 Nov 2005, 2:03 a.m.,*
in response to message #38 by Hugh Evans

Yepp, this roboust and sympathic "golden-rationed" sides are looks very good! I think in this case too many dust collector corner, but very impressive! And what do you think about a "virtual machine", with changeable looks lcd-key-faceplate?

Csaba

Re: HP Should Really Bring Back The 15C - To Make Money!

*Message #41 Posted by **Andy** on 11 Nov 2005, 8:55 a.m.,*
in response to message #38 by Hugh Evans

My compliments on 3D CAD rendition.

Andy Pro/ENGINEER Wildfire power user.

Re: HP Should Really Bring Back The 15C - To Make Money!

*Message #42 Posted by **I, Claudius** on 13 Nov 2005, 7:19 a.m.,*
in response to message #41 by Andy

Pro Engineer?! That name is like a profanity to my ears. It's perhaps one of the worst programs in user interface I've seen, overpriced, and the attitude of tech support was surly. Everyone on my team gave up on trying to use it, but I stuck with it. After literally several hundred hours of trial and error, I got to where I could use it. But, the final straw was when it came to transferring the docs to CAM, where it failed miserably. So we started using SolidWorks, which is the industry standard for very good reasons.

Edited: 13 Nov 2005, 7:31 a.m.

Pro/ENGINEER

*Message #43 Posted by **Andy** on 14 Nov 2005, 9:22 a.m.,*
in response to message #42 by I, Claudius

Your Opinion is well noted. I have used AutoCAD (Crayons), ClarisCAD (paint program) and Pro/E since rel 10 (1991) when it was ported for the MAC QUADRA. And also CATIA Ver10. I have also used Solid Words. Created by people who worked for PTC. I have worked in Aerospace since 1990. Main CAD systems being Pro/E, CATIA, UNIGRAPHICS. I thought Ashlar Vellum 3D for the MAC was a most elegant CAD system. Then again just an Opinion.

Re: HP Should Really Bring Back The 15C - To Make Money!

*Message #44 Posted by **hugh steers** on 11 Nov 2005, 9:10 a.m.,*
in response to message #38 by Hugh Evans

i wasn't envisaging the same thing as you have here. for one thing, there's no need for all of usb, rs232 and irda simply because it adds cost (and power consumption). a lot of ideas for a new calculator suffer from creeping featuritis and this is a bad thing.

also, copying the form factor of the voyagers is wrong. the display needs to have more lines but not be grossly big as to make the unit large. i completely agree with people that pocket size is crucial. in today's world of pdas & laptops, the biggest reason to buy and carry the machine is convenience.

also the design needs to be smart. if i'm asking people to hand over $200 rather than $20, i don't make the fixings visible. i also make it look cool. think ipod. it needs wow factor rather than nerd factor. the market is small, but bigger than techies. i would aim to include consultants, accountants and business people as well who would currently buy the 12cp, 17bii etc which are both lacklustre in appeal.

there's one other major difference. i'm thinking of a calculator that is in, no way, compatible with hp. although it should have a selectable RPN input mode, it does not have a compatible programming model nor rpl. afaik, this was one of the primary goals for the openrpn design.

Edited: 11 Nov 2005, 9:25 a.m.

Re: HP Should Really Bring Back The 15C - To Make Money!

*Message #45 Posted by **Wayne Brown** on 11 Nov 2005, 12:25 p.m.,*
in response to message #44 by hugh steers

> Quote:
>
> i also make it look cool. think ipod. it needs wow factor rather than nerd factor.

That alone would keep me from buying it, no matter how wonderful it was in other respects.

Re: HP Should Really Bring Back The 15C - To Make Money!

*Message #46 Posted by **Howard Owen** on 11 Nov 2005, 2:35 p.m.,*
in response to message #45 by Wayne Brown

Can you say "themeable face plates?"

Re: HP Should Really Bring Back The 15C - To Make Money!

*Message #47 Posted by **Hugh Evans** on 12 Nov 2005, 5:05 a.m.,*
in response to message #45 by Wayne Brown

A perfect design should look great to most people, and evoke many wows, without sacrificing any functionality. I think that's what hughsteers meant. In other words you *would* buy it and would appreciate it for both its' function and form.

I certainly haven't been trying to make my designs ugly or for "nerd factor." The exterior shell, for example, is seamless and made from rubber. Why? It helps to create a water barrier, gives it extra grip on surfaces, makes it easier to hold, lends some degree of cushioning when dropped, and it looks cool. Hiding the screws would be easy, but I chose to make them prominent because it makes servicing more convenient and I think it gives the machines a slightly more utilitarian/technical appeal (this is a common feature in aircraft control panels). For every feature of the external design I can explain exactly how it arrived at its' current form.

I find critisism extremely helpful. The fact that my designs have received so little leaves me with a big pile of ambiguity. Tearing them limb for limb on every feature you don't like (especially if you can suggest an alternative) is a big help.

I check my email regularly and anyone can feel free to send me their comments and ideas. Attachments such as CAD files and sketches are no problem.

Best Regards, Hugh

Re: HP Should Really Bring Back The 15C - To Make Money!

*Message #48 Posted by **Wayne Brown** on 12 Nov 2005, 11:03 a.m.,*
in response to message #47 by Hugh Evans

Well, I strongly dislike any technical instrument that looks as though some designer spent time on it trying to make it look less intimidating or more "friendly" or more appealing to the average person's "fashion sense." Dark, somber color scheme, chunky, heavy construction, insanely-complicated control panel that looks like you'd need an engineering degree or a mathematics Ph.D. to use it -- *that's* what I find appealing. If it would have looked out of place in a NASA Mission Control Room in the 1960s then I'm not interested.

Having said that, I actually *do* like the design in the drawings you posted in this thread (provided the color scheme matches that of the 15C).

Re: HP Should Really Bring Back The 15C - To Make Money!

*Message #49 Posted by **Hugh Evans** on 12 Nov 2005, 11:30 a.m.,*
in response to message #48 by Wayne Brown

The color scheme is similar but not identical. I produced an optimized set of available colors. Yellow/orange and blue are the standard shift colors, green is set for alpha. The purple was made to cover anything else resulting from custom orders. An interesting note is that the purple and green found on HPs would technically work as well as yellow and blue if they had paid attention to luminance!

http://openrpn.org/images/userimages/Colors.jpg

not a 15c -- a 12c Gold!

*Message #50 Posted by **Mark Crispin** on 10 Nov 2005, 9:54 p.m.,*

in response to message #1 by I, Claudius

I agree with those who say that the 15c won't make it on its own. But what about a 12c with expanded switchable microcode that can be switched between 12c, 15c, and 16c modes and changeable faceplates?

The market droids would love the idea (consider the 30s), and they could get away with charging more than a 12c Platinum (even though it would only do the 12c operations); the 12c Platinum is undoubtably cheaper to make. The only real engineering would be to make the changeable faceplates (which would also have to change key tops).

Would you pay $125 for a "three-in-one" calculator?

Re: HP Should Really Bring Back The 15C - To Make Money!

*Message #51 Posted by **Eddie Shore** on 10 Nov 2005, 10:03 p.m.,*
in response to message #1 by I, Claudius

Yes, the 15C AND the 42S! :)

Two collector items I'm after. Also, I will probably be in line for the future 50g+.

Re: HP Should Really Bring Back The 15C - To Make Money!

*Message #52 Posted by **Andy** on 11 Nov 2005, 8:54 a.m.,*
in response to message #1 by I, Claudius

No need to bring back the 15C, just revise a 12C by adding Scientific functions (ala HP27). Perhaps an overlay. I would pay $200. Also the gold Bezel is more attractive on 12C (non Titanium). Oh leave the Algegraic choice functions for the newer generation.

Re: HP Should Really Bring Back The 15C - To Make Money!

*Message #53 Posted by **Namir** on 12 Nov 2005, 10:24 a.m.,*
in response to message #52 by Andy

Andy,

What made the 15C so special are teh following features:

1. Matrix operations 2. Solve 3. Integration

The 15C programming model uses labels and not line numbers to direct jumps and execution subroutines. Speaking of subroutines, the 12C does not support them!

The 15C seem to become more popular now. Back then, the HP41C/CV/CX wereking because of the alphanumeric capabilities. Also th HP41 hd the Advantage ROM that implemented the features of the 15C that were missig in the 41C. HP used microcode to support the 15C-like features.

Namir

Re: HP Should Really Bring Back The 15C - To Make Money!

*Message #54 Posted by **Andy** on 14 Nov 2005, 9:31 a.m.,*
in response to message #53 by Namir

Namir,

I must agree. I purchased an HP 41CV in 1989 from the Hewlitt Packard employee store for $87.50 (Cost to HP to mfr) when someone lifeted my HP15C from my drafing table, then returned a day later to steal the manual. The 15C was a beautiful design, highly functional for fast computation and would not slide off the drafting table when tilted at a 20 deg angle. I thought perhaps the 12C could be revised for Scientific application without losing much of the programming of the 15C

Regards,

Andy

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HP49G+

*Message #1 Posted by **Chris Dean** on 10 Nov 2005, 4:30 a.m.*

I noticed in the principal features on the HPCC site that the HP49G series calculators are programmable in HP Basic.

> Quote:
>
> RPL, HP Basic and Assembly language programming

Is this true?

Re: HP49G+

*Message #2 Posted by **Valentin Albillo** on 10 Nov 2005, 5:46 a.m.,*
in response to message #1 by Chris Dean

Hi, Chris:

Chris wrote:

"I noticed in the principal features on the HPCC site that the HP49G series calculators are programmable in HP Basic. [...] Is this true?

If you call code like this "HP BASIC":

```
FOR(i,1,100)
DISP(i,1);
IF I+1-5==50 THEN DISP("Hello World",2) ELSE DISP("I'm off",2) END
STEP(1)
```

then, yes. Else, no.

There are, however, very good emulators available for the 48/49 series that can provide the goods. For instance, HP-71X by Hrastprogrammer does perfectly emulate an HP-71B, and this allows you to program in HP-71B BASIC, which is an advanced version of the usual 'technical' BASIC dialect found in larger, vintage HP computers of old, such as the HP-85, HP-86/87, or HP-75, say. Using this emulator would allow you to write and run code like this:

```
10  DESTROY ALL @ OPTION BASE 1 @ INPUT "#Points, Degree=";N,D
20  DIM X(N),Y(N),A(D+1) @ MAT INPUT X,Y @ CALL LSP(X,Y,A) @ MAT DISP A @ END
30  SUB LSP(X(),Y(),A()) @ N=UBND(X,1) @ D=UBND(A,1) @ DIM U(N,D),V(D)
40  MAT U=CON @ FOR I=1 TO N @ FOR J=2 TO D @ U(I,J)=X(I)^(J-1) @ NEXT J
50  NEXT I @ MAT V=TRN(U)*Y @ MAT U=TRN(U)*U @ MAT A=SYS(U,V) @ END SUB
```

which, by the way, is a little program I wrote to compute the coefficients of the Nth-degree least squares polynomial regression to an arbitrary set of datapoints (X,Y).

Thus, by using HP-71X you can develop/run similar code in this powerful version of HP Technical BASIC on your 48/49.

Best regards from V.

Edited: 10 Nov 2005, 6:00 a.m.

Re: HP49G+

*Message #3 Posted by **Arnaud Amiel** on 10 Nov 2005, 5:47 a.m.,*
in response to message #1 by Chris Dean

Yes but it is a special "hp basic" for the 38, 39, 40 and 49 calculators. It only works in algebraic mode. I haven't figured it out completely (especially CASE) and it is MUCH slower than RPL.

Arnaud

Re: HP49G+

*Message #4 Posted by **James M. Prange (Michigan)** on 10 Nov 2005, 6:04 a.m.,*
in response to message #1 by Chris Dean

As for as I've been able to determine, "HP Basic" means using the 49 series in ALG mode, and if you want to do that, why buy a 49 series in the first place? I doubt that there's much resemblence to "BASIC", as in "Beginner's All-purpose Symbolic Instruction Code".

Regards,
James

Re: HP49G+:Stick With RPL Programs

*Message #5 Posted by **I, Claudius** on 10 Nov 2005, 6:07 a.m.,*
in response to message #1 by Chris Dean

Chris: if you want to program your 49+, I heartily recommend you program it in RPL style. And of you can use FOR...NEXT loops and such within an RPL program. There are several good tutorials on RPL programming available for free download from www.hpcalc.org - best of luck.

Re: HP49G+:Stick With RPL Programs

*Message #6 Posted by **Chris Dean** on 10 Nov 2005, 6:48 a.m.,*
in response to message #5 by I, Claudius

Thank you all very much for your interesting and informative responses. I think I will enter the world of RPL programming! I have tried it before but I did not get on with it. A good tutorial as suggested could provide the solution. I have downloaded 'Programming in User RPL' by Eduando M Kalinowski which seems to provide a tutorial plus exercises with answers.

Re: HP49G+:Stick With RPL Programs

*Message #7 Posted by **I, Claudius** on 11 Nov 2005, 8:13 a.m.,*
in response to message #6 by Chris Dean

Years ago I started off with "An Easy Course In Using and Programming the HP48GX" by the Coffin brothers, who helped write the 48 manuals. It's still available at http://www.read-gpi.com/

Re: HP49G+:Stick With RPL Programs

*Message #8 Posted by **Chris Dean** on 11 Nov 2005, 11:20 a.m.,*
in response to message #7 by I, Claudius

Thanks for the advice.

Regards

Chris

Re: HP49G+:Stick With RPL Programs

*Message #9 Posted by **Chris Dean** on 11 Nov 2005, 1:32 p.m.,*
in response to message #8 by Chris Dean

I think I have just found what I have been looking for!

> Quote:
>
> Announcement: The HP49g+ / HP48gII Advanced Users Reference Manual now available!

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Access on TOS?

*Message #1 Posted by **Matthias Wehrli** on 9 Nov 2005, 3:39 p.m.*

Since the last hurricanes I do not have access to TOS. I wonder if this is a problem of the Swiss provider/backbone or if there are other locations that do not work.

Re: Access on TOS?

*Message #2 Posted by **Ronald** on 9 Nov 2005, 4:08 p.m.,*
in response to message #1 by Matthias Wehrli

Same here: "connection refused".

Re: Access on TOS?

*Message #3 Posted by **Ron Ross** on 9 Nov 2005, 4:16 p.m.,*
in response to message #1 by Matthias Wehrli

Worked for me.

Re: Access on TOS?

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 9 Nov 2005, 4:26 p.m.,*
in response to message #1 by Matthias Wehrli

Hi, all;

I accessed TOS (HP41-only related site, right?) right now, 07:24PM in Brazil. I saw the big HP41 drawing being painted in the screen and jumpped back here.

At least from the Southern America it is available.

Cheers.

Luiz (Brazil)

Edited: 9 Nov 2005, 4:26 p.m.

TOS Website - Contents Info. Request

*Message #5 Posted by **Dan Taylor** on 10 Nov 2005, 4:03 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Luiz; Please excuse my ignorance but I found hpmuseum just a few days ago. I'm digging for technical information on my 41CX; it was sick but working before I tried "fixing" it. Can you give me the URL for "TOS" assuming it has resources for HP 41 users?

Edited: 10 Nov 2005, 4:08 a.m.

Re: TOS Website - Contents Info. Request

*Message #6 Posted by **Andrés C. Rodríguez (Argentina)** on 10 Nov 2005, 7:29 a.m.,*
in response to message #5 by Dan Taylor

There are some kind of issues (legal, copyright or whatsoever) that prevents the name or URL of "That Other Site" to be posted in the MoHPC site. I am not particularly aware of the issues or about the reasons that support them or not; it is enough for me to know that Dave Hicks, curator of the MoHPC, has stated previously (and repeatedly) that it needs to be that way. If you search previous Forum threads (many months ago) the situation was discussed with different opinions and other details.

If you do a search with Google or other search engine, using "HP 41" as keyword you surely will be able to find TOS by yourself.

Re: TOS Website - Contents Info. Request

*Message #7 Posted by **Jeff O.** on 10 Nov 2005, 7:47 a.m.,*
in response to message #5 by Dan Taylor

Dan,
The story of "TOS" is long and complex. Suggest you review this archive thread and maybe this one for some background.

Re: TOS Website - Contents Info. Request

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 10 Nov 2005, 8:07 a.m.,*
in response to message #5 by Dan Taylor

Hello, Dan;

I think I speak for the others when I say `Welcome!`, although I agree with anyone that mentions the fact that a Brazilian guy welcomes a visitor at an USA-native site is odd... though! d8^)

Andrés has already mentioned much of the TOS issue; anyway, please check your e-mail, at least the one you use to register as a contributor rhere, at the MoHPC (Museum of Hewlett-Packard Calculator).

May I suggest one big source of general, concise, powerful, etc. HP-calculator related information, HP41 mainly included? The MoHPC CD/DVD Set. I saw no one that bought this set and complained. Imagine 10 CD's, or a single DVD with as much information as you can imagine about HP calculators. Please, check the full list of documents and you'll see many HP41 related docs that, by themselves, worth buying the set. In fact, there is so many info that I consider what one pays for the pack as a symbolic contribution...

There are many good additional info at the Articles Forum, that will surely help you in other ways.

Hope you find what you need here, too.

Best regards.

Luiz (Brazil)

Comments, Related Info.

*Message #9 Posted by **Dan Taylor** on 14 Nov 2005, 6:27 a.m.,*
in response to message #8 by Vieira, Luiz C. (Brazil)

A., G., J., Luiz, etc.;

I panicked when my reliable (until I tried to program it for sinh) 41CX crashed. I suspect that 1.2 volts per Type N cell should set off the low bat indicator; that's another issue. Then the RPL/RPN thread caught my attention. Apparently no new HP's even use RPN, which I regret. A replacement 41CV is needed.

Yes, I should have read more and looked around more before I ever posted here too. There is a wealth of information to absorb herein, all of which I greatly appreciate. Common courtesy is a related issue which I will observe.

I also found an advertisment for a set of 41CV's. I'll contact them regarding a purchase, but cosmetics are unimportant. Repairs for my 41CX? Another day and time - after final exams. Thanks. dt

Re: Access on TOS?

*Message #10 Posted by **Walter B** on 9 Nov 2005, 5:36 p.m.,*
in response to message #1 by Matthias Wehrli

Accessible from Germany without problems.

Re: Access on TOS?

*Message #11 Posted by **Howard Owen** on 9 Nov 2005, 6:03 p.m.,*
in response to message #1 by Matthias Wehrli

I can traceroute it, but can't get a rise from port 80.

From my hosting company, I can get to the web service. Odd.

Re: Access on TOS?

*Message #12 Posted by **PeterP** on 9 Nov 2005, 9:51 p.m.,*
in response to message #11 by Howard Owen

same here in NYC, no access (it does not even show up in the browser...)

Re: Access on TOS?

*Message #13 Posted by **Howard Owen** on 9 Nov 2005, 10:12 p.m.,*
in response to message #12 by PeterP

Another test: Try "http::*TOS.yeah.right*/footwaddle.cfm", where you literally type things that aren't italicised. I get an error from the web server when I do that.

I've left mail asking what is up.

Work around for a Unix/Linux system that isn't running a webserver:

```
sudo perl -pi -e 's/^127.0.0.1\s+(.*)/127.0.0.1  tos.yeah.right $1/' /etc/hosts

sudo ssh -l mynormalaccount -L80:tos.yeah.right:80 my.webhosting.com
```

Now access as usual from a web browser on the same system. This assumes that "my.webhosting.com" *can* reach TOS.

Re: Access on TOS?

*Message #14 Posted by **Daniel Diggelmann** on 10 Nov 2005, 12:20 a.m.,*
in response to message #13 by Howard Owen

I can access TOS no problems

Cheers Daniel

Re: Access on TOS?

*Message #15 Posted by **Ronald** on 10 Nov 2005, 11:42 a.m.,*
in response to message #14 by Daniel Diggelmann

Working perfect again now

Ronald

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48Gx Transfer cable serial to USB modification

*Message #1 Posted by **Will** on 9 Nov 2005, 2:02 p.m.*

Hi Guys...i just want to know if some of you has adapted the standar transfer cable (serial end) to a most update USB conector....Do things like the serial-USB adaptor sold at Radio Shack works or need some electronic (and /or software)changes...I would like to update my transfer cable...

thanks you...

Re: 48Gx Transfer cable serial to USB modification

*Message #2 Posted by **Howard Owen** on 9 Nov 2005, 3:24 p.m.,*
in response to message #1 by Will

> Quote:
>
> H...Do things like the serial-USB adaptor sold at Radio Shack works or need some electronic (and /or software)changes... thanks you...

Such adapters carry electronics that translate between the serial protocol, which is just levels on the wire, to USB, which has a good deal more smarts. So your seral/USB adapter contains logic that identifies to a host system as a serial interface, for example.

I've been successfully using a Radio Shack serial/USB adapter on my ThinkPad T40 under SuSE Linux 9.3. It works great for the 48G and for anything else I've thrown at it. I can't imagine the support would be any less on Window$. But you aren't going to get a speedup compared to the serial interface. That's because the 48G is limited in what it can push out its serial port.

As for software, you HP connection kit should handle either USB or serialally connected calculators.

Re: 48Gx Transfer cable serial to USB modification

*Message #3 Posted by **Han** on 9 Nov 2005, 5:39 p.m.,*
in response to message #2 by Howard Owen

> Quote:
>
> Such adapters carry electronics that translate between the serial protocol, which is just levels on the wire, to USB, which has a good deal more smarts. So your seral/USB adapter contains logic that identifies to a host system as a serial interface, for example.
>
> I've been successfully using a Radio Shack serial/USB adapter on my ThinkPad T40 under SuSE Linux 9.3. It works great for the 48G and for anything else I've thrown at it. I can't imagine the support would be any less on Window$. But you aren't going to get a speedup compared to the serial interface. That's because the 48G is limited in what it can push out its serial port.

> As for software, you HP connection kit should handle either USB or serialally connected calculators.
>
> ---

I too use the Radio Shack converter. The accompanying disc comes with Windows drivers, but you can also use the drivers from Prolific (the converter is in fact a Radio Shack branded PL2303).

http://www.prolific.com.tw/eng/Products.asp?ID=59

Under Linux, it uses the usbserial and pl2303 drivers. The adaptor works well under both Windows and Linux.

I should be getting my HP38G cable pretty soon. It too has a serial plug. We'll see how well it works with the convert.

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How can you blame Coburlin...

*Message #1 Posted by **Massimo Gnerucci (Italy)** on 9 Nov 2005, 1:19 p.m.*

...when you find such auctions! :-(

battery holder

Oh My Gosh!

Maybe he is right: are we a bunch of fools?

8*P

Massimo

Re: How can you blame Coburlin...

*Message #2 Posted by **Howard Owen** on 9 Nov 2005, 1:24 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

Obligatory "I've got five of those if he wants them" comment.

Re: How can you blame Coburlin...

*Message #3 Posted by **Frank Boehm (Germany)** on 9 Nov 2005, 1:25 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

Since he just purchased a 41 *without* battery holder, how can you blame him? <g>

Re: How can you blame Coburlin...

*Message #4 Posted by **Massimo Gnerucci (Italy)** on 9 Nov 2005, 2:01 p.m.,*
in response to message #3 by Frank Boehm (Germany)

> Quote:
>
> Since he just purchased a 41 *without* battery holder, how can you blame him? <g>

I don't blame him: everybody bids upto what he/she wants.

But if I think that a couple of years back I bought two CX for a similar amount... And yes, they came **with** the battery holder :-)

However, a few days ago, I acquired another 10A **without** battery door: anyone with a spare? :-D

Greetings,
Massimo

Re: How can you blame Coburlin...

*Message #5 Posted by **Ron** on 10 Nov 2005, 1:37 a.m.,*
in response to message #4 by Massimo Gnerucci (Italy)

I've got one for $91 ;^)

Re: How can you blame Coburlin...

*Message #6 Posted by **Vassilis Prevelakis** on 9 Nov 2005, 2:02 p.m.,*
in response to message #3 by Frank Boehm (Germany)

```
Frank Boehm (Germany) wrote:
> Since he just purchased a 41 *without* battery holder, how can you blame him
```

He must have purchased that 41 without the battery holder from Coburlin for $359.00 :-)

**vp

Re: How can you blame Coburlin...

*Message #7 Posted by **Ron** on 10 Nov 2005, 1:42 a.m.,*
in response to message #6 by Vassilis Prevelakis

In like new condition, only missing the battery holder and two buttons.

Re: How can you blame Coburlin...

*Message #8 Posted by **John Nguyen** on 11 Nov 2005, 7:37 a.m.,*
in response to message #3 by Frank Boehm (Germany)

A perfect example of the compulsiveness of gambling. I wonder how much this person would pay for that little AC charger cover on the HP-41.

Ebay Must have a new bid policy

*Message #9 Posted by **bill platt** on 9 Nov 2005, 2:29 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

I haven't looked at ebay closely in months....

take a look at the bid history. It looks like ebay now disclosed your *maximum* bid! So that auction is down in the $50 range (which is still too high).

When did these policies change? Why?

Re: Ebay Must have a new bid policy

*Message #10 Posted by **Howard Owen** on 9 Nov 2005, 2:46 p.m.,*
in response to message #9 by bill platt

No, the final bid of $91.00 topped a previous bid of $90.00. If you are outbid, then your maximum bid shows in the bid history. It always has, and it makes perfect sense.

Re: Ebay Must have a new bid policy

*Message #11 Posted by **Gonzalo Fernandez (Spain)** on 10 Nov 2005, 5:36 p.m.,*
in response to message #10 by Howard Owen

See Ebay item

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=7193789795&rd=1&sspagename=STRK%3AMEWA%3AIT&rd=1

and Ebay item

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&category=31534&item=8713899991

(same buyer and seller)

but hurry: soon the item will "transform" into a $15.99 "Brand New USB Black Scroll Mouse Dell" :-)

Re: Ebay Must have a new bid policy

*Message #12 Posted by **Howard Owen** on 10 Nov 2005, 6:15 p.m.,*
in response to message #11 by Gonzalo Fernandez (Spain)

So in the first he's selling it for $99.00 and in the second he bought it for $1.00. How does that relate to "disclosing your maximum bid?"

Or did you just click on the last post in the thread? 8)

How can you blame Coburlin... revisited

*Message #13 Posted by **Massimo Gnerucci (Italy)** on 17 Nov 2005, 1:38 a.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

Oops! He did it again...

Mr. rgharris seems in serious need of battery holders!

a week later

I am thinking about dismantling some of my 41s **:-)**

Massimo

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IMPORTANT: series80.org -- change of policy

*Message #1 Posted by **Vassilis Prevelakis** on 9 Nov 2005, 1:17 p.m.*

Note:

Unfortunately unsociable robot crawlers that ignore robots.txt etc., have made it imperative that I protect large files in the series80 site with a password. My intention is not to block humans, which is why I am publishing the passwd here:

```
username: pdf
passwd:   iamhuman
```

There is no need to write it down, as a reminder, the user-passwd combination will be shown on the log-on window.

:set noai

**vp

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Happy Holidays

*Message #1 Posted by **Vassilis Prevelakis** on 9 Nov 2005, 1:14 p.m.*

http://www.series80.org/PDFs/blinkenlichts.mov

```
username: pdf
passwd: iamhuman
```

Note:

Unfortunately unsociable robot crawlers that ignore robots.txt etc., have made it imperative that I protect large files in the series80 site with a password. My intention is not to block humans, which is why I am publishing the passwd here. As a reminder, the user-passwd combination will be shown on the log-on window.

:set noai

**vp

The program used to generate the display is shown below:

http://www.series80.org/Pictures/blinken1-pgm-lr.gif

The layout shown here:

http://www.series80.org/Pictures/Blinken2-lr.jpg

shows the light strips (12 of them) connected to two HP 59306A Relay Actuators. Both 59306As are controlled by one of the 9915 computers (the one on the top right, with the LEDs on).

This is a 9915B (brought back to life with the help of Tony Duell) which is running a program from the tape inserted in its drive. By naming the program Autost, the 9915B runs it automatically everytime it is powered up.

I thought of adding some seasonal sound track, but on second thought, I prefer the sounds of the relays.

**vp

Edited: 9 Nov 2005, 1:53 p.m.

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VASM, DASM

*Message #1 Posted by **Juergen Rodenkirchen** on 9 Nov 2005, 9:48 a.m.*

Hello everyone!

Is anybody around having The HP41 Coconut VASM listing and the David Assembler manual as pdf-file (or comparable)? I know the files are on TOS but unfortunately scanned page by page; a pdf really would be much more convenient ;-)

Best Wishes, Juergen

Re: VASM, DASM

*Message #2 Posted by **Miki Mihajlovic** on 9 Nov 2005, 1:15 p.m.,*
in response to message #1 by Juergen Rodenkirchen

I have them both in .PDF format but they are rather large files (since images are turned into PDF). If you have a place for them on ftp or some kind upload server I can put them there. They are too big to put through email.

Re: VASM, DASM

*Message #3 Posted by **Juergen Rodenkirchen** on 9 Nov 2005, 3:46 p.m.,*
in response to message #2 by Miki Mihajlovic

Hi Miki!

No, I don't have access to ftp or an upload-server :-(Thanks a lot for your reply anyway :-)

Best Wishes from Germany, Juergen

Re: VASM, DASM

*Message #4 Posted by **PeterP** on 9 Nov 2005, 9:55 p.m.,*
in response to message #3 by Juergen Rodenkirchen

You can buy the DVD from TOS for 30 USD and have all its stuff in pdf etc. I think it is well worth it, but then again, I love to read manuals of stuff I don't even have...

Cheers

Peter

Re: VASM, DASM

*Message #5 Posted by **Juergen Rodenkirchen** on 10 Nov 2005, 11:34 a.m.,*
in response to message #4 by PeterP

Peter, thanks for the hint ...

> Quote:
>
> but then again, I love to read manuals of stuff I don't even have...

Well, me too! But those genuine gems are hard to find nowadays :-(

Regards, Juergen

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41CX Needs Serious Help

*Message #1 Posted by **Dan Taylor** on 9 Nov 2005, 8:52 a.m.*

Hi: This reliable calculator is a gift that served me well for over 20 years with the Math 1 and Advantage modules. 4 Type N batteries; Serial No. 2338S42235.

Low Bat indicator never lit. Problem noticed when Ex Alpha Matrix Function used: Prompts order; I enter 2, 3, & 4. Display always ORDER=5\/ TVM Function (compound interest) OK. I lost manuels but have the user guide. Can't set time, date etc. {Later I foolishly tried clearing Reg & Stack. etc} Cat. #3 still showed the apps. "Invalid Entry" was a typical response for all Alpha cmds. Later, unable to store intermediate calc via: STO 00,01,02... Regular Calc. operated OK then.

Removed battery pack to "reset things." Blank display after installing 30 sec later. Cleaned contacts; found cells were 1.2 V each - why no lo bat indicator? Before I get 4 new ones, how messed up is the data structure? I likely made it worse, but had to get Cramer's rule working. Sorry if this is long. Dan. ICT, KS.

Re: 41CX Needs Serious Help

*Message #2 Posted by **David Smith** on 9 Nov 2005, 10:53 a.m.,*
in response to message #1 by Dan Taylor

It can be hard to reset things by removing the batteries. The internal cap can keep the memory alive for over a month. For a well and truly reset machine, you have to open it up and short the two big caps out.

1.2V is a good voltage. It is the standard cell voltage of the NiCad pack The low bat comes on around 1V per cell.

Re: 41CX Needs Caps Discharged

*Message #3 Posted by **Dan Taylor** on 10 Nov 2005, 2:36 a.m.,*
in response to message #2 by David Smith

Discharging the electrolitic capacitors seems reasonable. Given that the unit came with 1.5 V Alkalines, 1.2 V/cell seems low but OK for a NiCad. Are there 4 screws - Allen, Spleen, Torx hiding under the rubber feet? They are not visable, and I don't want to pry on the case just yet. What should I expect after a reset?

Re: 41CX Needs Serious Help

*Message #4 Posted by **Meindert Kuipers** on 9 Nov 2005, 11:12 a.m.,*
in response to message #1 by Dan Taylor

Reverse (all) the batteries and plug the battery holder in for a few seconds, then go back to normal. This will discharge the caps and should normally get your machine running again.

Meindert

41CX Needs Reset (Comments on Usage)

*Message #5 Posted by **Dan Taylor** on 10 Nov 2005, 3:30 a.m.,*
in response to message #4 by Meindert Kuipers

I agree with your concept. My only concern is that there should be reverse biased diodes across a power supply. If so, they would shunt the reversed current to ground and could burn out - to a permanent short. The battery pack is out while I gather info. Thanks.

{For matrix operations, HP's 48g2 is a minimum but no RPN keyboard! Leads me to a 49G+. While a graphing calculator is nice I don't need it. I could learn how to program the 41 CX which I may need to anyway! The trig functions sinh and cosh are abailable using the natural log function repeatedly.} :-(

Re: 41CX Needs Reset (Comments on Usage)

*Message #6 Posted by **Thomas Okken** on 10 Nov 2005, 6:26 a.m.,*
in response to message #5 by Dan Taylor

Sounds like the HP-42S would be the perfect calculator for you (it has the matrix functionality, is not complicated by fancy graphing functionality you don't need, and it's actually easier to program than the 41CX)...
If you don't mind the rather steep prices they tend to fetch on eBay, at least!

41CX & RPN. Is RPN Available in NEW Calc?

*Message #7 Posted by **Dan Taylor** on 14 Nov 2005, 5:38 a.m.,*
in response to message #6 by Thomas Okken

Thomas, Thanks for the information. Both the 42S and the 33S are replacement candidates. RPN operation is for me essential, which it seems is no longer offered by HP - only RPL. When crunching numbers, I simply can't worry about whether or not my keyboard algebra is "still correct". User Programming is required for only a few simple functions. (If sinh and cosh are in the Advantage or Math 1 Application Packs, then the 41CV/X is just fine.) I'll buy a replacement 41CV.

Are there any new HP scientific's that have RPN? Perhaps RPL is also offered for those such as I, who have not written a program for a decade, as well as regular programmers.

Re: 41CX & RPN. Is RPN Available in NEW Calc?

*Message #8 Posted by **Jeff O.** on 14 Nov 2005, 7:43 a.m.,*
in response to message #7 by Dan Taylor

Dan,
The 33S is a true, 4-level stack RPN calculator. (It also has an algebraic mode, but that can be ignored.) It has hyperbolic functions on the keyboard. However, if you don't mind spending at least 3 or 4 times as much, the 42S is one to get. It has hyperbolic functions, although they are not accessible directly from the keyboard. They can be assigned to a custom menu, which can be easily accessed when needed.

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HP-85 ROM select I/O?

*Message #1 Posted by **Nelson M. Sicuro (Brazil)** on 9 Nov 2005, 8:38 a.m.*

Hi folks,

I'm developing a "ROM drawer" for my HP-85 using of-the-shelf 74HC logic chips. In the HP-85 service manual I figured out the auto-increment addressing and the logic to send 16 bit adresses to the ROMs.

I only need to know how to select among several ROMs stored on a FLASH device. What is the I/O address (from $FF00 to $FFFF memory mapped I/O?) to select the right ROM image?

My logic acts as a "decoder" from the HP-85 bus to an ordinary 8 bit data/20 bit address bus and /WE and /RD lines to connect with SRAM and/or FLASH devices.

Many thanks in advance, and best regards!

Nelson Sicuro

Edited: 9 Nov 2005, 8:56 a.m.

Re: HP-85 ROM select I/O?

*Message #2 Posted by **Olivier De Smet** on 9 Nov 2005, 10:36 a.m.,*
in response to message #1 by Nelson M. Sicuro (Brazil)

It's 177430 in octal or FF18 in hexa.

Olivier

Re: HP-85 ROM select I/O?

*Message #3 Posted by **Nelson M. Sicuro (Brazil)** on 9 Nov 2005, 3:19 p.m.,*
in response to message #2 by Olivier De Smet

Thanks!

My HP-85(A) need more RAM and ROMS!! Do you know anything about the RAMdisk? Maybe I use a PIC or other microcontroller to add serial download of the RAM/FLASH contents (USB?).

Best regards,

Nelson Sicuro

Re: HP-85 ROM select I/O?

*Message #4 Posted by **Olivier De Smet** on 10 Nov 2005, 2:04 a.m.,*
in response to message #3 by Nelson M. Sicuro (Brazil)

No you need an HP85B to have the Electronic Disk. It use the new EMS from the 86-87 line and allow theoritically up to 16MB of extended RAM.

For the HP 85 you can only use this ram as an electronic disk. So the limit is still 32 KB ram (basic). For the rom there is a hard-coded limit for the number of rom. For an HP86-87 it's 15. For an HP85 I don't know.

Olivier

Re: HP-85 ROM select I/O?

*Message #5 Posted by **Vassilis Prevelakis** on 13 Nov 2005, 1:01 p.m.,*
in response to message #3 by Nelson M. Sicuro (Brazil)

> Quote:
>
> Do you know anything about the RAMdisk? Maybe I use a PIC or other microcontroller to add serial download of the RAM/FLASH contents (USB?).

Since you are going to be building the ROM drawer you can use the same logic to emulate the extended memory controller that is provided by the HP85B.

I assume that with that controller in place you will be able to use the HP-85B EMS ROM to create the RAM DISK.

Note that the extra memory will only work as an electronic disk, you cannot increase the real memory of an 85 (or 85B) beyond 32Kbytes.

**vp

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HP-85 Thermal Paper and ThinkJet blotter pads

*Message #1 Posted by **Vassilis Prevelakis** on 9 Nov 2005, 6:30 a.m.*

In the good old days when you bought ThinkJet cartridges you got a small blotter pad to attach to the printehad. New cartridges lack this pad. I have found that http://www.chromtech.com actually supplies such pads ($5.00, order code 92661A-01)

They are also selling thermal paper for the HP-85 (order code CTP-3390). $22.25 per pack, IMHO each pack contains two rolls.

Both products are on page 250 of the Chrom Tech catalog (http://www.chromtech.com/Catalog7/PDF_Indvpge/250.pdf)

**vp

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42s hardcover flip-case

*Message #1 Posted by **ECL** on 9 Nov 2005, 1:53 a.m.*

Does anyone recognize this flip top case for the 42s? Ebay# 5827940433.

It would fit the whole series, I suppose. It seems like a great way to protect the machine. But, having used a 42s, I know that you can best see the display when your line of sight is somewhere around ~40 degrees from the horizontal. Thus I don't know if the increased angle offered by the case would be useful.

I know the 49g / g+ would benefit from a slight angle increase like this. I used two hemisperical stick on feet (r = 0.125) on the battery door, to angle my 49g+ for desktop study use.

ECL

Re: 42s hardcover flip-case

*Message #2 Posted by **Bill (Smithville, NJ)** on 9 Nov 2005, 7:23 a.m.,*
in response to message #1 by ECL

These were hard plastic cases made by Astech Industries many many years ago. I was fortunate enough to get two of them several years ago when a gentleman here was selling his last remaining stock of new ones.

Mine are on two of my HP-42S. They are great cases, especially if you, like me, use your 42s on a daily basis. The overlapping lip on the edges does a good job of sealing out most of the dirt/dust. Since I carry my 42S in my briefcase and out to job sites, the hard case gives it a lot more protection and is quicker to access than using the standard slip case.

The case has a raised tab on each side that matches the grove on the side of the calculator so that the calculator is securely locked into the case. I believe most of the Pioneer models should be able to fit.

As you can tell, I am a great fan of this case. I only wish I had two more. I know, I'm greedy - but aren't we all when it comes to our favorite toys.

Bill

Re: 42s hardcover flip-case

*Message #3 Posted by **Richard Garner** on 9 Nov 2005, 11:51 a.m.,*
in response to message #2 by Bill (Smithville, NJ)

These are great cases. I have 2 of them myself. I wish someone had made a case like this for the 48G as well.

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Holy Cow!!!

*Message #1 Posted by **Han** on 8 Nov 2005, 10:19 p.m.*

A lot of HP 48G Graphing Calculators!

Now that's some crazy collecting!

Re: Holy Cow!!!

*Message #2 Posted by **Howard Owen** on 8 Nov 2005, 11:54 p.m.,*
in response to message #1 by Han

If I didn't know TI had won the calculator wars, I'd say that lot was for classroom use. OTOH, $26.67/calc (ignoring the 10BIIs) isn't a bad price if you intend to resell them.

Re: Holy Cow!!!

*Message #3 Posted by **valentino ducati (switzerland)** on 9 Nov 2005, 4:48 p.m.,*
in response to message #1 by Han

> Quote:
>
> A lot of HP 48G Graphing Calculators!
>
> Now that's some crazy collecting!

Well, have a look at the buyer's past auctions:
http://feedback.ebay.com/ws/eBayISAPI.dll?ViewFeedback&userid=n17913&iid=5826563028

His win list looks nearly like a best of hpmuseum.org. Man, if I also could afford such many money...

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MoHPC *The Museum of HP Calculators*

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New Trigonometric Functions Program for the New 12C Platinum

*Message #1 Posted by **Gerson W. Barbosa** on 8 Nov 2005, 9:18 p.m.*

Here is a new trigonometric functions program for the new 12C Platinum. Are there another designed specifically for this calculator? This is based on MiniMax Polynomial Approximation (Thanks to Valentin Albillo who's shed some light on the subject) and drastic range reductions ([0..pi/12] for arctangent function). The program is focused on accuracy and easy of use. Arguments are entered in degrees and there is an entry-point for each function. There are neither constants to be previously stored nor initialization routines. Placing the constants directly into the program rather than recalling them from registers slows down program execution but considering the new 12C Platinum is faster, this should not be a problem. Actually **this program has not been tested on the new 12C Platinum**. Instead, it has been tested with a very close version suitable for the 15C. Hopefully, I have made no mistakes in adapting it to the Platinum. I just hope the new Platinum is at least five times faster than the golden 12C so no function takes longer than two to three seconds to run. Cos(x) is calculated as Sin(90-x) for the sake of accuracy. As the program is more than 255 lines long it will not work on the old Platinum unless some modifications are made (such as replacing the last two or three constants in the program for registers recalls).

The accuracy is comparable with that of the HP-35. Cos(x) is calculated as Sin(90-x) for the sake of accuracy. The program gives at least nine significant figures, many times matching the 15C results. Also, the stack register X is always saved. So, the following expression

```
asin(acos(atan(tan(cos(sen(9))))))
```

may be evaluated as:

```
9 R/S GTO 090 R/S GTO 100 R/S GTO 153 R/S GTO 137 R/S GTO 119 R/S
```

The result in the 15C with the equivalent program is 8.999661629

That's all for the while,

Gerson.

TRIGONOMETRIC FUNCTIONS ON THE 12C PLATINUM

001	2	055	.	109	x<>y	163	1	217	1
002	STO 1	056	8	110	RCL 4	164	g LASTx	218	4
003	Rv	057	1	111	GTO 093	165	g x<=y	219	2
004	x<>y	058	7	112	x<>y	166	GTO 169	220	8
005	STO 4	059	7	113	RCL 4	167	1/x	221	3
006	x<>y	060	6	114	x<>y	168	9	222	7
007	STO 2	061	4	115	/	169	0	223	9
008	g x^2	062	1	116	RCL 3	170	STO 1	224	6
009	ENTER	063	7	117	x<>y	171	x<>y	225	-
010	ENTER	064	3	118	GTO 000	172	2	226	*
011	ENTER	065	EEX	119	x<>y	173	ENTER	227	.
012	4	066	3	120	STO 4	174	3	228	1
013	.	067	CHS	121	x<>y	175	SQRT	229	9
014	4	068	+	122	ENTER	176	STO 3	230	9
015	5	069	RCL 2	123	g x^2	177	-	231	9
016	0	070	*	124	1	178	x<>y	232	9
017	2	071	ENTER	125	-	179	g x<=y	233	9
018	CHS	072	g x^2	126	g x=0	180	GTO 192	234	8
019	EEX	073	4	127	GTO 132	181	ENTER	235	3

```
020     2       074     *       128     CHS     182     ENTER   236     2
021     0       075     CHS     129     SQRT    183     RCL 3   237     +
022     CHS     076     3       130     /       184     *       238     *
023     *       077     +       131     GTO 156 185     1       239     3
024     5       078     *       132     x<>y    186     -       240     1/x
025     .       079     RCL 1   133     9       187     x<>y    241     -
026     5       080     2       134     0       188     RCL 3   242     *
027     5       081     g x<=y  135     *       189     +       243     1
028     3       082     GTO 087 136     GTO 268 190     /       244     +
029     8       083     Rv      137     x<>y    191     3       245     RCL 3
030     3       084     g x=0   138     STO 4   192     0       246     *
031     9       085     GTO 112 139     x<>y    193     STO 2   247     5
032     EEX     086     GTO 107 140     g x=0   194     x<>y    248     7
033     1       087     Rv      141     GTO 150 195     STO 3   249     .
034     4       088     x<>y    142     SQRT    196     g x^2   250     2
035     CHS     089     GTO 268 143     g x^2   197     ENTER   251     9
036     +       090     2       144     g x^2   198     ENTER   252     5
037     *       091     STO 1   145     1/x     199     ENTER   253     7
038     3       092     Rv      146     1       200     .       254     7
039     .       093     g x^2   147     -       201     0       255     9
040     2       094     SQRT    148     SQRT    202     7       256     5
041     8       095     CHS     149     GTO 156 203     8       257     1
042     1       096     9       150     9       204     4       258     *
043     8       097     0       151     0       205     CHS     259     RCL 2
044     3       098     +       152     GTO 268 206     *       260     +
045     7       099     GTO 004 153     x<>y    207     .       261     RCL 1
046     5       100     STO 4   154     STO 4   208     1       262     g x=0
047     8       101     x<>y    155     x<>y    209     1       263     g x<>y
048     1       102     STO 3   156     ENTER   210     0       264     g x<>y
049     EEX     103     1       157     g x^2   211     3       265     -
050     8       104     STO 1   158     SQRT    212     5       266     RCL 0
051     CHS     105     RCL 4   159     g x=0   213     1       267     *
052     -       106     GTO 007 160     GTO 268 214     +       268     RCL 4
053     *       107     CLx     161     /       215     *       269     x<>y
054     5       108     STO 1   162     STO 0   216     .       270     GTO 000



SIN:    R/S                     (-90  <= x <=  90)
COS:    GTO 090 R/S             (-180 <= x <= 180)
TAN:    GTO 100 R/S             (-90  <= x <=  90)
ASIN:   GTO 119 R/S             (-1   <= x <=   1)
ACOS:   GTO 137 R/S             ( 0   <= x <=   1) (just a program limitation!)
ATAN:   GTO 153 R/S     (-9.99...E49 <= x <= 9.99...E49)
```

Re: New Trigonometric Functions Program for the New 12C Platinum

*Message #2 Posted by **tony** on 11 Nov 2005, 1:13 a.m.,*
in response to message #1 by Gerson W. Barbosa

Hi Gerson, yes it looks like it will indeed run on the new 12c pt. The new one is not 5 times faster than the golden one ;-) But its accuracy may surprise you as it seems to have 12 sig. digits under the hood. 3 [1/x] shows 0.333333333 but then if we remove 6 of the 3s with .333333 [-] and multiply by E6 we see 0.333333000 - another 6 3s. Cheers, Tony

Re: New Trigonometric Functions Program for the New 12C Platinum

*Message #3 Posted by **Gerson W. Barbosa** on 11 Nov 2005, 11:21 a.m.,*
in response to message #2 by tony

Hi Tony,

Thanks for the good news! When I was adjusting the MiniMax coefficients for the arctangent function (the lowest power coefficients don't require so many significant figures), I considered 1/3 as 0.333333333333 (that's the constant in line 239) in my test spreadsheet. I correctly guessed the 12C Platinum might have some extra guarding digits. By the way, that constant should be 0.333333333089303 or 0.3333333331 to ten places but I wouldn't write it this way just because of a '1' in the leftmost position. So I used 1/3 to 12

places and adjusted the other constants with help of a spreadsheet and a graphics.

Using the constants explicitly in the program have significantly slowed down the execution time as more steps have to be run. The constants could have been stores in registers, but then an initialization routine would have been needed to avoid having to enter them by hand. Anyway, I haven't calculated whether there would have been free registers left since the program uses five registers already. In short, the gain in speed obtained by using only three coefficients in the sine aproximation and only four in the arctangent approximating is lost when the constants are built into the program. But the easy of use may compensate for this. Notice that the constants beginning in lines 54 and 247 are pi/540 and 180/pi, respectively.

Reading again my post, I realized the example I provided was out of context. What I meant is that, calculations like the following are easily done, since the latest computation is saved on the stack:

((sin(60) + tan(30)) * 6/5) ^ 2 :

60 R/S 30 GTO 100 R/S + 6 * 5 / g x^2 => 3.000000001

Thanks again for your remarks.

Cheers,

Gerson.

Correction:

Checking again my test spreadsheet, I discovered I had approximated 1/3 to only 10 significant figures, although I had previously thought of using 12 digits. As a consequence, the '2' in line 236 should be a '3'. Anyway, '2' implies in a maximum absolute error of 5.15E-12 for arguments between 0 and 1, while '3' brings the maximum error down to 4.10E-12.

```
-------------------------------------------------------------
In the tables below, the HP-15C column shows results obtained
with the built-in HP-15 functions, all of them correct to 10
significant figures, whereas the 12C Platinum shows results
obtained with the equivalent program run on the HP-15C. According
to Tony observations, the results on the real Platinum should
vary slightly, hopefully for better. The HP-35 shows the results
obtained on a bugless HP-35 (version 3). Like the program, its
only angular mode was Degrees.


 Sin(x):


 x (deg)            HP-15C       12C Platinum       HP-35
-------------------------------------------------------------
 0.00000        0.0000000000    0.0000000000    0.0000000000
 0.00001        1.745329252E-07 1.745329252E-07 1.745000000E-07
 0.00011        1.919862177E-06 1.919862177E-06 1.919800000E-06
 0.02200        3.839724260E-04 3.839724261E-04 3.839723910E-04
3.330000        5.808674960E-02 5.808674960E-02 5.808674960E-02
14.44000        0.2493660251    0.2493660251    0.2493660250
25.55000        0.4312985870    0.4312985869    0.4312985871
36.66000        0.5970652564    0.5970652561    0.5970652561
47.77000        0.7404527827    0.7404527825    0.7404527828
58.88000        0.8560867283    0.8560867282    0.8560867285
69.99000        0.9396329127    0.9396329129    0.9396329127
81.11000        0.9879868528    0.9879868528    0.9879868527
88.88000        0.9998089500    0.9998089502    0.9998089499
89.99000        0.9999999848    0.9999999850    0.9999999848
89.99990        1.0000000000    0.9999999998    1.0000000000
90.00000        1.0000000000    1.0000000000    1.0000000000


 Tan(x):
```

x (deg)	HP-15C	12C Platinum	HP-35
0.00000	0.0000000000	0.0000000000	0.0000000000
0.00001	1.745329252E-07	1.745329252E-07	1.745000000E-07
0.00011	1.919862177E-06	1.919862177E-06	1.919800000E-06
0.02200	3.839724543E-04	3.839724543E-04	3.839724542E-04
3.330000	5.818499267E-02	5.818499266E-02	5.818499260E-02
14.44000	0.2575006491	0.2575006491	0.2575006490
25.55000	0.4780471798	0.4780471797	0.4780471798
36.66000	0.7442915883	0.7442915881	0.7442915880
47.77000	1.101686578	1.101686577	1.101686578
58.88000	1.656411391	1.656411390	1.656411391
69.99000	2.745986117	2.745986118	2.745986119
81.11000	6.393166451	6.393166452	6.393166426
88.88000	51.15042993	51.15042993	51.15042860
89.99000	5729.577893	5729.577895	5729.569869
89.99990	572957.7951	572957.7950	573019.3057
90.00000	9.999999999E+99	Error 0	9.999999999E+99

ArcTan(x):

x	HP-15C	12C Platinum	HP-35
0.00000	0.0000000000	0.0000000000	0.0000000000
0.00011	6.302535721E-03	6.302535723E-03	6.302535688E-03
0.15500	8.810732986	8.810732984	8.810732984
0.26795	15.00004318	15.00004318	15.00004317
0.41421	22.49982578	22.49982579	22.49982579
0.57735	29.99998843	29.99998844	29.99998843
0.77700	37.84720677	37.84720678	37.84720676
0.88800	41.60507646	41.60507648	41.60507646
1.00000	45.00000000	45.00000000	45.00000000
1.22200	50.70548702	50.70548700	50.70548702
1.48880	56.11145723	56.11145722	56.11145722
2.11100	64.65265735	64.65265734	64.65265735
4.88800	78.43782359	78.43782359	78.43782360
7.55500	82.46000683	82.46000683	82.46000679
99.9990	89.42705557	89.42705557	89.42705555
3333333	89.99998281	89.99998281	89.99998281

Edited: 12 Nov 2005, 3:12 p.m.

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Gummy Case

*Message #1 Posted by **Hal** on 8 Nov 2005, 8:52 p.m.*

Hey folks, I'm going to coin a new phrase here...Gummy Case Disease. I just picked up a nice 34c, but when I took it out of it's stock HP case, it was covered with disintegrated, somewhat gummy feeling foam particles, from the lining of the case. Has this ever happened to anybody else? My woodstock (29c) has a plush beautiful FUR LINED case...I guess the bean counters got to 'em and made them go cheap on the cases after that!!
Regards, Hal

Re: Gummy Case

*Message #2 Posted by **TomCee** on 8 Nov 2005, 9:42 p.m.,*
in response to message #1 by Hal

Hello Hal:

Yes, I've experienced the same phenomena with an old 41c case.

TomCee

Re: Gummy Case

*Message #3 Posted by **db (martinez, ca.)** on 9 Nov 2005, 12:18 a.m.,*
in response to message #1 by Hal

Throw it (the case - not the calc!) in the washing machine next time you do laundry. Some people turn them inside out. I did mine "warm wash, cold rinse" with detergent in my work clothes, no probs.
I think the breakdown of the foam can be overlooked. Remember: HP didn't think that they were building these things for the ages. They just thought it needed to last, albeit flawlessly, till the next model came out. Then - successive models just got better.

Edited: 9 Nov 2005, 12:29 a.m.

Re: Gummy Case

*Message #4 Posted by **Hal** on 9 Nov 2005, 1:39 a.m.,*
in response to message #3 by db (martinez, ca.)

The washing machine...now I've heard everything. But hey, I'll give it a try.
Thanks much for the tip.
Hal

Re: Gummy Case

*Message #5 Posted by **David Smith** on 9 Nov 2005, 10:56 a.m.,*
in response to message #4 by Hal

But DONT use the dryer. Just prop open the case and let it air dry. Comes out looking like new.

Re: Gummy Case

*Message #6 Posted by **Greg Whitfield** on 9 Nov 2005, 12:46 a.m.,*
in response to message #1 by Hal

My oldest HP calculators (a 34C I recently bought on eBay, and the 15C and 16C I bought new) have cases suffering from Gummy Case Disease. I don't have a 29C (although I drool at the thought of having one) to compare it to, but my TI SR-56 (circa 1977) has a plush fur-lined case that shows no degradation.

My first thought was to get those calculators out of the diseased cases. The 34C is currently wrapped in a white handkerchief in its storage box. For the Voyager calculators, I called HP support, figuring that they would still sell replacement cases since they still sold the 12C, but I was wrong! The did refer me to CalcPro and Samson Cables. I called up CalcPro and told them my case needs. They said they would get back to me, but never did. I found a reference in this forum to someone in the UK who sold HP cases, but I decided to find something domestically. I searched on eBay and found Voyager series cases made by Ann at the Corner Store (eBay ID annstcs) and they are really nice! I told her that I needed a case for a Pioneer series calculator that didn't have one. She added those to her slip case product line and sent me one. She's even considering making me a case for my 34C and I just emailed her tonight to tell her that I just received a 35 with no case (I bought "Old Trusty" on eBay).

I'll try washing those cases as suggested. Also, I guess I better check my 41CX case! Does anyone know how to safely clean the keyboards to get the black gummy particles off?

Cheers, Greg

Re: Gummy Case

*Message #7 Posted by **James M. Prange (Michigan)** on 9 Nov 2005, 3:09 a.m.,*
in response to message #6 by Greg Whitfield

A UK store that still sells some "Genuine HP" cases is Classic Calculators.

I bought a hand-made genuine leather case for my 16C from Ann (annstcs) on eBay, and I'm very pleased with it. Note that she sells both genuine leather and (lower cost) felt-lined imitation-leather vinyl cases. If you don't see the style and color you want, I suggest sending her an e-mail asking about it. The last time I checked, she had a couple of ads for her eBay items in the MoHPC classified section.

Regards,
James

Edited: 9 Nov 2005, 3:13 a.m.

Re: Gummy Case

*Message #8 Posted by **James M. Prange (Michigan)** on 9 Nov 2005, 3:48 a.m.,*
in response to message #7 by James M. Prange (Michigan)

P.S.

See http://stores.ebay.com/Anns-Corner-Store for her current items.

Regards,
James

Re: Gummy Case

*Message #9 Posted by **GE** on 9 Nov 2005, 4:12 a.m.,*
in response to message #8 by James M. Prange (Michigan)

This happened to some Spice here, but never to the 41 cases (or others), these are of better quality. As I am reluctant to put cases in the washing machine, the calculators are put into a clear plastic bag and bask into the case. Maybe the plastic bag can stick to the machine or alter the colors eventually, but this hasn't happened (yet ?). Has anyone experienced such problems ?

Re: Gummy Case

*Message #10 Posted by **Daniel** on 9 Nov 2005, 7:27 a.m.,*
in response to message #9 by GE

I have the same problem with an HP-41 case. Has any one already tried the washing machine solution with these ?

Re: Gummy Case

*Message #11 Posted by **Jeff O.** on 9 Nov 2005, 7:42 a.m.,*
in response to message #10 by Daniel

I have had several "gummy" 41 cases. The washing machine solution worked fine for me.

Re: Gummy Case

*Message #12 Posted by **Massimo Gnerucci (Italy)** on 9 Nov 2005, 9:10 a.m.,*
in response to message #10 by Daniel

I did it with several 41 cases. The goo is gone now.
Greetings,
Massimo

Re: Gummy Case

*Message #13 Posted by **David Smith** on 9 Nov 2005, 10:59 a.m.,*
in response to message #6 by Greg Whitfield

Brush off the particles with a tooth brush. Then fold up a paper towl and wet the edge with Windex window cleaner. Wipe your miseries away...

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what to do ? 41cx / top or hop

*Message #1 Posted by **Peter Scheller** on 8 Nov 2005, 8:43 p.m.*

hi there !!

last year i bought a 41cx with card reader, looking very nice, with box and all documents, of course used, from a colleague. i inserted new batteries, but said to say, the 41 dos not work. it´s display shows some signs, sometime "memory lost" and the batteries went hot. i want to give the calculator back to my colleague, but instead of that i got my money back and the calculator for nothing. that´s the story, and now my question: what should i do with the calculator ? aa sell it "as is" at ebay bb get it repaired---where ? \--estimated cost ? \-does it make sense ?

i also have the cardreader, but can´t check if it works. still last year the calculator is laying on my desk and i do not know what to do. a lot of memorys with the 41 going through my head, 25 years ago puzzling hours for hours programming, calculating and fun while playing 17+4. but, be honest, i wouldn´t really use it nowadays. so what is your opinion ?

peter

germany

Edited: 8 Nov 2005, 8:43 p.m.

Re: what to do ? 41cx / top or hop

*Message #2 Posted by **Klaus** on 9 Nov 2005, 9:12 a.m.,*
in response to message #1 by Peter Scheller

Hello Peter,

if you want to keep the calc, I can repair it for free, since I don't know any repair service here in Germany. You can contact me: khi1981@web.de

Best regards, Klaus

Can you repair a card reader?

*Message #3 Posted by **Marcus von Cube, Germany** on 10 Nov 2005, 6:11 p.m.,*
in response to message #2 by Klaus

Klaus,

I tried to fix the gummy wheel on my card reader, but it only gives me "card errors" now. I'm stuck.

Do you like to repair it?

Marcus

Re: Can you repair a card reader?

*Message #4 Posted by **Klaus** on 11 Nov 2005, 6:08 a.m.,*
in response to message #3 by Marcus von Cube, Germany

I have repaired several 41Cs and 41CXs, but no 41 card reader. However, I have repaired some HP-67 card readers. I can give it a try, and the forum archives are full of hints how to repair it.

If you want me to repair the card reader, you can eMail me.

Same conditions as for Peter: I'll do it for free, but you would have to pay the postage.

Greetings! Klaus

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Question about HP-41C Serial

*Message #1 Posted by **Daniel** on 8 Nov 2005, 4:01 p.m.*

I recently bought a nice 41C which serial number begins with 2043A. The machine has a halfnut display. As far as I can see on hpmuseum pages, early machines had a fullnut display. Though I assume this is an early model, I know little about this issue. Can someone let me know if halfnuts were already marketed on the 2nd year of Hp41 production in the states ?

Re: Question about HP-41C Serial

*Message #2 Posted by **Randy** on 8 Nov 2005, 4:10 p.m.,*
in response to message #1 by Daniel

No, they (half-nuts) did not appear until 1985 or so. What you have is a unit that was returned for repair late in the game, after they stopped fullnut support so HP service just stuck the old back on a new front half of a replacement calculator.

It would be interesting to know if it truly has only 46 free registers or if it is really a CV with a C label on it.

Re: Question about HP-41C Serial

*Message #3 Posted by **Daniel** on 8 Nov 2005, 4:50 p.m.,*
in response to message #2 by Randy

46 reg free. Also, gold-plated ball-bearings are present, which I assume is consistent with the serial #. So I think you got it right, Thanks very much for your help Randy !

Re: Question about HP-41C Serial

*Message #4 Posted by **Howard Owen** on 8 Nov 2005, 5:21 p.m.,*
in response to message #3 by Daniel

Hmm. So either they made some halfnut 41Cs specifically for replacements like this, or else they hacked a 41CV to make it act like a 41C. And what HP hacketh, perhaps ..

Halfnut 41c

*Message #5 Posted by **Gene** on 8 Nov 2005, 5:52 p.m.,*
in response to message #4 by Howard Owen

I believe Wlodek's guide to HP's says that HP made a very small number of halfnut 41c calculators for replacements.

They are quite hard to find and worth $$ to collectors who truly want one of everything.

Re: Halfnut 41c

*Message #6 Posted by **Randy** on 8 Nov 2005, 6:26 p.m.,*
in response to message #5 by Gene

Sorry, forgot to add that since a CV defaults to 46 free, you've got to do an [xeq] [alpha] [size] [alpha] [000] to know for sure. Chances are it is a HP hacked C version of a halfnut CV. Several have been reported here and yes, the gold ball contacts are consistent with an early C case back. Consider yourself lucky, it still remains the only 41 variant I do not own along with many other 41 collectors, marble blue and clear cases non-withstanding.

Re: Halfnut 41c

*Message #7 Posted by **Daniel** on 9 Nov 2005, 11:20 a.m.,*
in response to message #6 by Randy

Thank you all for these informations.
Actually, even when resizing the memory allocation I get 00 reg 63, so I believe it is a 41C.
Is there a way to know if the machine was rebuilt by HP ?
Actually I know little about it and I even don't know if the half-nut/full-nut mask can be (easily or not) separated from the rest of the machine...
However, I understand from your inputs that this may be an HP "re-creation" and that I should keep this one as a collection piece.

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Latest 33s Display is Indeed Improved

*Message #1 Posted by **Paul Brogger** on 8 Nov 2005, 11:48 a.m.*

After the previous "improved" display on the HP-33s, I had my doubts.

But (as already reported by others) the latest version I've seen (at Wal-Mart) is very much like what should have been released initially. Each character matrix has been reduced in size, leaving more room between them for the larger decimal point. The contrast appears better too. I'll have to take a closer look to see if the spaces between the pixels have been narrowed.

I do notice that the latest model has embossed on (actually, molded into) its back a garbage can icon with a diagnoal line through it. I'm sure this is meant to suggest that we properly dispose of the batteries and/or circuit board. However, I can't help taking this as an admission that the earlier models *should* be thrown out! ;-)

Re: Latest 33s Display is Indeed Improved

*Message #2 Posted by **Ed Look** on 8 Nov 2005, 11:52 a.m.,*
in response to message #1 by Paul Brogger

Does HP allow trade-ins for the 33S like they did with the 49G+? I forget.

Re: Latest 33s Display is Indeed Improved

*Message #3 Posted by **John** on 8 Nov 2005, 12:30 p.m.,*
in response to message #2 by Ed Look

The only way to know would be to call support and find out.

They may take the line that there is no defect in the earlier 33S units. This is merely an incremental improvement.

But hey, if you are in the US, it is a toll free call.

Re: Latest 33s Display is Indeed Improved

*Message #4 Posted by **brian heally** on 8 Nov 2005, 4:30 p.m.,*
in response to message #2 by Ed Look

I bought a 33s with the older decimal point and bad keyboard, and called up and complained. This calculator didn't always register keystrokes. I told them that I design life-safety elements for a living (which is the truth), and that because the keys didn't always register, and because the decimal point was extremely difficult to distinguish, I couldn't rely on this calculator. The guy on the phone had me reset the thing, which did nothing, and then he said that he would send me a new one, which he did. He also said that he would specify as a special instruction that the replacement unit should have the improved decimal. I received this replacement unit in the mail very quickly, and it did have the improved display. I now use this calculator daily at work, with confidence.

If I was the owner of one of the previous versions of the 33s, I would call them to voice my displeasure over the decimal point issue, and ask if I could be sent a replacement unit with the improved display. You may be surprised, and they may do it. If they hadn't sent me a new one, I would never spend another cent on an HP. However, because they did send me an improved one, I bought another one at Wal Mart to have as a backup.

Re: Well, I Just Tried "1-800-HP Invent" and . . .

*Message #5 Posted by **Paul Brogger** on 8 Nov 2005, 5:23 p.m.,*
in response to message #2 by Ed Look

. . . supposedly a new unit is on the way.

The voice recognition system kept hearing "HP 33S Scientific Calculator" as "Laser Printer", but later it dropped back and started listting product classes. "Handheld" got me to "Calculator" and (FYI) when asked "Home, Home office, or Business", I replied "Business".

From my converstaion with the very helpful attendant, I gather that it helps greatly to have a receipt showing purchase within the last 12-15 months. (Another, even older 33s has a serial # indicating that its replacement is a bit too much to ask, so I'll only be upgrading one of my two original-style units.)

I understand that, should they want my old unit, they'll send a mailing label. If no label, I can do what I want with the old one. ("Throw it out" comes to mind, but I know a high school student who might want it . . .)

So, "Hooray!" for HP calculator support. (And good luck to you all!)

Re: Well, I Just Tried "1-800-HP Invent" and . . .

*Message #6 Posted by **ECL** on 13 Nov 2005, 4:51 p.m.,*
in response to message #5 by Paul Brogger

That's funny, I too had some funny recognitions to 'calculator'..Response: "Did you say Jukebox?" :)

But I did eventually get through, and the HP rep was quite helpful.

ECL

Re: Well, I Just Tried "1-800-HP Invent" and . . .

*Message #7 Posted by **Ed Look** on 13 Nov 2005, 10:03 p.m.,*
in response to message #6 by ECL

Did you guys note how sometimes the voice would sound "frustrated"??!

LOL!

Re: Well, I Just Tried "1-800-HP Invent" and . . . It Arrived!

*Message #8 Posted by **Paul Brogger** on 14 Nov 2005, 11:37 a.m.,*
in response to message #5 by Paul Brogger

FYI . . .

The replacement showed on Saturday. Calculator only (with batteries installed), wrapped in bubble wrap. Ser # CNA 442nnnnn, with the improved display.

It came with a curious circular beige sticker on the back, printed in black with "MARKETING SAMPLE", and some illegible handwriting.

Though it has the newest display, it seems to have the old (uncorrected) ROM.

```
.1           ten minutes
->HR           as decmial portion of hour  (result:  0.1667)
1            one hour
-            subtract                      (result: -0.8333)
```

```
->HMS        convert                        (result: -0.4920)
```

(My newest unit -- Ser # CNA 532nnnnn -- gives -0.5000 .)

So, beware: there are some "transitional" units with newer displays, but old ROMs.

Curiously, it's got the worst keyboard of my several units -- seems to "miss" on the arithmetic operation keys occasionally. (I hadn't noticed a single problem with 33s keys until this one arrived.) I'll try the "wiggle fix" that seemed to clear up my 49G+ keys so well.

Hey! I'm not complaining! Thanks to H-P for the replacement. I'm just sharing to add to the knowlege base.

My son is using the older unit, in ALG mode, and with no idea yet how to program the thing. He considers it a glitzy upgrade from his previous 20S. And who am I to argue? The two-line display and 26+ variables are indeed steps up.

Edited: 14 Nov 2005, 12:58 p.m.

Re: Well, I Just Tried "1-800-HP Invent" and . . . It Arrived!

*Message #9 Posted by **Ed Look** on 14 Nov 2005, 2:36 p.m.,*
in response to message #8 by Paul Brogger

I called today and the gentleman who responded got my information and set the replacement process underway. I suspect I might just remain a (satisfied) customer...

... funny thing, though, shades of 1984 or the V chip: I asked if he could tell from their records (I did register my calculator, if I recall correctly) where I bought it and in doing so, I mentioned that I have been buying their calculators since I was old enough to afford and buy my own calcs. To this he replied, "Oh, we have an EXTENSIVE record on you!" :P ::(; I guess it must be extensive... for some of us ;) .

It would also be a gas if this fellow happens also to read our forum! (I also hope on their records, I didn't come across as too whiny!!)

Re: Well, I Just Tried "1-800-HP Invent" and . . . It Arrived!

*Message #10 Posted by **Jeff O.** on 15 Nov 2005, 8:23 a.m.,*
in response to message #8 by Paul Brogger

Paul,
Sounds like you have a collector's item. For everybody else, I'd advise buying only units with serial numbers beginning with CNA5xx, or maybe even only CNA532 or later. I finally went to a local Walmart yesterday to see if they had any in stock. I found a hanger with several units hanging on it. I pulled the first one off, pushed the ON button through the blister pack and entered a string of twos. Sure enough, the display seemed much better than my original unit. The serial number on the back was CNA532xxxxx. Curious, I checked the next unit. Its serial number was something like CNA442xxxxx. I pushed its ON button and entered all twos, and saw the old tiny radix. All of the other units were in the same serial number range and had the old display. Needless to say, I put the bad units back and purchased the one good one. So if you want a 33S with the new display, don't buy one that begins CNA4, and your best bet is to actually check before you buy if you can.
Regarding the missing key presses and the need to try the "wiggle-fix", let's hope that is a problem only with your particular prototype (or whatever it is.) (Except for the collector's item aspect, I'd say you would have a right to complain and request yet another replacement.) For what it is worth, the keyboard on my new unit passes the self test, functions flawlessly in use, and feels noticeably better than my first 33S. The feel is a little softer and less "clicky". It is virtually indistinguishable from several pioneers to which I compared it.

Re: Well, I Just Tried "1-800-HP Invent" and . . . It Arrived!

*Message #11 Posted by **brian healy** on 15 Nov 2005, 12:54 p.m.,*
in response to message #10 by Jeff O.

I noticed the same thing at my local Walmart. They a few of the newer machines with the improved display at the front, and towards the back were the older ones with the flawed display. I wonder how much additional bad blood directed against the 33s and HP as a result of people buying the older 33s with the horrible display.

My initial reaction to the 33s was extremely negative. I had spent about $60 for something with an unusable display, and if I hadn't heard in this forum that machines with the improved display were on the way HP would never have seen another dime of my money. After getting a replacement 33s with the improved display and buying another one from Walmart, I have given the 33s another chance, and have to admit that I actually like it. I think it could be in HP's best interest to recall any of the older 33s that are still on the shelves with the flawed display.

33s

*Message #12 Posted by **bill platt** on 15 Nov 2005, 9:31 a.m.,*
in response to message #8 by Paul Brogger

Hi Paul,

Which ALGebraic stack logic does it have?

Is it the parallel stack, or the swap x.,y stack?

Re: 33s

*Message #13 Posted by **Paul Brogger** on 15 Nov 2005, 12:11 p.m.,*
in response to message #12 by bill platt

If you mean the "swap" key function described here,

```
it (# CNA442nnnnn) gives DIVIDE BY 0,
just like my newest unit (# CNA532nnnnn),
while my oldest unit (# CN404nnnnn) gives 0.5 .
```

So it would appear there are at least three ROM versions?

roms 33s

*Message #14 Posted by **bill platt** on 15 Nov 2005, 12:54 p.m.,*
in response to message #13 by Paul Brogger

Yep.

So far, I have delineated:

```
REV   Description
beta  Gene's Calc sample.
-     Walmart initial release.  (just before the EIT exam a few years ago).


A    1st full-time release
B    Bugs fixed for the polar rect and the h.ms
```

Regarding ALG

beta and "-" have the same functionality, viz 24 / 12 SWAP <enter> gives 0.5

"A" and "B" give 24 / 12 SWAP <enter> give div 0. Note that you really need to see my old thread that desribes what is really happening here.

In short, the newer ones maintain two parallel independent algebraic stacks--you can actually run tow independent algebraic chain calculations simultanious ly. SWAP simply moves from one to the other, and so you can also link them.

The earlier ROMS gave the more familiar x<>Y swap which reverses the order--similar to the 20s.

The LCD display appears to be changed indepenedt of the ROM. In otherwords there is not synchronization between the two imporvements.

BETA and "-" may be the same ROM. But the keyboards were different with some of the functions (ask Gene about it! :-)

Edited: 15 Nov 2005, 12:56 p.m.

Re: roms 33s

*Message #15 Posted by **Gene Wright** on 15 Nov 2005, 2:04 p.m.,*
in response to message #14 by bill platt

Nope, all my 33S calculators have the same keyboard layout. :-(

Re: HP Calc. Promo

*Message #16 Posted by **temp (bill)** on 15 Nov 2005, 2:48 p.m.,*
in response to message #15 by Gene Wright

I stand corrected!

Funny though--I distincly remember something about that---was there an early "image" released before actual hardware, that you might have pointed out?

Answer me up-thread--we can kill this one?

I am correcting my post above, and so i will put "1234" here for erasing--then you can erase yours if you like (or has this feature been disabled?)

Re: roms 33s

*Message #17 Posted by **Paul Brogger** on 15 Nov 2005, 2:12 p.m.,*
in response to message #14 by bill platt

Thanks. I'll chase down your older thread on the stack thingie.

Without knowing what's behind the curtain, I was surprised that the older units "behaved better" than the newer with regard to this (SWAP in ALG mode).

But I've assumed it's simply not an issue to an RPN user.

swap

*Message #18 Posted by **bill platt** on 15 Nov 2005, 2:46 p.m.,*
in response to message #17 by Paul Brogger

"better"?

Don't you think it is kind of cool to have two parallel stacks?

(Of course the loss of the inversion capability is sort of vexing...)

Somewhat related, at least as far as ALG goes: the only unpleasant surprise for me, when I finally got a 27s, was that there is no swap command. the 17bii has it--but only because it *has* to because of the RPN mode.

Regards,

Bill

Re: roms 33s

*Message #19 Posted by **Mike T.** on 18 Nov 2005, 7:19 a.m.,*
in response to message #14 by bill platt

Just out of interest, there is an example of the H.MS but in this thread but could someone supply an illustration of the way in which the polar to rect bug manifests itself...?

Thanks.

Mike T.

Re: roms 33s

*Message #20 Posted by **Mike H** on 18 Nov 2005, 9:01 a.m.,*
in response to message #19 by Mike T.

Rectangular to Polar Conversion

When performing a rectangular to polar conversion of a number where the X or Y coordinate is equal to zero, the result might be inaccurate.

Workaround : When performing rectangular to polar conversions, if any of the 2 input is 0, take the absolute value of the number before performing the rectangular to polar conversion to yield the correct result.

Example : 10(enter)0(CHS)(ABS)(r-p) will yield the correct result (10, 90) while 10(enter)0(CHS)(r-p) will not (10,270)

There was at one time a workaround posted on the HP website for all the 33S bugs, but I could not find it. The update was dated September 2004, while the newest manual (3rd Ed)is dated November 2004, the updates should have made it into the manual but I didn't check. Email me if you need a copy.

mike at safetyplans.net

Edited: 18 Nov 2005, 9:19 a.m.

Re: roms 33s

*Message #21 Posted by **Paul Brogger** on 18 Nov 2005, 12:14 p.m.,*
in response to message #19 by Mike T.

Here's something I've found:

```
                          CNA 442nnnnn                CNA 532nnnnn
... keystroke               display                     display
... 10              x: 10       y:   0.00       x: 10       y:  0.00
... ENTER           x: 10.00    y:  10.00       x: 10.00    y:  10.00
... 0               x: 0        y:  10.00       x: 0        y:  10.00
... ->theta,r       x: 10.00    y:  90.00       x: 10.00    y:  90.00
... ->y,x           x: 0.00     y:  10.00       x: 0        y:  10.00
... ->theta,r       x: 10.00    y:  270.00      x: 10.00    y:  90.00
... ->y,x           x: 0.00     y: -10.00       x: 0        y:  10.00
... ->theta,r       x: 10.00    y: -90.00       x: 10.00    y:  90.00
... ->y,x           x: 0.00     y: -10.00       x: 0        y:  10.00
... ->theta,r       x: 10.00    y: -270.00      x: 10.00    y:  90.00
... ->y,x           x: 0.00     y:  10.00       x: 0        y:  10.00
```

I assume that illustrates the bug?

Re: roms 33s

*Message #22 Posted by **Marcus von Cube, Germany** on 18 Nov 2005, 3:08 p.m.,*
in response to message #21 by Paul Brogger

My CNA 51500163 seems to be a bastard:

1.) The display is perfectly OK; I can't compare to an older machine but I have no trouble reading the decimal point (a comma in my case.)

2.) The P-R bug is present, exactly as shown above.

3.) X<->Y in ALG mode doesn't exchange the last two numbers entered (as to reverse the result of - or /) but seems to use a shadow register that can be used for any purpose. (Very much like the t-Register on older AOS TI machines such as the TI-59)

Marcus

RE: roms 33s

*Message #23 Posted by **bill platt** on 18 Nov 2005, 3:57 p.m.,*
in response to message #22 by Marcus von Cube, Germany

Marcus,

Do this:

```
clear registers, clear stack in RPN
ALG
1 + 6 <enter>
<x<>Y>
```

If you see "6" then you have the original "pre-release" or rev "-".

If you see "0" then you have the second version of the ROM ("A"). (The third version would have bugs fixed).

Now, continuing from above, assuming you can see "0", then do this:

```
9
x
<x<>y>
{at this point you should be seeing "7" from the 1st calc}
+
<enter>
```

Notice that you have carried on two independent calculations, with their own x,y stacks, and you have tied them together by prefixing an operation (in this example <+>) followed by "swap" (<x<>y>).

The odd thing about this algebraic feature is that it is un-documented...and there was no change in the manual between the 1st and second issues (Rom "-" and rom "a" have edition 1 and edition 2 respectively).

Further, the PDF documents that were written and are available at HP have one spot where they explicitly use the "swap" functionality of rom "-". (A contributor here wrote them--and had that ROM).

So if you have the P-R and the H.ms bug, and the algebraic behavior, and the C.nr overflow bug, and the annunciator but after reset.(asre there more--see archives of Mike's post)...then you have ROM #3 (what I call "B") (as far as we can determine) or in other words, I am inferring from the anecdotes, that there have been three roms:

```
"-" bugs, ALG swap between last stack entry and current command line
      (ealry walmart release--essentially a "pre-release")


"A" bugs, parallel ALG stack (1st full retail release)
"B" no bugs, parallel ALG stack
```

It looks like the new display (and there may be more than one iteration!) happened to some of "A" as well as to "B" ROM machines Let's see if we find more!

(visions of "red-dots" dancing in my head...)

One other thing--does anyone have a rom "A" that does *not* have a CNA (as opposed to CN) serial? In otherwords, I think that rom "A" was instituted at factory "A" and perhaps not at the other? We'll see.

Regards,

Bill

Edited: 18 Nov 2005, 4:03 p.m.

Re: RE: roms 33s

*Message #24 Posted by **Marcus von Cube, Germany** on 19 Nov 2005, 4:54 a.m.,*
in response to message #23 by bill platt

Here are my observations:

```
Keys                Display
---------------------------
1 + 6 <enter>       7.00
<x<>y>              0.00
9                   9_
x                   9.00
<x<>y>              7.00
+                   63.00
<enter>             no change
---------------------------
```

The only thing I can see is that there is a shadow register holding the result of the first addition (7.) after x<>y. This result is then retrieved by the second x<>y and used in the calculation. I can't see any "secondary AOS stack" or whatsoever.

Marcus

Re: RE: roms 33s

*Message #25 Posted by **bill platt** on 20 Nov 2005, 6:37 p.m.,*
in response to message #24 by Marcus von Cube, Germany

Hey Marcus,

You need to "play around" with the ALG more. THe example I gave you is only one very simple starting point. Try this:

```
1 + 6 <enter>       7.00
<x<>y>              0.00
9                   9_
x                   9.00
4                   4_
<enter>             36.00
<x<>y>              7.00
<x<>y>              36.00
<x<>y>              7.00
+                   7.00
4                   4_
<enter>             11.0
+                   11.0
<x<>y>              36.00
<enter>             47.00
+                   47.00
<x<>y>            ......tell me where you take it from here!
```

As you can see, you can carry on parallel work indefinitely and link the work...

Regards,

Bill

Re: Latest 33s Display is Indeed Improved

*Message #26 Posted by **Howard Owen** on 8 Nov 2005, 12:17 p.m.,*
in response to message #1 by Paul Brogger

Yeah, as in "don't throw *this* one out!" LOL.

Re: Latest 33s Display is Indeed Improved

*Message #27 Posted by **Bob** on 8 Nov 2005, 12:20 p.m.,*
in response to message #1 by Paul Brogger

I saw an HP33S in Walmart on Saturday that had a S/N that started with 530xxxx. The display was ALOT better. I could easily see the decimal with two "2's" next to each other from about 2 feet away. The digits looked thinner.

If I didn't already have 2, I might have bought it.

Re: Latest 33s Display is Indeed Improved

*Message #28 Posted by **Hal** on 8 Nov 2005, 8:42 p.m.,*
in response to message #27 by Bob

Is there a definative way to tell if I have an improved 33s? I bought mine at Walmart about July of this year. I always thought I could see the decimal point clearly, but now I'm not so sure.
Thanks, Hal

Re: Latest 33s Display is Indeed Improved

*Message #29 Posted by **Ed Look** on 9 Nov 2005, 10:25 a.m.,*
in response to message #28 by Hal

It may be helpful if some of you guys who have the ability to can post images of the pre- and post- displays.

Re: Latest 33s Display is Indeed Improved

*Message #30 Posted by **Paul Brogger** on 9 Nov 2005, 11:29 a.m.,*
in response to message #29 by Ed Look

I recently lost my digital camera, or I'd post some today.

I've been film-photographing some stuff for eBay sales, so I'll get comparative views of the 33s displays as well, if no one else does it sooner.

Re: Latest 33s Display is Indeed Improved

*Message #31 Posted by **Howard Owen** on 8 Nov 2005, 12:38 p.m.,*
in response to message #1 by Paul Brogger

I also bought a new 33S from Wal-Mart. (Fry's didn't have the new ones.) I've been staring at the display for quite a while, porting YATZ to the calculator. I know this has been brought up before, but I'm now nose-to-nose with just how limiting 26 variables and 26 labels can be. The other capabilities of this machine are quite nice, but that lack of labels, particularly, leaves most of the ample 32K unused for me. If I were using this calculator professionally, I would be extremely frustrated with this shortcoming. Since there's no way to store and retrieve programs either internally or exernally, it means that all of the ways you might want to program the calculator have to fit into the 26 label limit *at the same time!*

So that leaves a big gap in HP's product line where the HP-41 and HP-42 used to live. Not that there weren't significant differences between those two, but both of those machines were considered the top of the line in their days. Today they would occupy a place midway between the 33S and the 49GX in my opinion. The RPL models are at least one, and possibly two orders of magnitude more complicated to program than the keystroke models. Their power also surpasses the older platforms, but not in the same ratio, again in my opinion. I therefore feel the lack of a nice keystroke programmable machine with higher arbitrary limits in things like the number of labels.

One approach to bringing back this sort of thing would be to add a keystroke mode to the current high-end. I'm not talking about simulators of older machines, such as the fine software by Hrastprogrammer and others, but rather an updated keystroke mode that made a fair percentage of the built in power of the high-end machine available. That could be done in software by the community, I suppose, at the cost of RAM and CPU overhead in running programs. It would be far better to have it implemented natively by the calculator vendor, not only from the (presumably) better integration, but from the standardization that would bring to the new mode if it were deployed on all the machines in a given model.

Re: 26 variables

*Message #32 Posted by **Paul Brogger** on 8 Nov 2005, 12:52 p.m.,*
in response to message #31 by Howard Owen

No doubt about it, there's a limitation. Bummer.

FWIW, the 6 Stat variables are available indirectly, via ***i*** = 28 through 33.

And why they chose to make the ***i*** register available indirectly at ***i*** = 27 is beyond me! Zero would have been much better, leaving the limited available variable space uninterrupted.

Re: 26 variables

*Message #33 Posted by **Thomas Radtke** on 8 Nov 2005, 1:21 p.m.,*
in response to message #32 by Paul Brogger

The should have kicked out the i, introducing an IND statement to indirectly access a few KBs of memory (including A-Z) from any variable A-Z. That would allow multidimensional arrays. My TI/Casio can do this and AFAIK the 41 can do this too, correct?

Thomas

Re: 26 variables

*Message #34 Posted by **Howard Owen** on 8 Nov 2005, 4:32 p.m.,*
in response to message #33 by Thomas Radtke

The 41C can do indirect addressing through any register. It's the only way to access registers above 99. Label indirection is similar, I think.

The limited programming model may have made sense in marketing terms with the 32S and 32SII. Those machines were low-to-midrange, and so either the programming model was deliberately crippled, or else the economics of RAM made it silly to allow more than that. But fast forward 15 years or so and the programming capability looks really lame compared with anything in else in the 33S'x class. This is just a consequence of outsourcing the calculator product development, and then not expecting much innovation from the O.E.M.

You know, just the capability to swap programs in and out of the name space would go a long way toward overcoming the limitation. I can probably avoid using all the labels in any given program, but not in half a dozen or so. If I could have one program, defined as a set of labels grouped by a metalabel, or dare I say it, a *name*, as the 'current" program, then I could be as liberal as I liked in my label usage. It would still suck to not be able to share common routines, but not half as hard as this ridiculously low ceiling does.

Re: 26 variables

*Message #35 Posted by **Gene** on 8 Nov 2005, 5:57 p.m.,*
in response to message #34 by Howard Owen

I'm not so sure about lame outsourcing.

It really probably did cost HP less to drop in the 32K chip than finding one that held only 500 bytes or so.

Perhaps if they had chosen to increase the cost a couple of $$ then they could have dropped in the 500 byte chip and all these comments about "I can't use the ram" wouldn't have come up. :-)

After all, this is essentially a 32SII that was upgraded because of component obsolesence. Nothing more probably intended.

If there are a few new things, ok, but I doubt there was much intent to re-engineer a totally different machine here.

When one understands that the old processors were going away very quickly, HP had to make choices: Make machines as similar as we can to the existing ones with new processors or drop out altogether.

They stayed in and appear to be successful, some isolated problems notwithstanding.

Perhaps, given time, they may come out with totally different machines, but keep in mind...HP calculators are MUCH smaller than they used to be in terms of personnel, so I'm glad with whatever I get.

Re: 26 labels and 33 variables

*Message #36 Posted by **Paul Brogger** on 8 Nov 2005, 6:09 p.m.,*
in response to message #35 by Gene

I agree. On the 32/32s, memory was the overriding limitation, on what otherwise was a VERY simple, straightforward programming model.

Now, the memory limitation has effectively been eliminated. The current limitation is in program labels and variables.

If you want to get 'round those limits, you've got to go "retro" with a 32K 42s, or up to one of the graphical models.

But for a *readily available*, almost-cheap, shirt-pocket RPN programmable, we have a choice analogous to the old Model T's color selection: any H-P calculator, as long as it's the 33s.

Re: 26 variables

*Message #37 Posted by **Howard Owen** on 8 Nov 2005, 6:20 p.m.,*
in response to message #35 by Gene

> Quote:
>
> It really probably did cost HP less to drop in the 32K chip than finding one that held only 500 bytes or so.

No doubt.

> Quote:
>
> Perhaps if they had chosen to increase the cost a couple of $$ then they could have dropped in the 500 byte chip and all these comments about "I can't use the ram" wouldn't have come up. :-)

No doubt. 8)

> Quote:
>
> After all, this is essentially a 32SII that was upgraded because of component obsolesence. Nothing more probably intended.
>
> If there are a few new things, ok, but I doubt there was much intent to re-engineer a totally different machine here.

Obviously true. **whine**

That's what I meant by saying they weren't expecting innovation from their O.E.M.

> Quote:
>
> When one understands that the old processors were going away very quickly, HP had to make choices: Make machines as similar as we can to the existing ones with new processors or drop out altogether.

> They stayed in and appear to be successful, some isolated problems notwithstanding.

True, as far as it goes.

> Quote:
>
> Perhaps, given time, they may come out with totally different machines, but keep in mind...HP calculators are MUCH smaller than they used to be in terms of personnel, so I'm glad with whatever I get.

Well, I'm not so complacent. For example, the 49G+, with all its warts, is an improvement on the 49G and the 48G. It's got modern I/O , a modern processor and modern storage. If I were starting out with calculators, and I picked up a recent version of that machine, I'd be pretty happy, assuming I wasn't overwhelmed with the complexity or the world's demands that I get a TI.

But if I were starting with the 33S, I'd *definately* be disappointed. The programming restrictions are too onerous. They make the machine practically unusable for a set of programmed tasks. The key thing there is that all programs share a single name space. So it's very difficult (I'd never say "impossible" around *this* place) to get a nice variety of useful programs into the darned thing. That makes the 32k sort of a cruel joke, as you alluded to.

I *understand* that HP lost the calculator wars to TI, and that that meant they faced a choice to either exit the market or drastically curtail their investment in it. I'm glad they chose the latter too. But I'm just not willing to give them a (rhetorical) pass on an obviously bad choice to bring their low end machine forward without addressing the, um, addressing. They did better than that for the high end machine, after all. I'm sure the MBAs crunched the numbers on that choice, but it still sucks in my book.

33s programming

*Message #38 Posted by **bill platt** on 15 Nov 2005, 9:59 a.m.,*
in response to message #37 by Howard Owen

> Quote:
>
> The programming restrictions are too onerous. They make the machine practically unusable for a set of programmed tasks. The key thing there is that all programs share a single name space. So it's very difficult (I'd never say "impossible" around this place) to get a nice variety of useful programs into the darned thing. That makes the 32k sort of a cruel joke, as you alluded to.

Hi Howard,

I disagree. In fact, the 33s has everything that the 32sii had, and then some. It has more than the 11c. It has more capability than the 67 in terms of variable names and labels. The only pocket calculators that exceed it are the 15c and the 42s--both of which were higher in the chain. (Is the 41 a pocket calculator? Not quite as much).

There were many many extremely useful programs written for the 67, the 11c, the 32s, the 32sii.

Sure, you can't do everything that the 41 or the 42 or the 15c did, but you can do a lot.

In fact, for some things, the 33s can do more than the 15c--if it is memory or lines of code that

is a stumbling block, the 33s has efffectively 7k relative to the 15c.

(The memory structure of the 33s is less efficent and so it really isn't 32k).

When you consider that the 33s has equations as well as RPN, and the ability to use equations as prompts, and real command names rather than keycodes, then you have a much easier interface for programming.

Regards, Bill

Re: 33s programming

*Message #39 Posted by **Howard Owen** on 15 Nov 2005, 12:14 p.m.,*
in response to message #38 by bill platt

Since I posted this rant, I've become aware that the 33S is better regarded as a programmable than I gave it credit for. You are right about all its advantages relative to the Voyagers and the 67/97. And it does have a much nicer set of capabilities in its built in functions, which of course makes the programming that much more powerful.

I guess I'm really comparing it to the 49G+. The fact that the comparison is unfair is exactly the point! 8)

Re: 26 variables

*Message #40 Posted by **ECL** on 8 Nov 2005, 6:02 p.m.,*
in response to message #34 by Howard Owen

I agree on the limitating nature of a finite number of variables. But, as a student, and knowing that 'heavy' work is frequently done with PC software, it is actually very enjoyable to address the challenges of this machine.

For example, I enjoy being able to solve polynomials and do matrix multiplication, approximate % error, and other "little" stuff that does take some time to do via longhand. And to have the answer as they are just locating the application in their GameBoys' is even more fun.

However, if HP is listening, a 42s style machine (built-in matrices, alpha-num variables, and a sophisticated menu system) would be warmly received :) ECL

Re: 26 variables

*Message #41 Posted by **Howard Owen** on 8 Nov 2005, 6:32 p.m.,*
in response to message #40 by ECL

Interesting. Thanks for that perspective.

As a hobbyist, I enjoy a programming challenge too. But it was my frustration at trying to port a non-trivial game to the 33S that occasioned my fit of pique above. But what really burned my toast was the realization that nobody would ever use the game, once I succeeded in porting it, because it would basically turn the 33S into a one trick pony. And for fifty bucks, you can get a much nicer gaming experience than that nowadays.

Re: 26 variables

*Message #42 Posted by **ECL** on 8 Nov 2005, 9:57 p.m.,*
in response to message #41 by Howard Owen

Howard,

If it can be written off as a pursuit in which you were confronted by a new problem, I say do it!

One of the 33s's pros to me is that I could outgrow it at some point. This may not frame my thoughts properly. Perhaps a better statement is that if I could load a C compiler and all the capabilities of such a language onto my 33s, I would likely try to write "The Complete Student-Engineer's Suite for the HP-33s" which would really derail me from my studies.

I appreciate the 33s for being somewhat limited, but to still be able to 'shirt-pocket' some very useful capabilities. All that said, I still dream of a 'lost' case of 42s' arriving at the local Fry's. Or even better, a new 33s/42s = 43s?? 34s? :) Thanks for the insights, ECL

Re: 26 variables

*Message #43 Posted by **ECL** on 8 Nov 2005, 10:11 p.m.,*
in response to message #41 by Howard Owen

Sorry to saturate the thread here, but I have noticed some elementary ways to get labels to go farther in my case. I have two programs that deal with matrices. One lets me input two rows for manipulation, and the other multiplies two matrices up to 3x3 (this one is brute force, and will be updated).

However, before operating on these rows and matrices, I have to build the matrix. Also, once done, I have to output the new values. I realized that I can have one short program do both. And then both matrix programs can call on the same 'builder/printer' routine. (sorry if this is exceedingly basic)

```
Routine to input and output matrix elements:
LBL A
FS? 1
INPUT (i)
FS? 2
VIEW (i)
ISG i
GTO A
RTN
```

So, if I am building the matrix, the main label will set flag 1 before calling on 'A', and if I am done, and want to output the results, I disable 1, and set flag 2 before calling 'A'. Hey, I think I see how I can fit this into the main label...That's another benefit to these discussions, I see how I could have been more efficient through sharing something :) ECL

Re: 26 variables

*Message #44 Posted by **Howard Owen** on 8 Nov 2005, 10:29 p.m.,*
in response to message #43 by ECL

Yeah, at least half the benefit of explaining what you are doing to other people is the fact you have to explain it to yourself first. 8)

Seriously off-topic: I think that's because when you speak, or even when you frame your thoughts to be spoken aloud, you engage parts of your cortex that aren't in gear when you are thinking to yourself. My intuition says talking aloud to yourself wouldn't have the same benefit. If that's so, then the clarifying power of telling others what you are up to is not due to the motor pathways for speech and hearing being warmed up. It would be interesting to test that experimentally, but I'd have to be working from home before I started talking to myself. 8)

Back on HP calculators. There's an article in the archive that discusses some techniques for optimizing for label usage, specifically for the 33S. It sounds like some of the items you

mentioned are discussed there. But odds are you've had a thought or two that might make good additions.

Re: 26 variables

*Message #45 Posted by **ECL** on 8 Nov 2005, 11:03 p.m.,*
in response to message #44 by Howard Owen

Howard,

Thanks, I copy/pasted Paul's article for some fun post-study reading tonight.

ECL

Re: 26 variables

*Message #46 Posted by **brian healy** on 9 Nov 2005, 11:59 a.m.,*
in response to message #34 by Howard Owen

I agree with you that the ability to name a program would go a long way to increasing the programming capability. I wonder how hard it would be for Kinpo to do this, assuming HP had the desire to look into it. Most of the programs I write are relatively simple, I have minimal subroutines or branches. I have several different programs that use the same same variable but in different equations, and to keep it straight I make a user prompt in equation mode explaining what the required input is. It chews up memory, but the 33s has lots of it.

When I think of the shortcomings of the 33s, I try to remember to be thankful that at least there is still a basic RPN calculator in the market. I "grew up" on the 11c and 32sii, and felt that the higher end models had too many features that I would never use, and were probably too complicated for the day to day calcs that I usually am doing at work. Now that HP has addressed the design flaw of the 33s display, maybe they can address some of the programing limitations of the 33s. A basic RPN calculator like the 33s, but with some enhanced programming features would be totally ideal for me.

To go off on a tangent, does anyone know how successful HP ahs been with sales of the 33s?

RPL more complicated? (was: Latest 33s Display is Indeed Improved)

*Message #47 Posted by **James M. Prange (Michigan)** on 9 Nov 2005, 2:51 a.m.,*
in response to message #31 by Howard Owen

Well, to each his own, but personally, I find the RPL models **much** easier to program than my 12C or 16C.

What's so "complicated" about programming in UserRPL? It's mostly the Reverse Polish Notation that everyone here is so familiar with, along with a few very useful program structures, and **named** local and global variables. What could be simpler to use?

You can simply start the command line with the \<< UserRPL program delimiter, simply press the keys in the same order that you'd use to solve the problem in "immediate" mode, and then press ENTER to put the program on the stack. Doesn't that sound much like "keystroke programming"? Now type in your program name and press STO, and you now have a named program that you can use whenever you want, including calling it by name from another program.

Yes, you can write complicated RPL programs. For example, utilizing local variables, elaborate nested program structures, and recursive programming, but you don't have to utilize all of the power of RPL to write some very useful programs.

Even SysRPL isn't much more complicated than UserRPL, though much less forgiving of mistakes. Assembler language isn't difficult, though perhaps rather tedious to program in. For these two, keep an archive of user

memory on a card, or in the case of the 49 series, in flash memory, while you're programming and testing, and it's easy enough to restore when things go south.

To be sure, there are more commands than almost anyone will ever learn to use, but complaining about that seems much like complaining about your bride being "too beautiful". If you don't know what a command is useful for, then simply don't use it.

I suppose that it largely depends on which model first hooked you on HP calculators.

Regards,
James

Re: RPL more complicated? (was: Latest 33s Display is Indeed Improved)

*Message #48 Posted by **Thomas Radtke** on 9 Nov 2005, 5:56 a.m.,*
in response to message #47 by James M. Prange (Michigan)

My concern with UserRPL is that I forget the keywords and syntax when away from it for some time;). But there is another issue: The missing 'break' statement strikes you especially when writing more complex programs for which keystroke programming wouldn't be suitable anymore. There are some (awkward) ways around it but would it have been much of a problem to implement it?

Thomas

Re: RPL more complicated?

*Message #49 Posted by **James M. Prange (Michigan)** on 9 Nov 2005, 7:07 a.m.,*
in response to message #48 by Thomas Radtke

> Quote:
>
> My concern with UserRPL is that I forget the keywords and syntax when away from it for some time;).

The keywords are the same used in the menus. Granted, the menu system in the 49 series leaves a lot to be desired, but even there the menus for program structures are straight-forward, and you can use the CAT key to see all of the commands. What is there about the syntax that's easy to forget?

> Quote:
>
> But there is another issue: The missing 'break' statement strikes you especially when writing more complex programs for which keystroke programming wouldn't be suitable anymore. There are some (awkward) ways around it but would it have been much of a problem to implement it?

Maybe you mean something like the HALT command? You can use the DBUG operation to start single-stepping through a program. Or you can start single-stepping at the first HALT command, or CONT to the next HALT command.

Regards,
James

Re: RPL more complicated?

*Message #50 Posted by **Arnaud Amiel** on 9 Nov 2005, 7:55 a.m.,*
in response to message #49 by James M. Prange (Michigan)

I believe he is talking about a kind of EXIT or RTN statement that allows early exit from a subroutine. Though I rarely find the need for them when I do well structure programming. I only really need this kind of functionality when I am looking for the shortest and fastest way to do something. However, now with the speed and memory of the 49g+ it is only required for "challenges"

Arnaud

Re: RPL more complicated?

*Message #51 Posted by **Thomas Radtke** on 9 Nov 2005, 11:17 a.m.,*
in response to message #49 by James M. Prange (Michigan)

I was talking about 'break' as in the C language. I'm often in need to leave a loop somewhere in the middle of the enclosed statements. This might not be the most elegant technique, but it is 'resource friendly' and a standard on several programming languages.

About the forgotten keywords, yes I can look them up but that takes some time. So basically RPL gets my job done but I'm usually faster with keystroke programming. And no, I'm not against RPL, I was just pointing out what I dislike about it. I have used it and will use it in the future, for sure.

Thomas

Re: RPL more complicated?

*Message #52 Posted by **James M. Prange (Michigan)** on 10 Nov 2005, 6:17 a.m.,*
in response to message #51 by Thomas Radtke

> Quote:
>
> I was talking about 'break' as in the C language.

Ok, I'm not familiar with C, which explains why I didn't recognize your "break", and got sidetracked to "break point" instead.

> Quote:
>
> I'm often in need to leave a loop somewhere in the middle of the enclosed statements. This might not be the most elegant technique, but it is 'resource friendly' and a standard on several programming languages.

Which kind of loop?

Somehow, it seems to me that using a WHILE...REPEAT...END or DO...UNTIL...END loop would satisfy your requirements quite nicely.

Of course, you could also nest "conditional" program structures within the loop clauses.

Even with a FOR index...NEXT loop, it's easy enough to force an early stop to looping simply by storing an appropriate value in the 'index' local variable.

Offhand, the only way that occurs to me to force a START...NEXT loop to end early is to force an error (such as 0 DOERR), which of course ends the entire program, unless you have the loop within an error trap.

In the case of a FOR index...STEP or START...STEP loop, one could force an early end by substituting a different value for STEP, sort of forcing a "giant STEP".

Okay, some of those aren't simple methods. I suppose that the simple answer would be that it depends on what you're trying to accomplish.

Regards,[n]James

Re: RPL more complicated?

*Message #53 Posted by **Thomas Radtke** on 10 Nov 2005, 9:28 a.m.,*
in response to message #52 by James M. Prange (Michigan)

> Quote:
>
> Even with a FOR index...NEXT loop, it's easy enough to force an early stop to looping simply by storing an appropriate value in the 'index' local variable.

Yes, but that would mean that you have to go through the rest of the current loop until the condition is queried the next time. A 'break' would leave it immediatley.

> Quote:
>
> Offhand, the only way that occurs to me to force a START...NEXT loop to end early is to force an error (such as 0 DOERR), which of course ends the entire program, unless you have the loop within an error trap.

I tried that. Can't remember exactly but I think that was possible only once, while I was in need for several 'break's. Probably my fault but at that time I didn't found out how to accomplish that and haven't touched my 48G since then. I'll look at it again.

Thomas

Re: RPL more complicated?

*Message #54 Posted by **James M. Prange (Michigan)** on 11 Nov 2005, 8:34 p.m.,*
in response to message #53 by Thomas Radtke

> Quote:
>
> > Quote:
> >
> > Even with a FOR index...NEXT loop, it's easy enough to force an early stop to looping simply by storing an appropriate value in the 'index' local variable.
>
> Yes, but that would mean that you have to go through the rest of the current loop until the condition is queried the next time. A 'break' would leave it immediatley.

Well, you want the "break" only if a certain condition is (or isn't) met, right? So you're going to be testing for that condition. How about something like this:

```
1 10                    @ Loop from 1 through 10.
FOR n                   @ Loop index is local variable 'n'.
  @ Code to be executed before break test.
  IF
    @ Test, continue if true, break out if false.
```

```
  THEN
    @ Rest of code to be run in loop.
  ELSE
    @ Optionally record that a break was used.
    10 'n' STO          @ Actually, any value greater than 9
                        @ should work in this case.
  END
NEXT                    @ Increments and tests loop index.
@ Optionally test whether a break was used.
```

You could use a CASE structure to allow for multiple break tests within a loop, for example:

```
1 10                    @ Loop from 1 through 10.
FOR n                   @ Loop index is local variable 'n'.
  CASE
    @ Code to to run before first break test.
    @ Test for first break condition.
    THEN
      @ Optionally save information on reason for breaking.
      10
    END
    @ More code to be run.
    @ Test for second break condition.
    THEN
      @ Optionally save information on reason for breaking.
      10
    END


    @ Etc.


    @ More code to be run.
    @ Test for last break condition.
    THEN
      @ Optionally save information on reason for breaking.
      10
    END
    n                   @ Use existing loop index value if no
                        @ break occurred.
  END
  'n' STO               @ Store value in loop index.
  @ Additional code to be run within loop.
NEXT                    @ Increments and tests loop index.
@ Optionally check reason for breaking.
```

Of course, you could also force a FOR...NEXT loop to run indefinitely, just by storing a value at least 1 lower than the stop value into the index every time.

> Quote:
>
> > Quote:
> >
> > Offhand, the only way that occurs to me to force a START...NEXT loop to end early is to force an error (such as 0 DOERR), which of course ends the entire program, unless you have the loop within an error trap.
>
> I tried that. Can't remember exactly but I think that was possible only once, while I was in need for several 'break's. Probably my fault but at that time I didn't found out how to accomplish that and haven't touched my 48G since then. I'll look at it again.

The START loops are problematic to break out of early. The START loops are basically simplified FOR loops, for use where the user doesn't need access to the index. They don't test for whether to loop again, like WHILE and DO loops. Like NEXT loops, they do use a local variable for the index, but START's index local variable is nullnamed, and thus inaccessible from "pure UserRPL". I suppose that one could access it with SYSEVAL, but why bother when FOR loops are available?

Maybe something like the following, but note that pressing CANCEL just once may just cause breaking out of the loop, with a second press required to abandon the program:

```
\<<                     @ Begin program.
  RCLF \-> f            @ Save current flags.
  \<<                   @ Begin local environment defining procedure.
    -55 CF              @ Force Save last args for consistent error
handling.


    @ Code to be run before loop.


    IFERR               @ Start error trap.
      1 10              @ Loop from 1 through 10.
      START             @ Loop index is not accessible by user.
        CASE
          @ Code to be executed before test for first break.
          @ Test for first break condition, break if true.
          THEN
            @ Optionally save information on reason for breaking.
            0 DOERR
          END
          @ More code to be executed.
          @ Test for second break condition.
          THEN
            @ Optionally save information on reason for breaking.
            0 DOERR
          END


          @ etc.


          @ More code to be executed.
          @ Test for last break condition.
          THEN
            @ Optionally save information on reason for breaking.
            0 DOERR
          END
          @ More code to be executed if no breaks occurred.
        END
      NEXT              @ Increments and tests hidden loop index.
    THEN                @ Start error clause.
      IF
        0 ERRN  \=/     @ Was the error unexpected?
      THEN
        @ Optionally any additional error testing and cleanup.
        f STOF          @ Restore original flags.
        ERRN DOERR      @ Execute the error, abandoning program.
      ELSE
        @ Optionally any additional code based on reason for breaking.
      END
    END                 @ End error clause.


    @ Code to be executed after loop.


    f STOF              @ Restore original flags.
  \>>                   @ Abandon local environment.
\>>                     @ End program.
```

But it's easier to just use a FOR loop and use the index local variable to break out, otherwise ignoring it if you have no other use for it. I suppose the main value of this START...NEXT example is to show that "there's more than one way to skin a cat", and some ways are better than others.

Of course, if you want the loop to execute until some condition is met, with a single test for breaking, then very simply use something like:

```
WHILE
  @ Code to be executed before break.
  @ Test for break condition, false to break, true to continue.
REPEAT
  @ Code to run if not breaking.
END
```

Although only the FOR loops have a user-accessible built-in loop index, it's easy enough to add your own loop index to any loop using your own local variable and INCR (or DECR), or for that matter, doing any operation to modify the index value and storing the new value back into the local variable.

For example:

```
\<<
  0 \-> n               @ Initialize loop index.
  \<<
    DO
      @ Code to be looped through.
      'n' INCR DROP     @ Increment loop index value.
    UNTIL
      @ Test whether to loop again, optionally using the value of n.
    END
    @ The loop index value is still in n, even after the loop has
    @ ended.
  \>>
  @ Now the loop index has been abandoned.
\>>
```

Or, for the following, the index is 2 to the power of the loop count.

```
\<<
  1 \-> n               @ Initialize loop index.
  \<<
    DO
      @ Code to be looped through.
      n 2 * 'n' STO     @ Modify loop index value.
    UNTIL
      @ Test whether to loop again, optionally using the value of n.
    END
    @ The loop index value is still in n, even after the loop has
    @ ended.
  \>>
  @ now the loop index has been abandoned.
\>>
```

Note that in a DO...UNTIL...END structure, the UNTIL can actually be anywhere between the DO and the END, as long as it doesn't occur within a nested program structure. The END uses the T/F (zero/non-zero) stack flag, and the DO tells it where to "loop back" to. The UNTIL usually divides the loop into a "loop clause" and a "test clause", but that's only for reasons of program legibility.

But the above doesn't hold for a WHILE...REPEAT...END structure. In this case, REPEAT uses the T/F flag, END tells it where the "loop clause" ends, and WHILE tells it where to "loop back" to for the next "test clause".

A DO loop is always executed at least once, but with a WHILE loop, the "loop clause" may not be executed at all.

Finally, note that what you're trying to do may well be easier in SysRPL.

Regards,
James

Re: RPL more complicated?

*Message #55 Posted by **Thomas Radtke** on 12 Nov 2005, 1:22 p.m.,*
in response to message #54 by James M. Prange (Michigan)

Yes, it is certainly possible to get the job done without 'break' and it might look even better. But compare your first solution

> Quote:
>
> ```
> 1 10                    @ Loop from 1 through 10.
> ```

```
    FOR n                   @ Loop index is local variable 'n'.
      @ Code to be executed before break test.
      IF
        @ Test, continue if true, break out if false.
      THEN
        @ Rest of code to be run in loop.
      ELSE
        @ Optionally record that a break was used.
        10 'n' STO          @ Actually, any value greater than 9
                            @ should work in this case.
      END
    NEXT                    @ Increments and tests loop index.
```

with this one:

```
1 10
FOR n
  @ Code to be executed before break test.
  IF
    @ Condition for a break is met
  THEN
    @ Optionally record that a break was used.
    BREAK
  END
  @ Remaining code
NEXT                    @ Increments and tests loop index.
```

It's slightly shorter (I inserted 'Remaining code' to make clear why 'break' is of advantage here) so you can probably see why I really would appreciate the inclusion of a BREAK keyword.

Thomas

BREAK for loops (was: RPL more complicated?)

*Message #56 Posted by **James M. Prange (Michigan)** on 13 Nov 2005, 8:42 a.m., in response to message #55 by Thomas Radtke*

> Quote:
>
> It's slightly shorter (I inserted 'Remaining code' to make clear why 'break' is of advantage here) so you can probably see why I really would appreciate the inclusion of a BREAK keyword.

Oh, I can easily see where your BREAK would be useful, at least in some cases, but it's just not available. I don't see any pressing need for it though. I don't suppose that it would be all that difficult to develop, and the 49g+ does have upgradeable firmware.

Maybe ask on the comp.sys.hp48 newsgroup; I know that at least one HP employee occasionally posts there. Other than that, someone who programs a lot in SysRPL might be willing to develop it as a add-in.

In the case that there's only one place that you might want to BREAK, and you want an indefinite loop, the WHILE loop seems to me to be suitable.

Regards,
James

Edited: 13 Nov 2005, 8:44 a.m.

RPL Is Just Simply Better

*Message #57 Posted by **I, Claudius** on 9 Nov 2005, 7:41 a.m.,*

in response to message #47 by James M. Prange (Michigan)

RPL beats RPN hands down with programming. For me, writing a User RPL program on an HP48/49 to do darn near anything is almost second nature now.

Indeed, I'm a bit amazed at how people can become excited over an ordinary scientific calculator, as they are in this thread. It's a free country, to each his own...

Edited: 9 Nov 2005, 7:43 a.m.

Re: RPL more complicated? (was: Latest 33s Display is Indeed Improved)

*Message #58 Posted by **Howard Owen** on 9 Nov 2005, 11:26 a.m.,*
in response to message #47 by James M. Prange (Michigan)

Well, this is a can of worms, of course. It reminds me of the editor wars between emacs and vi, in fact. People take positions in that conflict and assume that anyone with a different stance is an idiot. Communication between the camps is replete with disclaimers like "to each hos own" and "YMMV" but those are usually preambles to blistering rhetorical attacks on the other side. Not that anyone has reached that level in this particular thread, but it's a danger.

When I look at the relative merits of emacs and vi I see that each editor is useful in different contexts. I spent the earliest 10 years of my career as a systems administrator, so I had to learn both in order to support my users. Though I started out an emacs partisan, I now use both editors in different situations, as I have for the latter 10 years of my career.

I have yet to write a non-trivial program in RPL, so I'm not as qualified to address the differences between it and RPN as I perhaps am the differences in Unix editors. But I'm in the process of tooling up for the exercise of porting YATZ to the HP48G*, and I've been spending lots of time on my 48 machines, learning what I will need for that application, principally the graphics subsystem.

I'm feeling more comfortable on the calculator, but I must say that it has taken me a lot longer to start getting up to speed on the 48/49/49G+. than it has for any other machine in my collection. In fact, it has taken an effort comparable to learning a new operating environment like Python, say, if you are used to Perl, or Java if you know C. This isn't just an RPL issue, but also stems from the very large command set. Yes, that *is* a nice thing to have, but it also, by definition, increases the complexity of the machine. I think partisans of RPL, all of whom presumably have gotten over the steep learning curve of the calculators that implement it, tend to downplay the complexity. This is natural, but it misses an important feature of these machines.

That complexity, in my opinion, contributed to the triumph of TI in the education market. The average teacher didn't have time or interest to learn the rudiments of RPL, when compared to the familar, BASIC-like TI programming model. I *know* it sucks. That's not the point. It's *simpler*. HP must have gotten feedback that RPL was a problem in the marketplace, because they added some TI BASIC like syntax. Of course, nobody uses them in the RPL world because they suck. But that's the opinion of self-selected RPL lovers!

I also don't want to start another HP vs TI flame war. I like HP. TI is devil-spawn. The better calculators lost the calculator wars, a situation not unlike the triumph of Windows over technically superior rivals. I also don't mean to suggest that complexity was the only determinate in that war. I do think that it was an important one, however.

But I'm a hobbyist, so I'm willing to take the time (sandwiched in between fits of work designing grid systems) to learn RPL. I must say, it kind of grows on you. The manuals are essential, basic *and* advanced, since the help systems are a joke. This is somewhat improved on the 49G+. but a basic problem remains: limited screen real estate. Complicated functions require lengthy explanations, and there just isn't room on even a 49G+'s expanded display. There's also an issue of covering your work while you read the instructions. Having the text side-by-side with the work in progress is the only way to go.

In the meantime, I can crank out 41C code at a high rate. I picked up the 33C in about half an hour. This was

not only a function of my familiarity with keystroke programming, but of the fact that there are fewer functions to choose on the 33S. They almost all fit on the keyboard, in fact, with two shift keys and the addition of a few logically laid out menus. Simplicity counts when it comes to learning a new system.

Of course, another consequence of the simplicity of the 33S is less functionality. You can truly do a boatload of interesting stuff on the 48G. I have Hrastprogrammer's 71X simulator loaded in my 48GX, and it rocks. I have his earlier 41E on my 48G+ and it's cool too. There is no question that I will be able to implement YATZ on the 48. That program is non-trivial in BASIC or keystroke models, but I expect it will be a quick knock-off on the 48, once I *learn* enough about the darn thing. (I know there's a Yahtzee clone already available for the 48. Delivering something unique is not the point of my exercise.) I'm probably going to revisit YATZ on the 33S sometime, but it is shelved for now.

So I have an enthusiast's interest in the RPL models. But I still find the keystroke models easier to understand and to program. I believe that's not entirely due to my familiarity with the 41C. I took up 41C after a nearly 20 year hiatus this Spring, after all. I do think that RPL is, by golly, more complicated and difficult to learn. But my hobby is learning about complicated old (or new) systems, so this appeals to me. I also think that the model of keystroke programming hasn't been upddated in those same 20 years. That's a shame. The last 20 years have brought multiple revolutions in software engineering that a keystroke model coould benefit from.

Re: RPL more complicated? (was: Latest 33s Display is Indeed Improved)

*Message #59 Posted by **Thomas Radtke** on 9 Nov 2005, 11:42 a.m.,*
in response to message #58 by Howard Owen

The war between different systems (or their users) will never stop. I once tried to point out just a few shortcomings of Windows to one over-enthusiastic user and was immediatley labeld a luddite and later accused for not being able to manage my system. I'm at an age where I can laugh at this and leave a discussion without further insiting on my point but a few years earlier the result would have been one of these endless flame wars. The good thing about HP calc users is that they apparently almost always have a working brain between their ears, capable of early stopping a pointless discussion a la 'mine is longer than yours'. A rare species indeed.

Thomas

Re: RPL more complicated? (was: Latest 33s Display is Indeed Improved)

*Message #60 Posted by **Howard Owen** on 9 Nov 2005, 11:59 a.m.,*
in response to message #59 by Thomas Radtke

The old Usenet adage was to try to "shed more light than heat." I agree that's often a lost cause, and also that it may not be around here.

complexity

*Message #61 Posted by **bill platt** on 9 Nov 2005, 12:23 p.m.,*
in response to message #58 by Howard Owen

Hi Howard,

Very good post and good points.

The key "issue" if there is one appears to be the "learning curve". Essentially, learning RPL is like learning PASCAL or C or some high level language. RPN keystroke is low-level machine code.

The machine code is mostly keystroke stuff, with the addition of some "indirection" and some boolean statements and flags. If you already know these tools, its easy.

What I cannot answer is whether the machine code approach is easier if you haven't been there already. Since I was an RPN programmer at age 14, I cannot answer that.

Of course it also seems to me that the dividends on learning a language such as RPL are greater than learning a machine code such as RPL keystroke.

I think what we get to is, that structured high-level programming can "do more" but takes more initial learning.

What is readily apparent to me is that the keystoke approach is frightful to de-bug if it is large and complex with many subroutines and conditionals between subroutines. Once it gets to be really big in either size or complexity, it is a bear and a nightmare, which is why HP made all those great "pacs" starting with the 55! That way an end-user could get a program on board and running without having to become a machine language expert. I don't think the HP RPN programming would have been the success it was without that.

With the RPL approach, you still have the opportunity to provide "pacs" but you also open up the possibility of meaningful structured programming by an end-user who has "structured high level programming" skills.

Just a thought.

I am personally not proficient with RPL and have not climbed the curve--mostly because I'd rather do other things, and I feel like if I am going to do structured hi-level stuff, I might as well use a language that I already know, i.e. PASCAL.

So that is that.

Edited: 9 Nov 2005, 12:27 p.m.

Re: complexity

*Message #62 Posted by **Howard Owen** on 9 Nov 2005, 1:17 p.m.,*
in response to message #61 by bill platt

Hi, Bill,

Thanks for your thoughtful reply.

> Quote:
>
> The key "issue" if there is one appears to be the "learning curve". Essentially, learning RPL is like learning PASCAL or C or some high level language. RPN keystroke is low-level machine code.

I'd generally agree, if we are talking about assembly rather than machine language. But I think the keystroke stuff is just a bit higher level than assembly. Perhaps assembly coding with a very rich library of canned routines would be closer.

> Quote:
>
> What I cannot answer is whether the machine code approach is easier if you haven't been there already. Since I was an RPN programmer at age 14, I cannot answer that.

I can't answer that either, since I learned HP-41C programming before assembler. 6502 and PDP-11

were my first assembly languages. Both were understandable to me immediately, whereas my peers seemed to have trouble. I attribute that to knowing the HP-41, so your general point is well taken.

> Quote:
>
> What is readily apparent to me is that the keystoke approach is frightful to de-bug if it is large and complex with many subroutines and conditionals between subroutines. Once it gets to be really big in either size or complexity, it is a bear and a nightmare, which is why HP made all those great "pacs" starting with the 55! That way an end-user could get a program on board and running without having to become a machine language expert. I don't think the HP RPN programming would have been the success it was without that.

Good points, and ones that keystroke proponents often overlook in their turn.

> Quote:
>
> With the RPL approach, you still have the opportunity to provide "pacs" but you also open up the possibility of meaningful structured programming by an end-user who has "structured high level programming" skills.

I think it's more than that. I've got a background as a polyglot programmer. My experience in computer languages that I actually did work in, in the order encountered, is HP41, Apple BASIC, 6502 Assembly, VAX BASIC, Pascal and FORTRAN, PDP-11 Assembly on the VAX (in emulation mode), Micro$oft BASIC, HP BASIC 2.0, HP Pascal 2.1, REXX on Amiga, Amiga BASIC (original and MBASIC) C on Amiga, BSD and VMS, DCL, FORTRAN, Pascal and C on VMS, BSD and Ultrix grep/awk/sed/sh, Ultrix Perl 3 and Perl 4, csh on SunOS and Ultrix, SunOS C, gcc on Ultrix and SunOS, Perl 5 on a plethora of platforms, Java on Solaris and Windows, Python on Linux, Javascript all over, PHP, ASP on Windows, C++ on Linux, XSL, SOAP, JSP and other things now being called part of "web services." That's what I remember off the top of my head, I've left many systems out that I came to know but didn't actually use. I'm probably missing one or two.

I'm not presenting that list to ring my own bell, (well, maybe a little,) but to show that I have the background to be able to acquire new computer systems and languages. I also think I'm in a good position to judge complexity in computer systems. I think RPL itself is somewhat complicated, but probably no more than necessary to acheive generality. But combine it with what would be called its standard library set in a big system context, and you have a whoppingly complicated system. That's OK too. You also get functionality for that complexity. I know some would question the utility of that much power in a calculator, but I'm not one of them. I like having it there, even if I'm not using it, yet.

> Quote:
>
> So that is that.

Thanks again for the response!

assembler vs machine

*Message #63 Posted by **bill platt** on 9 Nov 2005, 2:43 p.m.,*
in response to message #62 by Howard Owen

Thanks for correcting me on that.

I am not a programmer and so while I see now exactly what was inaccurate in my statements, I

did not see at the time.

Indeed, when I see actual "machine code" it is gobbledeydgueck. But Assembly language appears to be a human-interpretable item----yes nore like RPN.

I like your description--"assembly with a rich very subroutine library"

And yes, there is something daunting about 48gx & RPL and part of the reason I replied is that I still can't quite put my finger on it...it should be easier than it is, or something----it's all so logical, so then why can't I adapt faster? Is it really merely that there is so much there, or is there a difficulty doing the simple stuff without already understanding the complicated stuff, too? In other words I am looking at the structure of the RPL language from an epistemological standpoint---that it is not modular enough if you see what I mean.

Interestingly the manuals show you three ways to do things--including a stack-based semi RPN keystroke approach--and then say that you really aught to try using the structured approach...but I never really "get there" and get frustrated with syntax and it all comes crumbling down and so I go pick up my fiddle or guitar instead...

OT my cousin used to live in Burlingame. And Sunnyvale, not far from you, has got to be the HAM radio capital of the world (sorry, Dayton, O.!)

Edited: 9 Nov 2005, 2:44 p.m.

Re: assembler vs machine

*Message #64 Posted by **Howard Owen** on 9 Nov 2005, 3:14 p.m.,*
in response to message #63 by bill platt

> Quote:
>
> I am not a programmer and so while I see now exactly what was inaccurate in my statements, I did not see at the time.

It's a common mistake. Strictly speaking, machine language is the binary numbers the machine processes when it runs a program. Assembly, as you note, is the human readable souce code that is closest to machine language of any source system. There is usually a one-for-one correspondence between the mnemonic label, "STO," say, and the binary opcode that it generates in machine language. So the distinction is subtle, but important.

> Quote:
>
> And yes, there is something daunting about 48gx & RPL and part of the reason I replied is that I still can't quite put my finger on it...it should be easier than it is, or something----it's all so logical, so then why can't I adapt faster? Is it really merely that there is so much there, or is there a difficulty doing the simple stuff without already understanding the complicated stuff, too? In other words I am looking at the structure of the RPL language from an epistemological standpoint---that it is not modular enough if you see what I mean.
>
> Interestingly the manuals show you three ways to do things--including a stack-based semi RPN keystroke approach--and then say that you really aught to try using the structured approach...but I never really "get there" and get frustrated with syntax and it all comes crumbling down and so I go pick up my fiddle or guitar instead...

I think it's both things. First, there really is too much detail that needs to be mastered before you can do something useful. Second, there are too many ways to do the same thing. Since there is so much detail, texts that try to teach you RPL tend to start in different places, and be pretty imposing. It's not unlike how mathematics texts differ among themselves. The second feature, the diversity of programming models and constructs, adds to the confusion by letting different authors write code that acts similarly or identically, but looks completely different. (C.F, the lame TI "BASIC" like statements.)

I have mastered another rich language in which There Is More Than One Way To Do It. The capitalization should clue those in the know that I am talking about Perl. Perl is an enormous language with a huge diversity of ways to accomplish things. The difference is that you can bootstrap into the language with very little effort. Tis is in line with another Perl dictum: to make hard things easy and impossible things possible. What do you suppose the following code does?

```
#!/usr/bin/perl
use strict;
my $pattern="^h.*";
while (<>){
  if /$pattern/ then print;
}
```

This searches the input for lines beginning with "h" and prints them. I think it's crystal clear from the code what it does, but I'm really not in a position to tell. What do you think?

The other advantage Perl has going for it is that its creator is a linguist. Larry Wall has attempted to design a computer langage that is conversational in style. But because people have widly varying conversational styles, even when they speak the same language, making Perl "conversational" means different things to different people. So Larry just put all the idioms in there that made sense to him. It really can lead to some horrible looking code that is hard to debug. On the other hand, it is possible to be quite elegant with all that lexical flexibility. The point of that is, it's possible to find a path through the totality of Perl syntax that approximates the way *you* look at the world. That has got to make learning easier, hasn't it? It did for me.

> Quote:
>
> OT my cousin used to live in Burlingame. And Sunnyvale, not far from you, has got to be the HAM radio capital of the world (sorry, Dayton, O.!)

I actually live in San Mateo, just across the line from Burlingame. My mailing address is in Burlingame, however.

RPL *is* complicated. Here are three threads...

*Message #65 Posted by **Karl Schneider** on 10 Nov 2005, 12:13 a.m.,*
in response to message #58 by Howard Owen

Kudos to Howard Owen and Bill Platt *(in proper titlecase)* for their discussion of learning RPL. I would echo practically everything they stated, based on my similar experiences.

I coveted the 41C and experimented with it at stores in 1980-81 as a 17-year-old, but just couldn't afford it. I bought a 15C in late 1983 after taking a liking to the 34C. I got into collecting in 2002 with a 41CV and a 34C, followed initially by the 42S as well as RPL models, including the 28C, 48G, and 49G.

Like Eric, I readily picked up the 41C right where I'd left off 21 years prior. It's only a bit more complicated than the 15C I'd used through three science and engineering programs, in conjunction with

experience in Fortran, C, and similar data-oriented high-level languages.

However, I see little about RPL that is intuitive or practical for myself or for most users. RPL has been discussed quite thoroughly in the last two years by different contributors in at least a few threads, including several that I started:

RPL is like a Leisure Suit

RPL Programming challenge: Area between two curves

RPN vs. RPL discussions

(The last one includes quite a bit of articulate input from Valentin Albillo.)

-- KS

Edited: 10 Nov 2005, 12:44 a.m.

Re: RPL *is* complicated. Here are three threads...

*Message #66 Posted by **Geir Isene** on 10 Nov 2005, 1:02 a.m.,*
in response to message #65 by Karl Schneider

This has personally been on my mind for a couple of months now: The old RPL vs. RPN problem. I have been trying to decide between my 48GX and my 41CX. Which should be my primary calc?

I used to program the 41 back in the 80's. Then a long period of no calc-programming. Then a couple of years back I picked up the 41 again. However, for more than 6 months I have now been eagerly programming the 48 in UserRPL.

I am now moving back to the 41 and it looks like the 41CX will be my primary calc.

The reason is this: The 41 is for me a better programming environment. It makes it faster to solve simple problems. It's got a superior debug environment.

RPL seems to be cross between RPN and Forth with some grains of Lisp. Had it only been pure Forth, I would probably have settled on the 48. I love Forth. RPL is somewhat cumbersome. RPN is very straight foreward.

41CX OR 49G+

*Message #67 Posted by **Dan Taylor** on 10 Nov 2005, 6:13 a.m.,*
in response to message #66 by Geir Isene

My invaluable 41CX (Math1 & Advantage) helped get my BS and MA degrees a decade past. While writing a function for finding sinh and cosh the machine locked up; it's still sick.

I had thought that its potential replacement was the 49GX2 for all the trig and matrix operations needed. Are the keyboard algebraic operations different too? It seems they are. Right? Learning a new keyboard layout was enough of a change. Graphing? My laptop has Mathcad. Time to find a spare 41CX here or on E-Bay.

Re: RPL *is* complicated. Here are three threads...

*Message #68 Posted by **valentino ducati (switzerland)** on 11 Nov 2005, 5:14 p.m.,*
in response to message #66 by Geir Isene

I have to support both parts here.

Me too am an "old school RPN programmer" and I begun the RPL approach 2004 with a first 48SX (now up to 48GX).

After many approaches to the RPL programming paradigma I still have to say that I am an RPL novice! Not so with RPN, the 41serie in mind.

Well, I have to admit that my higly active PPC years are back in the last century. Maybe I lost some drive to start over again and learn the new RPL approach with all stripes and bells... Maybe other elder mates here have the same problem? ;-)

The 1st step up the RPL stair was understanding that RPL is not well suited for easy going LBL...DSE loops. I begun to look at it like another professional programming language where program entry is only the final step after a well done analysis of the problem and maybe also some structured diagrams for the programming task. And all of this is done on a computer environment with good ASCII programming tools (like ultraedit et al.).

And every few lines there is an explanation block (@...) for later upgrades to the software.

But I still don't have a 49G+ because...
...I'm still waiting for a "RPN pac" for this machine. Not for programming, bevare, but for easy keystroke ad hoc calculating.

With this point of few I finally found my peace regarding the RPN vs. RPL thing. The 32SII or 15C are my favorite RPN everyday calcs. And the 48series are for the serious big RPL programming. And the 41series? Today I like to port a 48/49 RPL solution to a 41 in RPN; but - I suppose you know it already:

RPL is programming, sophisticated, complicated and reliable
but **RPN is real fun!**

Valentino

programming: RPN vs. RPL vs. hi-level language

*Message #69 Posted by **Karl Schneider** on 12 Nov 2005, 3:47 a.m.,*
in response to message #68 by valentino ducati (switzerland)

Valentino Ducati and Ed Look have compared programming in RPN to RPL and Fortran. I generally concur with their assessments, and have similar experience.

RPN-based programming does not utilize a true "language". An RPN-based (or even an AOS-based, as on the HP-20S) keystroke program is essentially a recorded sequence of instructions -- the exact same ones that one would execute interactively, with some extensions to provide structure and control.

These extensions are quite analagous to those in Fortran -- the original high-level number-crunching language, predominant when computers were actually used for computing:

- Numerical ("internal") labels are like statement labels.
- Alphanumeric ("external") labels are like ENTRY and SUBROUTINE.
- GTO and GSB/XEQ are like GOTO and CALL.
- Flags are like logical variables.
- All conditional tests ending with "?" (FS?; x=0?) are like IF.
- DSE/ISG/DSZ/ISZ help automate looping (DO-loop)
- RTN and END are like their Fortran namesakes RETURN and END.

NOTE: There is a distinction between internal and external labels -- as well as the END instruction that partions a block of programming -- only on the HP-41C* and HP-42S. On all

other programmable RPN and AOS calc's by HP, all labels are external.

Any keystroke program is akin to assembly code in that there is only one instruction per line. However, there are no procedural requirements (e.g., declaration of variables), structural rules, or syntactical jargon to obey.

This is certainly not the case with RPL ("Reverse Polish LISP"), which seems to be an unnautral melding of Object-Oriented Programming (OOP) with the spirit of RPN calculating methods. Language constructs are present (e.g., IF/THEN/ELSE, FOR/NEXT), but they are not intuitively arranged, as they are in Fortran, C, or BASIC.

I fail to see how anyone could possibly consider an RPN keystroke program "complicated", unless it implements a lengthy and highly branched-and-looped process, possibly using many variables. In such cases, a user program on a calculator is probably not the best platform for the application, anyway.

Here's a fairly concise chronology of my training in programming tools:

1980-81: Discovered HP-41C; experimented with programming at store counter. Did not experience any confusion.

1982: Passed collegiate course in Fortran '77. Did not experience any confusion. Started work several years later, maintaining Fortran programs on mainframes.

1983: Bought HP-15C and wrote working programs as necessary -- including one to find the value represented by a 36-bit octal floating-point word.

1992: Introduced to Matlab; found it similar to Fortran, but more expedient.

1993: Introduced to MS Visual Basic and wrote successful programs.

1995: Passed collegiate course in C language. Wrote my own recursive program.

1996: Introduced to LISP and CLIPS object-oriented languages. Experienced much confusion.

2002: Bought HP-41CV and successfully entered and modified programs that performed properly.

2003: Bought HP-48G. Saw and entered RPL programs and went, "What the h--- ?" Successfully entered and ran trivial one-line programs, but that's all.

Maybe the real determining factor isn't what one happened to learn first. Maybe it's more how one thinks, and organizes computational tasks. I've had little difficulty with data-oriented languages like Fortran, C, BASIC, and Matlab. However, I find little that is intuitive about the way certain object-oriented languages work, or RPL.

-- KS

Edited: 12 Nov 2005, 4:47 a.m.

Re: programming: RPN vs. RPL vs. hi-level language

*Message #70 Posted by **Ed Look** on 13 Nov 2005, 12:47 a.m.,*
in response to message #69 by Karl Schneider

You are right on target about the 20S as it too, can be keystroke programmed. And it would be as easy as programming a Spice programmable (all RPN) or a RPN Pioneer programmable.

But I just want to quibble with you in that it really is a language, and while not as fundamental as assembler, it sort of speaks directly to the chip by encoding the keys as commands visible in the LED or LCD display while in its programming space. Obviously, though, it is not a true high level language like FORTH or LISP or FORTRAN (or even BASIC).

And, what you pressed into the program memory is a true program, no matter what!

RPN complicated? Well, not really, BUT... (was: programming: RPN vs. RPL vs. hi-level language)

*Message #71 Posted by **James M. Prange (Michigan)** on 13 Nov 2005, 8:11 a.m., in response to message #69 by Karl Schneider*

> Quote:
>
> I fail to see how anyone could possibly consider an RPN keystroke program "complicated", unless it implements a lengthy and highly branched-and-looped process, possibly using many variables. In such cases, a user program on a calculator is probably not the best platform for the application, anyway.

Okay, maybe "complicated" isn't the correct word. How about the phrase "hard to program"? They're pretty darn nice when used as non-programmable models, but as for programming them....

My first experience with trying to program my 16C went something like this. It doesn't have any I/O, so I don't have the option of writing the program on the PC and simply transferring it to the calculator. Oh well, it's not going to be a very complicated program anyway. I try to program something, and what do I see in the display? A line number, and in most cases, a keycode, but the number or letter where applicable. Oh yeah, these things can display only numbers and a few (sort of) letters. It would've been hard to write on the PC anyway. Oh well, it's sort of like using the keycodes in the 48, except that the shift keys are separate codes instead of planes; I can deal with this, even though it is a nuisance to have to keep track of the row and column to see what I've keyed in. Hmm, no program structures, but it does have GTO, GSB, and RTN, and a few tests, much like assembler or BASIC, so I can implement all of the conditional branching and indefinite loops as easy as pie. Now where was I (imagine, a programmable that displays only one line at a time, but come to think of it, it was designed well before my Sharp was). Maybe I should've written the program out on paper, with line numbers, no less; now that brings back some memories. Hey good, I can even use the "Index register" to implement definite loops, but DSZ and ISZ skip only only at zero, so it's not as nice as a FOR loop. Now let's see, a bunch of these "RPN" commands actually use prefix notation instead of postfix notation; what were they thinking? I'm supposed to memorize which ones work right and which one are bassackwards? Okay, I've finally gotten it entered; now I'll try it out. Doesn't work; better have a look at what I keyed in wrong. Blasted keycodes again, so I'll translate them and write them out on paper. Edit a few mistakes and try again; still doesn't work. Look over the code; that should work. Double-check that that's really what I keyed in. Hey, how can it fail? Single-step through it; hmm, something very strange is going on, but it's hard to put my finger on just what the problem could be. Run through it a few more times. Looks as if the object that I know I put on the stack just plain changed to something else; what the hell? Single-step through it again; sure enough, the object has been changed; how could that happen? Maybe a hardware problem? Oh! These damned things can handle only

4 stack levels, and when my object gets to level 5, it just goes in the bit bucket, without even erroring out or giving me any warning at all. Stranger yet, when I take an object off of the stack, so level 5 (if the damned thing had a level 5) should drop down to level 4, the object that was in level 4 stays there, as well as dropping down to level 3. Hmm, the manual says it's a feature; somehow, I've a hunch that that feature started out as a bug that someone found a use for. Okay, I suppose that it could be useful, now that I know about the !@#$% calculator doing such a &%$^ counterintuitive thing.

The 12C is even worse for programming. Edit a program that I've keyed in? Easy enough if I want to change a line. But inserting a line? Sure, as long as I want to key in every damned thing from that line down all over again. Oh, I can add a line just by overwriting a perfectly good line with a GTO to branch past the end of the program, add my lines there, and GTO back to what should be the next line. Now that makes for some nice, straight-forward code. Why not a GSB and RTN instead of a two GTOs? Oh, you have to be kidding me, it just doesn't have them. Sure, I can get along without them as long as I still have GTO, but they were handy. What about deleting a line? The fine manual doesn't seem to mention this, but I suppose that overwriting it with a GTO the next line is about the best I can expect from this one. And where's DSZ and ISZ? I guess that if I want a definite loop, I have to set up my own loop index and test.

Hey, I could probably write a BASIC program for my Sharp with not too much more difficulty than writing a program for one of these things.

And many RPN users seem to have some sort of problems with RPL models? Hard to understand; I'd have thought that anyone who could learn to like the RPN models would find the RPL models amazingly easy, but apparently not.

Okay, I can program them, but this "True RPN" stuff that so many rave about sure doesn't seem to make things easy for me. And it looks as if only a few programs could fit into memory at any one time anyway, and there's no way to transfer anything into the calculator except for keying it in. I'm going to write a program for one of these only to have to purge it to make room for another program, and then key it back in the next time that I want it? Not likely!

These two are great as non-programmable calculators for the special purposes that they were designed for, once I more or less got used to some of their quirks, and maybe even to hold a very few very carefully written programs more or less permanently.

But switch from the RPL models to any "True RPN" model for my regular programmable scientific? I just can't see that ever happening.

Of course, now I've been told that these two models are poor examples for programming in "True RPN", but my experience with them have put me off the whole idea of using anything but RPL (well, assembler for time critical things such as I/O) for programming calculators. When something works so well, why switch?

Now, if they came out with a low-cost shirt-pocket sized RPN model, even if not "scientific", I'd sure like to have that, even if programming it was too much of a hassle to bother with.

Regards,
James

Difference

*Message #72 Posted by **Howard Owen** on 13 Nov 2005, 4:13 p.m.,*
in response to message #71 by James M. Prange (Michigan)

Wow, this is great! You've really given me a clear sense of what it's like to approach RPN programming from the standpoint of RPL. It's hard to argue with your perceptions. But I do think that many of them boil down to not liking the limitations of the older machines (category "A"), and the rest are direct mirrors of the difficulty of going the other way (category "B".) Both are perfectly understandable.

> Quote:
>
> My first experience with trying to program my 16C went something like this. It doesn't have any I/O, so I don't have the option of writing the program on the PC and simply transferring it to the calculator. Oh well, it's not going to be a very complicated program anyway. I try to program something, and what do I see in the display? A line number, and in most cases, a keycode, but the number or letter where applicable. Oh yeah, these things can display only numbers and a few (sort of) letters. It would've been hard to write on the PC anyway. Oh well, it's sort of like using the keycodes in the 48, except that the shift keys are separate codes instead of planes; I can deal with this, even though it is a nuisance to have to keep track of the row and column to see what I've keyed in. ..

Category A. The Voyager models were middle tier machines in their day. They incorporated a programming model very similar to the previous generation's high end machines, the HP 67/97. They both showed numeric key codes in program mode. But the HP-97 had a built in printer that would print an alohanumeric version of the program. That made the 97 better for software development. None of the voyager series had this capability, of course. The high end of the time was occupied by the 41C, 71B and later the 42S. The 71B was programmable in BASIC, of course. The other two had alphanumeric capability that made listing programs much nicer. And of course the 41C and 71B both had very nice I/O capability, with standard (for the day) paths to and from a PC.

> Quote:
>
> .. Hmm, no program structures, but it does have GTO, GSB, and RTN, and a few tests, much like assembler or BASIC, so I can implement all of the conditional branching and indefinite loops as easy as pie. Now where was I (imagine, a programmable that displays only one line at a time, but come to think of it, it was designed well before my Sharp was). Maybe I should've written the program out on paper, with line numbers, no less; now that brings back some memories. Hey good, I can even use the "Index register" to implement definite loops, but DSZ and ISZ skip only only at zero, so it's not as nice as a FOR loop. Now let's see, a bunch of these "RPN" commands actually use prefix notation instead of postfix notation; what were they thinking? I'm supposed to memorize which ones work right and which one are bassackwards? ..

One from column "A" and two from column "B".

"Much like assembler or BASIC" indeed! I'd say BASIC is easier, actually. But this is the model many of us were first introduced to, so it seems natural to us. For example, when we look at RPL, we see *everything* being postfix as a jarring change, not the other way around. If you learn a thing one way, however illogical it is intrinsically, you are bound to see it as the "normal" or "sensible" alternative. (Just consider English for instance. I'll bet many of our non-native English speakers could give many, many examples of how illogical it is as a language.)

> Quote:
>
> .. Okay, I've finally gotten it entered; now I'll try it out. Doesn't work; better have a look at what I keyed in wrong. Blasted keycodes again, so I'll translate them and write them out on paper. Edit a few mistakes and try again; still doesn't work. Look over the code; that should work. Double-check that that's really what I keyed in. Hey, how can it fail? Single-step through it; hmm, something very strange is going on, but it's hard to put my finger on just what the problem could be. Run through it a few more times. Looks as if the object that I know I put on the stack just plain changed to something else; what the hell? Single-step through it again; sure enough, the object has been changed; how could that happen? Maybe a hardware problem? Oh! These damned things can handle only 4 stack levels, and when my object gets to level 5, it just goes in the bit bucket, without even erroring out or giving me any warning at all. Stranger yet, when I take an object off of the stack, so level 5 (if the damned thing had a level 5) should drop down to level 4, the object that was in level 4 stays there, as well as dropping down to level 3. Hmm, the manual says it's a feature; somehow, I've a hunch that that feature started out as a bug that someone found a use for. Okay, I suppose that it could be useful, now that I know about the !@#$% calculator doing such a &%$^ counterintuitive thing.

One from column "A" and two from column "B". I can't speak to why the T register acts the way it does on the RPN models. I can say that it seems natural and normal to me. I occasionally make use of it in the way it's explained in just about every manual for an RPN model I've ever read: a way to store a constant without using a register. That's actually pretty rarely needed, it's true. So I concede the feature is archaic (column A) and "normal" for RPN users (column B). The other column B item is the fact that the unlimited stack of the 28C onward confuses many of us old RPN jockeys. I've articulated what I think is wrong with it elsewhere in this thread. We have been used to using registers (variables by any other name) instead of holding *too many* intermediate results on the stack. This is especially true if you started on the 41C like I did. That machine has plenty of registers on the CV and CX models.

> Quote:
>
> The 12C is even worse for programming. Edit a program that I've keyed in? Easy enough if I want to change a line. But inserting a line? Sure, as long as I want to key in every damned thing from that line down all over again. Oh, I can add a line just by overwriting a perfectly good line with a GTO to branch past the end of the program, add my lines there, and GTO back to what should be the next line. Now that makes for some nice, straight-forward code. Why not a GSB and RTN instead of a two GTOs? Oh, you have to be kidding me, it just doesn't have them. Sure, I can get along without them as long as I still have GTO, but they were handy. What about deleting a line? The fine manual doesn't seem to mention this, but I suppose that overwriting it with a GTO the next line is about the best I can expect from this one. And where's DSZ and ISZ? I guess that if I want a definite loop, I have to set up my own loop index and test.

You won't get any argument from me about the brain-dead nature of the 12C's programming model. I suspect you'd be hard pressed to find a defender of that model in the RPN ranks hearabouts. (Who knows, though? We'll see.)

> Quote:
>
> Hey, I could probably write a BASIC program for my Sharp with not too much more difficulty than writing a program for one of these things.

BASIC was my *second* programming language. It seems pretty natural to me too. I have gone on to more modern languages, as I've noted elsewhere. But BASIC probably doesn't seem as outrageously wordy and antiquated to me as it does to you. (But see the rant in this README file for my generally unfavorable impression of BASIC.)

I do think BASIC is easier than RPN - or RPL!

> Quote:
>
> And many RPN users seem to have some sort of problems with RPL models? Hard to understand; I'd have thought that anyone who could learn to like the RPN models would find the RPL models amazingly easy, but apparently not.

I didn't. They are distinctly different, as you can tell trying to go the other way. I think you'd hear the opposite opinion expressed by RPN devotees, that RPN should be easy for RPL coders. It clearly isn't in your case. I don't think either of us is an exception.

I am making an effort, and having some success, at coming up to speed on the 48G. It is a fun machine, after a period of getting to know it better.

> Quote:
>
> Okay, I can program them, but this "True RPN" stuff that so many rave about sure doesn't seem to make things easy for me. And it looks as if only a few programs could fit into memory at any one time anyway, and there's no way to transfer anything into the calculator except for keying it in. I'm going to write a program for one of these only to have to purge it to make room for another program, and then key it back in the next time that I want it? Not likely!

Column B, but mostly column A.

There has been no development of *new* RPN machines since the RPL family took over HP's top of the line. The few programs that fit in a 16C, or even a 41C, reflects the cost of RAM back then. The limited number of labels in the voyager series fits with this limitation. The 33S is the current shipping RPN programmable from HP. It has a programming scheme similar to the voyagers with the addition of alphanumerics. So your listing, as you step through it with *two* lines visible at a time, is more readable. But because HP gave Kinpo the old 32SII code to port to a more modern chip, there are still only 30 or so possible registers and only 26 labels! This makes the 32K of RAM almost useless. If RPN models had been further developed, they would have come up with more elegant ways to use additional memory. But RPL was the king, so it saw the development, not RPN.

So the existing RPN programmables are not as capable as the 48/49 machines. But this is because development essentially stopped in the late 1980s. I've noted elsewhere that there have been numerous successive revolutions in computer architecture and software engineering since then, none of which have been incorporated into an RPN-style machine. It is a pity.

> Quote:
>
> These two are great as non-programmable calculators for the special purposes that they were designed for, once I more or less got used to some of their quirks, and maybe even to hold a very few very carefully written programs more or less permanently.
>
> But switch from the RPL models to any "True RPN" model for my regular programmable scientific? I just can't see that ever happening.
>
> Of course, now I've been told that these two models are poor examples for programming in "True RPN", but my experience with them have put me off the whole idea of using anything but RPL (well, assembler for time critical things such as I/O) for programming calculators. When something works so well, why switch?

No reason at all. I only play with the RPL machines because I'm gadget happy. Come to think, that goes for the RPN machines too! 8)

> Quote:
>
> Now, if they came out with a low-cost shirt-pocket sized RPN model, even if not "scientific", I'd sure like to have that, even if programming it was too much of a hassle to bother with.
>
> Regards,
> James

Likewise,
Howard

Edited: 13 Nov 2005, 4:14 p.m.

Re: RPN complicated? Well, not really, BUT... (was: programming: RPN vs. RPL vs. hi-level language)

*Message #73 Posted by **Garth Wilson** on 13 Nov 2005, 8:07 p.m.,*
in response to message #71 by James M. Prange (Michigan)

For the prices these things went for when they were new, it was expected that users would be pretty serious about it. I started with the TI-58c and then the 59, and the key-code recognition very soon became automatic, such that I wrote my programs as columns of key codes on paper, with a few comments to the right. The printer did indeed spell out the function the key was labeled with, but I certainly didn't need that for speed.

Now I often do use the PC with 132 columns (monospaced DOS) and 43 or 60 lines on the screen to write out a program before entering it into the HP-41. That way I can keep a clearer mental picture of the program, have more than one instruction per line, have plenty of room for comments, indent, add diagrams and special usage instructions, etc.. RPL give some of this, but how much can you do with a 2" screen? (I'm not saying anything against RPL, but just cautioning against being too critical of characteristics that were not always a problem, had easy ways to get around, etc..)

Re: RPN complicated? Well, not really, BUT... (was: programming: RPN vs. RPL vs. hi-level language)

*Message #74 Posted by **Ed Look** on 13 Nov 2005, 9:41 p.m.,*
in response to message #71 by James M. Prange (Michigan)

James,

I wished I had a Voyager series machine, but at the time, my 34C was still going very strong and I could not justify at the time spending for even a beautiful unit as the 15C or 16C.

But truly, it ISN'T counterintuitive to program RPN keystrokes on a 34C, 32SII, or 33S. I assume you have a 33S? If not, then this is moot, but the looping controls in these models, while not as powerful as in, say, FORTRAN, they were more than adequate for programs to "automate" things you would repetitively do on a calculator until you got so bored and sick of it that you'd scream.

But, I will admit to the frustration many a time when it came to edit or correct something in the keystroke RPN program. You really just have to scroll through it!

Edited: 13 Nov 2005, 9:46 p.m.

Re: RPN complicated?

*Message #75 Posted by **Karl Schneider** on 14 Nov 2005, 12:23 a.m.,*
in response to message #71 by James M. Prange (Michigan)

James --

I think Howard Owen's response was excellent; there's no need to quote or rehash his post or yours.

Just a few points I'd like to make:

1. Keycodes:

   As Howard pointed out, some of your points seem to confuse RPN with the limitations of mid-level models and early models. The keycodes shown in programs on Voyagers stem from their 7-segment display, not RPN! All the LED-display programmable models had the same limitation (except the HP-97 printer, as Howard mentioned).

   The algebraic-entry HP-20S, and HP-21S also show keycodes due to their *7-segment display*.

   By contrast, the HP-41 with its 14-segment display, and the dot-matrix HP-32S, HP-32SII, the HP-42, and the KinHPo 33S are RPN models that display symbols instead of keycodes.

2. Programming paradigms:

   The Voyagers are and were not the best RPN models for programming, not only due to the 7-segment displays, but also lack of RAM, slow speed, and lack of functions to partition user programs and to manage catalogues of programs. They were really intended for "expedient and disposable programs" only.

   The HP-12C programming paradigm is indeed an abomination that originated with the HP-55 and was unfortunately carried forward to the HP-65, HP-25, and

HP-10C, and maybe others.

The HP-41 and HP-42S were much better suited for "keeper" programs; the HP-32S, HP-32SII are also useful for programming (albeit hampered by lack of RAM).

Please have a look at my AC Power Transfer programs for the 32S/32SII/33S. These programs are quite well-suited to those models, but would be more straightforward if these calcs had more-sophisticated complex-number functions.

3. "t" register on the 4-level stack:

   Since the stack depth is fixed, some value must occupy the top-level register after an operation "pops" a value out. Zero would certainly be logical, but retaining the value in the "t" register can conveniently provide the user an endless supply of that value for calculations -- e.g., a constant term, or an input variable used many times in an equation.

   The 4-level stack was a compromise of required utility with the hardware limitations of the early days. If an all-new RPN calculator were to be designed today, I would suggest a user-settable fixed stack of up to 9 levels (and possibly 19).

One slight quibble with Howard's statement about development of RPN calc's effectively ending in the late 1980's: I'd say that it was actually 1991-92. That's when the HP-32SII replaced the HP-32S with expanded capabilities:

- Equation editor from the HP-22S
- Fractional-math functionality that is really quite useful and impressive (after the bugs in the initial run were fixed)
- Functions and conditional tests omitted from the HP-32S

1991 might also be when the HP-17BII replaced the algebraic-entry HP-17B, adding RPN mode along with with a nicer bezel and trim.

-- KS

Edited: 14 Nov 2005, 12:33 a.m.

Re: RPN complicated?

*Message #76 Posted by **Howard Owen** on 14 Nov 2005, 10:59 a.m.,*
in response to message #75 by Karl Schneider

Quote:

> The 4-level stack was a compromise of required utility with the hardware limitations of the early days. If an all-new RPN calculator were to be designed today, I would suggest a user-settable fixed stack of up to 9 levels (and possibly 19). [/ol]

That's what I would have expected if development of RPN models had taken a more evolutionary approach. A settable fixed stack, perhaps with the inclusion of an unlimited stack as a choice, could have been one natural feature incorporated into RPN calcs to help make use of abundant memory.

Quote:

> One slight quibble with Howard's statement about development of RPN calc's effectively ending in the late 1980's: I'd say that it was actually 1991-92. That's when the HP-32SII replaced the HP-32S with expanded capabilities:
>
> - Equation editor from the HP-22S
> - Fractional-math functionality that is really quite useful and impressive (after the bugs in the initial run were fixed)
> - Functions and conditional tests omitted from the HP-32S
>
> 1991 might also be when the HP-17BII replaced the algebraic-entry HP-17B, adding RPN mode along with with a nicer bezel and trim.

Thanks for that correction, Karl. That means we've had just about 15 years of neglect of RPN calculator OS software. Like I said, it is a pity.

> Quote:
>
> -- KS

Regards,
Howard

Re: RPN complicated?

*Message #77 Posted by **James M. Prange (Michigan)** on 15 Nov 2005, 4:47 p.m., in response to message #75 by Karl Schneider*

All good responses everyone.

I do recognize that trying to use more than four stack registers on an RPN model is purely a user error, but one that's easy to commit, at least for someone whose experience is in RPL. In RPL, using "too many" levels may result in an "Insufficient Memory" error or even an "Out of Memory" error, which puts you into a routine of choosing options for freeing up memory so you can use the calculator again, but objects can never be pushed off of the top of the stack.

As for duplicating the T register when the stack drops, the RPL stack can indeed be empty, so what the RPL user expects when he tries to take something from the stack that was never pushed there is a "Too Few Arguments" error, not to use something that was replicated down from a higher level.

I suppose that the small command set reflects the limited number of keys and shifted keys feasible in a calculator, as well as the other hardware limitations.

I've tried to figure out why the RPN models so often put the operator first, followed by the argument, for example, with LBL, GTO, GSB, and STO. The hypothesis that I've come up with is that it's due to the 4-register stack. If the argument came first, it would have to be stored somewhere, presumably on the stack. With the operator coming first, the keystroke can be stored elsewhere until the argument is entered to "complete the command", so the argument never has to be put on stack, thus never using up a precious stack register. Does this make sense?

Yes, many of limitations of the voyager series may be largely due to to the hardware limitations at the time they were designed. Expensive memory, 7-segment

single line displays and so on.

Yes, RPN model development seems to have stopped in the early '90s with the 33s resuming development, but how much does even the 33s improve things over the basics of the Voyagers released in the early '80s? Yes, the 33s has a dot-matrix 2-line display but, that's a relatively minor improvement. It's still limited to a 4-level stack, and still has a limited number of labels. But I gather that the development of the 33s amounts mostly to adapting the 32SII to new hardware? So it's much like asking how much things had been improved by the time the 32SII was released in 1991.

But I see that the 33s actually does have menus after all. Okay now, I suppose that the program doesn't actually record the keystrokes to get to the particular menu, but only the command actually chosen from the menu? In that case, I'd say that it isn't strictly "keystroke programming" after all, but rather "command sequence programming". Somehow, this seems very much like programming the RPL models; the difference being that in the RPN models you have to use a special "program mode" to write a program, and in the RPL models you simply start the command line with the \<< UserRPL program delimiter, type in the rest of the program, press ENTER to put it on the stack, and STO it in a named global variable if you want to save it for later use.

So just what the heck is it that RPN users find so all-fired "complicated" about RPL?

Just for the record, I don't find BASIC to be at all "outrageously wordy and antiquated". Actually, I've always liked BASIC, but preferring the versions that use labels instead of line numbers for GOTOs and GOSUBs. But using line numbers instead of labels isn't that difficult, provided you've left enough unused line numbers that you don't need to renumber your lines. It did get a a bit of a bad reputation because of the "spaghetti code" that one could make with GOTOs all over the program, but I regard that as a matter of poor programming practice, not anything inherently wrong with the language. You could write spaghetti code in RPN or assembler, for example, but that would be the fault of the programmer, not the language. It is rather "old" now, but we all know the "newer" isn't necessarily "better".

Regards,
James

stack and commands

*Message #78 Posted by **bill platt** on 15 Nov 2005, 5:06 p.m.,*
in response to message #77 by James M. Prange (Michigan)

> Quote:
>
> I've tried to figure out why the RPN models so often put the operator first, followed by the argument, for example, with LBL, GTO, GSB, and STO. The hypothesis that I've come up with is that it's due to the 4-register stack. If the argument came first, it would have to be stored somewhere, presumably on the stack. With the operator coming first, the keystroke can be stored elsewhere until the argument is entered to "complete the command", so the argument never has to be put on stack, thus never using up a precious stack register. Does this make sense?

Yes it makes sense.

RPL people like to see this STO LBL GSB GTO stuff as inconsistent. In fact, is is perfectly consistent. You see, STO LBL GSB GTO are not mathematical operators; they are *control commands* and by their very nature have nothing to do with Juskawicz or Infix or Reverse Polish or whatever you want to call it.

So you are correct, it keeps these thing off the stack. But that is not merely to save stack. Think about error checking, argument checking etc. When you press a control function, that is how the machine knows that a control function is to happen "starting from now".

There is a major change in error-checking going from voyager to pioneer.

On an 11c etc, load the stack with say:

```
t   1
z   2
y   3
x   4
```

and then push GSB. the screen will flash, waiting for a label. If you push <X> instead, you will see "12". Or, if you push <backspace> you will see "0".

In other words, classicaly, the *control commands* can be over-ridden by mathematical commands. It's a hierarchy thing.

On Pioneers it is different. IF you push <exq> you will see "exq_" and you cannot push anything but a valid label. If you push <X> you will get a <!> annunciator and you have to push *either* <backpsc> or <C> to get back to the stack view.

I think it is perfectly logical and in fact far more logical than the RPL idea that everything is a stack "argument" which leads to the distracting problem of everything out of order and stupid inane error messages like "too few arguments" etc.

Edited: 16 Nov 2005, 8:51 a.m.

RPN postfix for non-math operations

*Message #79 Posted by **Karl Schneider** on 16 Nov 2005, 12:41 a.m.,*
in response to message #77 by James M. Prange (Michigan)

James --

Regarding your first query about why RPN models use postfix for commands such as STO, RCL, LBL, GSB/XEQ, GTO, FIX/SCI/ENG, etc:

Bill Platt explained it: These are *non-mathematical* operations that have nothing to do with RPN. In fact, I had discussed this in my "RPN is like a Leisure Suit" thread that you claimed to have read. An excerpt, discussing prefix notation, in which arguments must be specified before a command is executed:

> Quote:
>
> This approach -- the essence of RPN -- makes perfect sense for mathematical functions.
>
> However, it is often counterintuitive for device-control functions,

> such as STO/RCL and FIX/SCI/ENG. On the RPN calculators, these functions (as well as LBL/GTO/GSB/XEQ) require an appended identifier, generally numerical, to complete the command. On the RPL units, the input identifier must be specified beforehand, in the interest of uniformity.
>
> Which is easier and more intuitive:
>
> ```
> "FIX 5" or "5 (ENTER) FIX"?
> "25.4 STO 4" or "25.4 (ENTER) 'R4' STO"?
> ```

As for your boldfaced question,

> Quote:
>
> So just what the heck is it that RPN users find so all-fired "complicated" about RPL?

I'll quote another excerpt from my "Leisure Suit" post:

> Quote:
>
> As for RPL programming, compare a sophisticated RPL statement with an equivalent line in C, Basic, Fortran, or any other high-level language:
>
> ```
> "IF (A .LT. B)  A = A + 360.0"              (Fortran
> '77)
> "<< IF A B < THEN A 360 + 'A' STO END >>"  (approximate
> RPL syntax)
> ```

(Much to my surprise, that short RPL program I wrote but didn't test before posting actually did work properly!)

This example underscores my main statement, in that RPL is an ineffective compromise between a high-level language and a keystroke-programming system.

When a series of prefix instructions is listed one at a time (like an RPN program), it essentially looks like an assembly routine. "Jumps" (GTO) are necessary a part of that.

However, when a series of prefix instructions is listed on a single line, it just looks scrambled -- nothing like a line of a high-level-language. Adding IF-THEN-ELSE and other constructs to prefix instructions just doesn't work, in my estimation.

-- KS

Re: RPN postfix for non-math operations

*Message #80 Posted by **James M. Prange (Michigan)** on 16 Nov 2005, 5:43 p.m.,*
in response to message #79 by Karl Schneider

Karl,

> Quote:

> > Regarding your first query about why RPN models use postfix for commands such as STO, RCL, LBL, GSB/XEQ, GTO, FIX/SCI/ENG, etc:
> >
> > Bill Platt explained it: These are non-mathematical operations that have nothing to do with RPN.

I did notice his post.

Yes, of course those are non-mathematical operations. I agree that intrinsically they have nothing to do with RPN; indeed, they're used in many languages. In my opinion, what they have to do with RPN in these discussions is that they are used in a stack-based RPN language.

> > Quote:
> >
> > In fact, I had discussed this in my "RPN is like a Leisure Suit" thread that you claimed to have read. An excerpt, discussing prefix notation, in which arguments must be specified before a command is executed:

In fact, I had read that thread a few times, I read it again a few more times, and now I've read it yet again a few more times. I still disagree with you.

> > Quote:
> >
> > > Quote:
> > >
> > > This approach -- the essence of RPN -- makes perfect sense for mathematical functions.

I agree, although it seems that most of the world disagrees with us on this point.

> > Quote:
> >
> > > Quote:
> > >
> > > However, it is often counterintuitive for device-control functions, such as STO/RCL and FIX/SCI/ENG.

Perhaps seeing them used as postfix commands often seems counterintuitive to you because you've never seen them used that way except in RPL?

Having them prefix seems counterintuitive to me, because although RPN seems so similar to RPL, they're always postfix in RPL.

> > Quote:
> >
> > > Quote:

> > On the RPN calculators, these functions (as well as LBL/GTO/GSB/XEQ) require an appended identifier, generally numerical, to complete the command.

As I figured out for myself, using them that way in a "True RPN" calculator has a major advantage in that it doesn't use up a precious stack level. Now that I've realized what a severe penalty having them postfix on these models would be, I'm quite satisfied that having them prefix is indeed the much better choice.

With the RPL models, there are many more non-mathematical operations, and they take a variety of object types as arguments, often more than one, and sometimes the number of arguments is determined by a number supplied as the first argument. Using up a stack level for each argument is, in some cases, a minor disadvantage of making them postfix operations. Some non-mathematical operations also return results of various object types and numbers of objects, sometimes with a count returned as the last result. What's more, the + operation can be either mathematical or non-mathematical, depending on which types of arguments it finds; should it be postfix or prefix? Perhaps we'd have to have two separate commands instead of loading so much into just that one little command.

> Quote:
>
> > Quote:
> >
> > On the RPL units, the input identifier must be specified beforehand, in the interest of uniformity.

The important reason for specifying the arguments before the non-mathematical operations is functionality, just as it is for mathematical operations.

In RPL, operations may be invoked from the keyboard, along with their arguments. Operations may also be within programs, along with predetermined arguments. If these were the only ways to invoke non-mathematical opeerations, it would make little difference whether they were prefix or postfix.

The arguments could also be objects that were on the stack before the operation or the program containing it was invoked, or input while a program was waiting for input, as with a PROMPT, INPUT, or INFORM. They could be objects stored in a variable and retrieved as needed. They could be objects created by the program that contains the operations. In these cases, as long as the operations are postfix, all the user or programmer has to do is ensure that any arguments are available in the proper locations on the stack before the operations are executed. This is the same as with mathematical operations, and the same methods of ensuring the stack locations are available.

But suppose that an operation is prefix, just because some arbitrary rule says that certain operations shouldn't be postfix. I don't have any way to

move any object from the stack into the runstream. What could be done is to allow prefix operations operations to take name arguments. That way, what I could do is arrange for the program to store the arguments of the prefix operation in a variable, and then place the unquoted variable names immediately after the operations in the program. Dealing with several named variables is a lot of bother, so I'd like to allow prefix operations that require more than one object to take lists instead; but wait, lists are non-mathematical, so operating on them means using a prefix operation, so using lists is out. Well, now I'm back to using multiple variables and names.

It could be done, but it seems to me that all of this handling of named objects is going to take up extra memory both in the program itself and at run-time, and more execution time. In the case that the arguments were already in the right location for using them with postfix operations, the user would still have to go through the trouble of storing them and placing the names after the operations,

Why not just make every operation postfix so it can find its arguments in the most natural place in a stack-based program, right on the stack? It's been done that way in RPL ever since the 28C was released, and hasn't caused any problem yet.

> Quote:
>
> > Quote:
> >
> > Which is easier and more intuitive:
> >
> > ```
> > "FIX 5" or "5 (ENTER) FIX"?
> > "25.4 STO 4" or "25.4 (ENTER) 'R4' STO"?
> > ```

To me, very much

```
"5 (ENTER) FIX" and "25.4 (ENTER) 'R4' STO",
```

although I'd key them in as

```
"5 FIX and "25.4 'R4' STO";
```

no sense using an extra keystroke when there's no need for it.

> Quote:
>
> As for your boldfaced question,
>
> > Quote:
> >
> > So just what the heck is it that RPN users find so all-fired "complicated" about RPL?
>
> I'll quote another excerpt from my "Leisure Suit" post:
>
> > Quote:
> >
> > As for RPL programming, compare a sophisticated RPL statement with an equivalent line in C, Basic, Fortran, or any other high-level language:

```
"IF (A .LT. B)  A = A + 360.0"
(Fortran '77)
"<< IF A B < THEN A 360 + 'A' STO END >>"
(approximate RPL syntax)
```

Both are clear enough, but I'd give a slight edge to

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

I did have to think about whether the Fortran '77 example made sense.

It's even clearer to me when formatted as:

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

But if you don't like program structures, how's this:

```
\<<
  \<<
    A B <
  \>>
  \<<
    A 360 +
    'A' STO
  \>>
  IFT
\>>
```

> Quote:
>
> (Much to my surprise, that short RPL program I wrote but didn't test before posting actually did work properly!)
>
> This example underscores my main statement, in that RPL is an ineffective compromise between a high-level language and a keystroke-programming system.
>
> When a series of prefix instructions is listed one at a time (like an RPN program), it essentially looks like an assembly routine. "Jumps" (GTO) are necessary a part of that.
>
> However, when a series of prefix instructions is listed on a single line, it just looks scrambled -- nothing like a line of a high-level-language. Adding IF-THEN-ELSE and other constructs to prefix instructions just doesn't work, in my estimation.

You've really lost me in that paragraph. What I take away from all of this is:

- You don't like to see postfix non-mathematical operations because it seems counterintuitive to you.
- I've given myself a good review of just why postfix operations are so important to making a stack-based language easy to use.
- You find RPL program structures hard to read.
- In general, you don't like RPL.

Actually, that last point I figured out a long time ago.

Regards,
James

Re: RPN postfix for non-math operations

*Message #81 Posted by **Howard Owen** on 16 Nov 2005, 9:00 p.m.,*
in response to message #80 by James M. Prange (Michigan)

So RPL has postfix syntax for every operation for consistency, and for argument passing efficiency's sake. That's why RPL has 'A B > IF', right?

Oh.. wait.. 8)

Re: RPN postfix for non-math operations

*Message #82 Posted by **Geir Isene** on 17 Nov 2005, 2:23 p.m.,*
in response to message #81 by Howard Owen

Forth, on the other hand is rather consistent :)

Re: RPN postfix for non-math operations

*Message #83 Posted by **Howard Owen** on 17 Nov 2005, 3:18 p.m.,*
in response to message #82 by Geir Isene

Right, IF is a postfix operator in FORTH.

Pardon me, I meant to say 'IS' 'FORTH' 'OP' 'POSTFIX' 'IF'

8)

Try my RPL challenge?

*Message #84 Posted by **Karl Schneider** on 18 Nov 2005, 1:52 a.m.,*
in response to message #80 by James M. Prange (Michigan)

James --

Your first indented multi-line RPL program is indeed clearer that the one-liner, in my view. Of course, the Fortran '77 program can also be written using multiple lines (and would *have* to be, if there were an ELSE clause):

```
IF (A .LT. B)  THEN
  A = A + 360.0
ENDIF
```

(360 is written as 360.0 to avoid mixed-mode arithmetic, although that is not absolutely necessary. Fortran will handle mixed-mode calculations properly.)

> Quote:
>
> You've really lost me in that paragraph. What I take away from all of this is:

- You don't like to see postfix non-mathematical operations because it seems counterintuitive to you.
- I've given myself a good review of just why postfix operations are so important to making a stack-based language easy to use.

(Of course, I meant "postfix", not "prefix" in the paragraph you referred to. I'm sure that you understood that. My bad...)

I see some merit, but don't fully concur, on the first two points:

I believe that postfix non-mathematical operations (and RPL itself) is conterintuitive to many people, not just myself.

I do concede that a very complicated and "overloaded" function (i.e., multiple functions for one command) may be best to implement as fully postfix.

> Quote:
>
> ---
>
> - You find RPL program structures hard to read.
> - In general, you don't like RPL.
>
> Actually, that last point I figured out a long time ago.
>
> Regards, James
>
> ---

Exactly, and "Right on!" about the last two points.

Now, James, would you care to try my RPL challenge from last year, and provide a solution different from those posted by Arnaud Amiel and Raymond Del Tondo? I'd like to see an RPL program that makes sense to non-RPL'ers as to what exactly is taking place. The structure of the HP-71B solution posted by Valentin was evident, I think, even to those who are not familiar with that machine but have learned any high-level data-oriented language.

Regards,

-- KS

Re: Try my RPL challenge?

*Message #85 Posted by **Howard Owen** on 18 Nov 2005, 2:31 a.m., in response to message #84 by Karl Schneider*

Hi, Karl,

I just happen to be coding my eyes out in RPL right now, and trying to make it easier for me to read. I looked at Arnaud's first two programs in the referenced thread, and I think I can make a version that scans better. I don't know how it will perform relative to the stack based versions however.

Here is some of the setup Arnaud specified:

Quote:

I store SIN(X) in F I store SQ(X-1.5)-1 in G

..

```
<< RAD F G - DUP 'X' 0 ROOT OVER 'X' 3 ROOT
ROT 'X' S >>
```

S being the integral function.

The program is the second one he wrote. It's stack-oriented gibberish to me. I think this is better:

```
<<
  RAD               @ Set Radians mode
  F G -             @ Create the expression  SIN(X) - (X-
1.5)^2 - 1
  \-> d \<<         @ Store it in 'd'
    d 'X' 0 ROOT    @ Solve d(X)=0 with intial guess of
X=0.
    d 'X' 3 ROOT    @ Solve with guess of X=3
    d 'X' S         @ Integrate with respect to X, in the
calculated interval
  >>
>>
```

Regards,
Howard

Edited: 18 Nov 2005, 2:37 a.m.

Re: Try my RPL challenge?

*Message #86 Posted by **Arnaud Amiel** on 18 Nov 2005, 9:40 a.m.,*
in response to message #85 by Howard Owen

It took me some time to understand it myself but here we are: << RAD F G - DUP 'X' 0 ROOT OVER 'X' 3 ROOT ROT 'X' S >>

or

```
<<
RAD               @Set Radian Mode
F G -             @Level 1 is F-G
DUP 'X' 0         @Stack is 4:'F-G' 3:'F-G' 2:'X' 1:0
ROOT              @Stack is 2:'F-G' 1:Root1
OVER              @Stack is 3:'F-G' 2:Root1 1:'F-G'
'X' 3 ROOT        @Stack is 3:'F-G' 2:Root1 1:Root2
ROT               @Stack is 3:Root1 2:Root2 1:'F-G'
'X' S             @The result
>>
```

I can now find some ways to improve the program but the stack manipulation would be even more complicated.

Anyway, when programming anything slightly involved in RPL, I need to keep stack diagrams as on the comments above. Note the this example uses a maximum of 4 stack levels and would not be very different on an advaced RPN machine: OVER=RCL Y and ROT=RCL Z

Also note that this is really keystroke programming.

But anyway Howard solution is more directly accessible.

Arnaud

Edited: 18 Nov 2005, 10:44 a.m.

THAT's THE POINT !! :-)

*Message #87 Posted by **Valentin Albillo** on 18 Nov 2005, 11:09 a.m.,*
in response to message #86 by Arnaud Amiel

Hi, Arnaud:

Arnaud wrote:

"It took me some time to understand it myself [...]"

> **That's the point**, indeed. Even the author of the code himself finds it difficult to understand a few lines of RPL code he wrote after a small amount of time has elapsed.

"... but here we are: << RAD F G - DUP 'X' 0 ROOT OVER 'X' 3 ROOT ROT 'X' S >>"

> without the comments you provide below, this line of code seems absolutely messed up, kind of an entry for the "Obfuscated C" contest (not that it would win, mind you !)

"I can now find some ways to improve the program but the stack manipulation would be even more complicated."

> So less apt to be understandable, even in the least, to someone not familiar with RPL, as Karl's challenge posits.

"when programming anything slightly involved in RPL, I need to keep stack diagrams as on the comments above"

> Once again, that's the point. Anything *slightly* involved in RPL means that you have to keep stack diagrams in order not to get lost and more or less find your way through the mess.

On the other hand, I can assure you that, in my extensive, 30-year experience with RPN, I've never found any need at all to keep or write down "stack diagrams". With just 4 levels, always present, and a few simple commands to deal with them, you can keep where everything is in your head (*"... this is in LASTX now, and this other result is in T, I need to Rup it, then LASTX and +, ..."*) and I've *never* felt "lost" or insecure about where some results are on the stack. And if I did, a simple look at the program steps and some mental tracing would be sufficient to keep my bearings.

That's *not* something you can do with RPL, and certainly *not* if you make extensive use of the stack and avoid named variables. And, if you do resort to using them, dispensing with unfathomable stack manipulations, then BASIC is far, far, far more understandable and easy to use, even to RPN/RPL people, as my BASIC version of the above algorithm clearly demonstrates.

RPL may have its good points, if any, but clarity and understandability are not among them.

Best regards from V.

Re: THAT's THE POINT !! :-) I fully agree

*Message #88 Posted by **Arnaud Amiel** on 18 Nov 2005, 12:23 p.m.,*
in response to message #87 by Valentin Albillo

Although I am a strong supporter of RPL, I fully agree with you. Although RPN is not any better.

> Quote:
>
> Once again, that's the point. Anything *slightly* involved in RPL means that you have to keep stack diagrams in order not to get lost and more or less find your way through the mess.

I have nearly the same problem when I am working with RPN, just instead of keeping stack level in my mind, I need to keep a table of registers. At least, those usually don't move.

When I have a bit more money, I will try to get myself a 71 and play with basic. However, what I like programming in RPL or RPN is exactly the fact that it is not straightforward. You have 2 challenges first find the algorithm, second code efficiently. With basic, step 2 is not very challengeing. I have spent days improveing a few lines of RPL.

Arnaud who sounds like a masochist :-(

Re: THAT's THE POINT !! :-) I fully agree

*Message #89 Posted by **Howard Owen** on 18 Nov 2005, 2:31 p.m.,*
in response to message #88 by Arnaud Amiel

> Quote:
>
> I have nearly the same problem when I am working with RPN, just instead of

keeping stack level in my mind, I need to keep a table of registers. At least, those usually don't move.

Other platforms call them "variables," 8) They leverage this odd human tendency to associate concrete or abstract things with names. (Like our stack diagrams or register tables help us to do.)

Re: THAT's THE POINT !! :-)

*Message #90 Posted by **Howard Owen** on 18 Nov 2005, 12:47 p.m.,*
in response to message #87 by Valentin Albillo

I agree that RPL, as generally employed by the experts, is hard to read. It is also hard to remember what you were doing in a particular fit of impenetrable stack manipulation two weeks after you wrote it. However, I'd like to point out that Arnaud's approach uses at most four levels of the unlimited RPL stack. If you use his translation of OVER as RCL Y and ROT as RCL Z, then you have exactly the same set of manipulations you would have on an RPN stack! Assuming you had an RPN calc that could do symbolic math, a comparison might be as follows:

```
RPL             RPN
=======================
F               F
G               G
-               -
DUP             ENTER^
'X'             'X'
0               0
ROOT            XEQ 'ROOT'
OVER            RCL Y
'X'             'X'
3               3
ROOT            XEQ 'ROOT'
ROT             RCL Z
'X'             'X'
S               XEQ S
```

I naturally lean toward HP-41 syntax in my pseudo-RPN. 8)

My point is that keeping track of stack levels on an RPN calc can be troublesome, too. RPL is inherently worse for three reasons, IMHO. First, going over four stack levels is evil if you want to have any clarity in your code at all. Second, the RPL models have a richer set of program control structures, and frequently more than one of a particular kind. This allows RPL code to be more convoluted, more readily than RPN. Finally, the RPL calcs are more advanced than their RPN progenitors. This means that stuff you store on the stack can have an arbitrary amount of internal structure, further obscuring what a particular operation does. For instance subtraction in the example code composes a symbolic expression of the difference of two functions of X, not a simple

arithmetic difference.

A fourth reason RPL is harder to read is not due to anything inherent in the language. It's the culture of RPL programmers who code it without regard for readibility. You can name your variables in RPL, at the expense of some efficiency, and reduce your dependence on the stack. You can code with comments and nice indentation in a PC file. Unfortunately, both niceties are lost when the text is transferred to the calculator. This would lead me on to a further rant about the usability of the HP-48 as a software development platform, except that I'd rather not root around in that can of worms right now. 8)

Regards,
Howard

Edited: 18 Nov 2005, 12:53 p.m.

Re: THAT's THE POINT !! :-)

*Message #91 Posted by **James M. Prange (Michigan)** on 21 Nov 2005, 6:47 p.m.,*
in response to message #90 by Howard Owen

> Quote:
>
> My point is that keeping track of stack levels on an RPN calc can be troublesome, too.

Yes, with an RPN model, there are only four stack registers to keep track of, but things can be "pushed off" of the top of the stack, and the content of the t register is propagated downward as things are removed from the bottom (the stack can never be empty). This may seem very intuitive to RPN programmers, but for someone who first learned RPL, these are "gotchas". Of course, in RPN there are also the Last X and storage registers that may be utilized, in which case the user has to keep track of those too, and a GSB may be used to call a subroutine, or a GTO to jump anywhere, so those have to be kept track of.

> Quote:
>
> First, going over four stack levels is evil if you want to have any clarity in your code at all.

Why exactly four stack levels for the maximum? Should we also impose an arbitrary maximum for the number of storage registers or variables to be used? Or how deeply program structures or parentheses can be nested?

It's a matter of how easy it is for the individual programmer to "see" the stack in his head. The high levels can often be regarded as objects that are set aside for a while, until the user gets back to them. Sometimes a large group of objects with a count are treated as a "meta-object", as when a list or array is "exploded" onto the stack, or as preparation in making a list or array.

> Quote:
>
> Second, the RPL models have a richer set of program control structures, and frequently more than one of a particular kind. This allows RPL code to be more convoluted, more readily than RPN.

I don't think that "convoluted" is quite the right word. A program structure can never begin in one program structure clause and continue or end outside of that clause. "Overlapping" structures aren't permitted; any structure has to be entirely within the same clause of any "outer" structure. You can indeed "nest" program structures as deeply as you like (available memory allowing), but you can never "jump" out of a program structure clause early. You can also call programs by name, and a program may even call another instance of itself, and execution of the calling program resumes when the called program is finished. A clause may be skipped over entirely, but execution always has to return to any "outer" clause being executed to finish it up. Well, exceptions being when the structure is within a IFERR clause and an error occurs, in which case, the return stack is discarded back to the IFERR structure's marker, and execution resumes with the IFERR's THEN clause, and when execution is abandoned entirely due to an error. The compilers enforce the rules, returning an "Invalid Syntax" error if you don't stick to the rules.

An RPL subroutine is a quoted procedure already placed on the stack earlier in the program, or a local or global variable, instead of being jumped to with a GOSUB, as in many other languages.

Internally, RPL keeps track of where execution is to resume with a separate return stack. Indeed, the built-in commands (actually special SysRPL programs) use both stacks heavily. Like the data stack, the return stack has variable depth, limited only by available memory. In SysRPL, the programmer has some commands to work with the return stack, but in UserRPL, the user utilizes the return stack with program structures and calls to variables, and may not even be aware of its existence.

Execution can be suspended with the HALT command (or PROMPT or in the debugger, for examples), in which case the "suspended" program is kept in memory, ready to be resumed with the current data stack by CONT or a single-step operation, or abandoned with KILL.

With RPN's GTO, one could develop "spaghetti code". I suppose that RPL's program structures are intended to prevent developers from writing such truly "convoluted" code. Some sort of GOTO or BREAK would indeed be handy in RPL, but offhand, it seems to me that it would have to be restricted to "jumps" within the same structure clause, and perhaps to only "forward" jumps, and a GOTO would require a label or line number, neither of which RPL has. I'm not against GOTO, but it can be used to make very complicated code.

> Quote:
>
> Finally, the RPL calcs are more advanced than their RPN progenitors. This means that stuff you store on the stack can have an arbitrary amount of internal structure, further obscuring what a particular operation does. For instance subtraction in the example code composes a symbolic expression of the difference of two functions of X, not a simple arithmetic difference.

Well, whether subtraction returns a number or an algebraic object depends on what the arguments were, and the state of system flags for the modes.

But indeed, there are various object types, and a single object may be a list or program (or other composite) which may itself contain any other objects. An algebraic object is very similar to a program object, but is more restricted; it's contents must be logically equivalent to a valid (for the calculator) algebraic expression. Arrays aren't composite, as they don't hold objects complete in themselves, but they might be thought of as containing (among other information) "object bodies".

> Quote:
>
> A fourth reason RPL is harder to read is not due to anything inherent in the language. It's the culture of RPL programmers who code it without regard for readibility.

There's some truth to this. What may be obvious to

the programmer may be very obscure to others, particularly to beginners. A public discussion among "experts" may well be impenetrable to those who don't have the knowledge required to understand it. When answering a question, it may be difficult to guess how much the person asking already knows, and tailor the response appropriately.

Some will just post a compiled program or library on hpcalc.org for example, without bothering to include source code or explain how it works internally. Presumably, these are meant to be "useful" rather then "educational". Of course, others may decompile it back to source code if they know how, and nothing can document the code as accurately as the code itself, although it may indeed be very difficult to understand without comments or at least the original source code.

In "challenges", the object is usually to develop the smallest or fastest program to accomplish a desired objective, so obscure "tricks" are often used without any regard for readability or explanation of just why it works.

> Quote:
>
> You can code with comments and nice indentation in a PC file.

And in the command line editor, for that matter.

> Quote:
>
> Unfortunately, both niceties are lost when the text is transferred to the calculator.

As you probably know, these niceties are discarded because source code is compiled to an object (or objects). Compiling discards all source code delimiters, comments, separators, and indeed even the source code "words" are replaced in most cases. Every object begins with a prologue (actually, a prologue address), a location pointer to the system code (the actual prologue) that tells the system what type of object it is, how to handle it, and how to find its end. That said, as implemented so far, the end of any composite object is delimited with an object pointer to the system's primitive code object SEMI.

RPL source code is largely "free form", except that a Line Feed code (but not other separators) ends any comment (which can also be ended with another "@" character). A comment also functions as a separator. Separators (or series of separators) are otherwise logically equivalent. One could use a separate line for

every "word" or comment, with indenting optional, or could make the entire source code a single line, as long as it doesn't contain a character string with an embedded Line Feed code. Even a Line Feed within a string in a source code file may be written as the character translation sequence \010, as long as translation mode 2 or 3 is used.

Programmers use a variety of styles for their source code. There's no one "right" way to do it; it's rather a matter of what the programmer considers readable. The calculators' command line editor decompilers choose to start an indented new line for every structure word or embedded program, but then continue the line up to the display width and start subsequent lines at the left margin until the next structure word, presumably to fit more information into the calculator's limited display area while still giving some idea of the structure. Sometimes source code is posted online exactly as the calculator decompiles it, or the poster writes it on the PC and doesn't bother formatting it for easy readability.

On a calculator, I mostly follow the decompiler's example, except that I usually put any structure word or program delimiter on its own line, except for putting the index name on the same line as FOR. In a source code file on the PC, I tend to use "multi-line" source code and indent the contents of a clause for the entire clause, but sometimes put a short program structure or subprogram on a single line. I tend to put things that seem to logically go together, such as arguments and the operator, on the same line, if I don't want separate comments for them. Just how I format and comment source code depends on who I intend to have read it. For my own use, I may well consider the source code to be self-documenting with no or very little need for comments. For posting online, I may well go to the trouble of extensive commenting. For projects that seem as if they're going to be complicated, I sometimes write comments as an outline before writing any source code.

If you really want to preserve your nice indentation and comments, you can write the source code within a character string. That way the calculator compiles it to a character string object, preserving the source code as written (or in the case of a "text" transfer, optionally "as translated").

You can't very well have an unescaped " within a quoted-delimited string, but a counted string form may be used for this. NUL marks the end of the command line, so the calculators (mostly) prevent an actual NUL from being used within the command line. For the 49 series, within a quote-delimited string, \00 can be used instead of NUL, \" is used for

", and \\ is used for \. The 49 series still compiles counted strings exactly as the 48 series does, but never decompiles to the counted string form, instead using the new "escaped" forms for decompiling NUL, ", and \. Note that 49G ROM versions prior to 1.19-6 incorrectly compile the \00 to 00 instead of NUL. Within a quote-delimited string, all characters except (on the 49 series) the \00, \", and \\ sequences and \ are treated as literal. Within a counted string, all characters are treated as literal. Note that Conn4x has its own rules for these characters, and can be "confused" by a \ character outside of a quote-delimited string, mistaking it for the beginning of a character translation sequence.

To "execute" the source code string, put it on the stack and execute STR\-> or OBJ\->, which compiles it to an object. If it's a "quoted" object, for example with program delimiters, you'll need to use EVAL to pop it off the stack and actually execute its contents. For convenient viewing on a calculator, you'd probably want to adjust the style to fit the display, without any horizontal scrolling to see a whole line.

So why is source code compiled? I suppose for one thing, the compiled object nearly always uses less memory than the source code. Then too, at run-time, the calculator doesn't have to parse stored code from a form that's easy for a human to read to a form that's easier for the system to execute. For source code in the command line, compiling is a step in the execution sequence. To be sure, the calculator does have to decompile objects for display, \->STR. printing, and text transfers.

The developers also probably expected the users to be writing mostly short programs, and perhaps calling other short programs by name. Having a set of "utility" programs for other programs to call may indeed make sense, but that introduces a dependency tree; purging a program or changing what it uses for arguments or what it returns affects anything else that calls it, directly or indirectly. For an online example, any program that the example depends on has to be included (or at least its inputs and outputs described) for the source code to make sense to others.

RPL is indeed somewhat "different" from classic RPN. It uses a variable depth stack instead of a 4-register stack, execution control is restricted to "program structures" instead of jumping just anywhere with GTO, and they have various other differences.

What I can't see is that RPL is necessarily "complicated" to use.

Regards,
James

Re: Try my RPL challenge?

*Message #92 Posted by **Marcus von Cube, Germany** on 18 Nov 2005, 2:56 p.m.,*
in response to message #86 by Arnaud Amiel

Arnaud,

you just proved that you got lost:

> Quote:
>
> Note the this example uses a maximum of 4 stack levels

Here is the Problem:

> Quote:
>
> ```
> OVER              @Stack is 3:'F-G'
> 2:Root1 1:'F-G'
> 'X' 3 ROOT        @Stack is 3:'F-G'
> 2:Root1 1:Root2
> ```

Just before the command ROOT is executed, the stack holds the following items:

```
5:'F-G'
4:Root1
3:'F-G'
2:'X'
1:3
```

It's not a problem of your code because the RPL stack has enough levels, but your reasoning that 4 levels were sufficient is certainly wrong.

Marcus

Re: Try my RPL challenge?

*Message #93 Posted by **Howard Owen** on 18 Nov 2005, 3:49 p.m.,*
in response to message #92 by Marcus von Cube, Germany

> Quote:
>
> Just before the command ROOT is executed, the stack holds the following items:
>
> ```
> 5:'F-G'
> 4:Root1
> 3:'F-G'
> 2:'X'
> 1:3
> ```

Oops! That renders my RPN translation invalid too.

I suppose Arnaud can be forgiven for missing a 4-item stack limit. His platform doesn't enforce such a limit. I on the other hand have no such excuse.

On the other hand, missing the stack overflow *doesn't* invalidate my main point, which is that RPN and RPL really are similar at a certain level. Many common RPL stack manipulations have direct RPN equivilants.

Edited: 18 Nov 2005, 5:12 p.m.

Re: Try my RPL challenge?

*Message #94 Posted by **Arnaud Amiel** on 19 Nov 2005, 4:13 a.m.,*
in response to message #92 by Marcus von Cube, Germany

> Quote:
>
> you just proved that you got lost:

Oops!!!

As I said above, I NEVER argued that RPN was straightforward and that quickly keeping stack diagram become necessary. But I also keep stack diagrams in RPN (maybe a bad habit I got from RPL)

Arnaud

Re: Try my RPL challenge?

*Message #95 Posted by **James M. Prange (Michigan)** on 19 Nov 2005, 5:37 p.m.,*
in response to message #84 by Karl Schneider

Karl,

> Quote:
>
> Your first indented multi-line RPL program is indeed clearer that the one-liner, in my view. Of course, the Fortran '77 program can also be written using multiple lines (and would have to be, if there were an ELSE clause):
>
> ```
> IF (A .LT. B)  THEN
>   A = A + 360.0
> ENDIF
> ```

And that's clearer to me than the Fortran '77 one-liner.

> Quote:
>
> Now, James, would you care to try my RPL challenge

> from last year, and provide a solution different from those posted by Arnaud Amiel and Raymond Del Tondo? I'd like to see an RPL program that makes sense to non-RPL'ers as to what exactly is taking place. The structure of the HP-71B solution posted by Valentin was evident, I think, even to those who are not familiar with that machine but have learned any high-level data-oriented language.

I thought the examples posted before demonstrated that RPL was easiest to understand, but why not?

First off, the way you described the challenge isn't entirely clear to me. Should the two expression be defined separately, and should they be "user-defined functions"? I chose to combine them into one expression. Also, should there be three separate programs, one that finds the lower limit, one that finds the upper limit, and finally one that calls the other two and finds the area, or should it all be combined into a single program? I chose the single program,

An assumption: It's already known that there's exactly one intersection point between X=0 and X=1, there's exactly one intersection point between X=2 and X=3, and there are no intersection points between these two. This can be verified easily enough by plotting.

My examples are slightly "unfriendly" in that they purge global variables named 'X' and 'IERR' without restoring the originals. I don't like to do that, but in this case, restoring them would be more likely to mislead the user than to be useful.

They are "friendly" in that they follow good practice and restore modes that they may change, and also, they label the results. They also show the "Error of integration", an estimate of how far the result may differ from the true value. Commenting may well be to a ridiculous degree, but that's for the benefit of those who are less familiar with RPL.

In case anyone wants to try them out, copy the source code (starting with the Kermit ASCII transfer headers) to files, and simply transfer the files to any 48/49 series calculator. They should still work on the 49 series if you download them in approximate load, but the results from the BYTES command will be different.

For all models, both programs return the following:

```
In 6 FIX mode:


X lower: 0.343717
X upper: 2.696175
   Area: 3.110575
Err Int: 0.000003


In STD mode:


    X lower: .343717423063
    X upper: 2.69617505788
       Area: 3.11057476957
Err Int: 3.11076465583E-11
```

This first program doesn't use local variables. It uses only a few stack levels, so it's easy to see where everything is.

```
%%HP: T(3)A(D)F(.);
@ Note: Will purge variables X and IERR from current
directory!
@ For 49 series, download with calculator in exact mode.
@ Results from BYTES command:
@   49g+ Checksum:  D86h
@   49g+     Size:  221.
@   49G  Checksum:  D86h
@   49G      Size:  221.
@   48GX Checksum: 9A2Eh
@   48GX     Size:   221
@   48SX Checksum: 9A2Eh
@   48SX     Size:   221
\<<                              @ Begin Program.
  RCLF                           @ Get current flags.
  RAD                            @ Force radians mode.
  -3 SF                          @ Force numerical
integration.
  'SIN(X)-((X-1.5)^2-1)'         @ Expression.
  'X'                            @ Global variable name.
   DUP2                          @ Make copies.
  {1 0}                          @ Guesses for lower
limit.
  ROOT                           @ Find lower limit.
  3 PICK                         @ Expression.
  3 PICK                         @ Global variable name.
  {2 3}                          @ Guesses for upper
limit.
  ROOT                           @ Find upper limit.
  DUP2                           @ copy limits.
  6 ROLL                         @ Expression.
  6 ROLL                         @ Global variable name.
  \.S                            @ Integrate.
  ROT                            @ Lower limit.
  "X lower" \->TAG               @ Label Result.
  ROT                            @ Upper limit.
  "X upper" \->TAG               @ Label Result.
  ROT                            @ Area.
  "Area" \->TAG                  @ Label Result.
  IERR                           @ Error of integration.
  "Err Int" \->TAG               @ Label Result.
  { X IERR } PURGE               @ Clean up global
variables.
  5 ROLL                         @ Original flags.
  STOF                           @ Restore flags.
\>>                              @ End program.
```

On the 49 series, "3 PICK" could be replaced with "PICK3".

Some approximate timings, in seconds:

```
Model   6 FIX mode      STD mode


48SX    12.72           20.54
48GX     8.84           13.20
49G     15.98           26.45
49g+     6.80           11.52
```

Some interesting things about the timings:

- As should be expected because its processor speed is higher, the 48GX is faster than the 48SX.
- The 49G is even slower than the 48SX. Maybe this is because of the CAS? Well, that's progress.
- The 49g+ is fastest, but not by as much as might be expected; remember that the Saturn processor is emulated (simulated?) in firmware.

This second program doesn't use any stack manipulation commands at all, using local variables instead. But I didn't attempt to restrict the stack use to any particular number of levels, so it wouldn't work

with a 4-level stack.

```
%%HP: T(3)A(D)F(.);
@ Note: Will purge variables X and IERR from current
directory!
@ For 49 series download with calculator in exact mode.
@ Results from BYTES command:
@   49g+ Checksum: 3C8Bh
@   49g+     Size: 316.5
@   49G  Checksum: 3C8Bh
@   49G      Size: 316.5
@   48GX Checksum: CFC9h
@   48GX     Size: 316.5
@   48SX Checksum: CFC9h
@   48SX     Size: 316.5
\<<                                 @ Begin program.
  RCLF                              @ Get current flags.
  'SIN(X)-((X-1.5)^2-1)'           @ Expression.
  0                                 @ dummy value for l.
  0                                 @ dummy value for u.
  0                                 @ Dummy value for a.
  \->                               @ bind local variables.
  f                                 @ Original flags.
  b                                 @ Expression.
  l                                 @ Lower limit.
  u                                 @ Upper limit.
  a                                 @ Area.
  \<<                               @ begin defining
procedure for
                                    @ local environment,
    RAD                             @ Force radians mode.
    -3 SF                           @ Force numerical
integration.
    b                               @ Expression.
    'X'                             @ Global variable name.
    {1 0}                           @ Guesses for lower
limit.
    ROOT                            @ Find lower limit.
    'l' STO                         @ Save lower limit.
    b                               @ Expression.
    'X'                             @ Global variable name.
    {2 3}                           @ Guesses for upper
limit.
    ROOT                            @ Find upper limit.
    'u' STO                         @ Save upper limit.
    l                               @ Lower limit.
    u                               @ Upper limit.
    b                               @ Expression.
    'X'                             @ Global variable name.
    \.S                             @ Integrate.
    'a' STO                         @ Save area.
    l                               @ Lower limit.
    "X lower" \->TAG                @ Label Result.
    u                               @ Upper limit.
    "X upper" \->TAG                @ Label Result.
    a                               @ Area.
    "Area" \->TAG                   @ Label Result.
    IERR                            @ Error of integration.
    "Err Int" \->TAG                @ Label Result.
    { X IERR } PURGE                @ Clean up global
variables.
    f                               @ Original flags
    STOF                            @ Restore flags.
  \>>                               @ Abandon local
environment.
\>>                                 @ End Program.
```

Some approximate timings, in seconds:

Model	6 FIX mode	STD mode
48SX	12.76	20.58
48GX	8.95	13.32
49G	16.04	26.51
49g+	6.81	11.50

This program is slightly slower than the first program in most cases, but actually slightly faster for the 49g+ in STD mode.

Regards,

James

[RPL challenge] Thank you...

*Message #96 Posted by **Karl Schneider** on 20 Nov 2005, 2:47 p.m.,*
in response to message #95 by James M. Prange (Michigan)

...James and Howard for your responses.

James Prange's documented programs and benchmarking were quite an endeavor, and should be recognized. I did find the second one (with minimal stack manipulation) easier to follow.

Howard Owen's program is a bit closer to what I was looking for -- a concise but "followable" method of obtaining the answer.

I'll try both after I figure out what the "\" is representing...

Regards,

-- KS

Re: [RPL challenge] Thank you...

*Message #97 Posted by **Howard Owen** on 20 Nov 2005, 4:12 p.m.,*
in response to message #96 by Karl Schneider

That's how the HP-48G renders "special" characters when programs are translated to ASCII. The most common ones are:

```
  ASCII     48G character
-------------------------------------------------
-----------------
  \<<       The "start program" sigil. It looks
like "<<" but it's one character.
  \>>       The "end program" sigil. As above.
  \->       The arrow operator. You see it alone
marking a local variable
            list. It also shows up in things like
"\->LIST",
            (the to list" operator) and "LIST\->"
(the "from list"
            operator.)
```

There are others, Like \=/ is the "not equal" sign, I believe.

I used the escape symbol inconsistently in my example, whereas James was consistent throughout his. Although my solution may have been more succinct, I will look back on his for coding examples!

Regards,
Howard

Edited: 20 Nov 2005, 4:19 p.m.

Re: [RPL challenge] Thank you...

*Message #98 Posted by **James M. Prange (Michigan)** on 21 Nov 2005, 10:31 a.m.,*
in response to message #96 by Karl Schneider

> Quote:
>
> I'll try both after I figure out what the "\" is representing...

Actually, if you paste the source code, beginning with the

```
%%HP: T(3)A(D)F(.);
```

Kermit ASCII transfer header, to a file and download the file to your calculator, then the calculator (or Conn4x, if you use that) will know what they represent.

The header also specifies the unit for angular values in vectors and complex numbers in CYLIN and SPHERE modes, and how the period and comma characters should be compiled.

As Howard noted, the "\" represents the beginning of a translation sequence for certain "special" characters; more specifically, for non-ASCII characters, and the ASCII character "\" itself would be represented as "\\". These are often referred to as "backslash digraph" or "trigraph" codes. With translation mode 3, the decompiled (source code string) form of an object is "translated" to "pure ASCII" code for transfer to the PC. If you do much writing of calculator source code in text files on the PC, then you'll probably soon memorize the ones that you use frequently.

An alternative is to use an editor that uses a special character set matching the calculator's, and presents you with a pick-table of characters, or even a pick-table of commands, but I find it easiest to just type in the translation sequences.

I suppose that one could memorize how the non-ASCII characters map between the calculator's and text editor's character sets, memorize their numeric values, and type them in with the Alt numeric keypad method. Or one could have the character set tables at hand for reference, instead of memorizing them. I'd rather not even attempt this.

If one were to use non-ASCII characters literally in a source code file, then it would be a problem posting them online, although I've seen this done. It's unlikely that the reader would be using the same character set for these, and MS Windows (or the newsreader or other internet software?) seems to apply some translations of its own. With "pure US ASCII" code, it's a good bet that anyone else will see the same thing.

"\<<" and "\>>" represent the characters for the UserRPL program delimiters, "\->" the "right arrow" character, and "\.S" the character for the integrate command.

I use these, first off, because it's easier for me to type these characters in source code as mode 3 translations, and second, because it makes it easier for others to download the source code to a calculator with no need for "fixing up" these characters.

I believe you have a 48G series? For this model, the character translations are described in the User's Guide; see pages 27-15 and 27-16. For the 48S series, see the single-volume Owner's Manual pages 33-6 and 33-7 or the two-volume Owner's Manual pages 626 and 627. Unless it's in the new AUR, the 49 series documentation seems to lack this information, see http://holyjoe.net/hp/tiotable.png for codes 128-255.

There are 4 translation modes, set with the TRANSIO command or by editing the last element of the reserved variable IOPAR. For the 49 series, note that the numbers in IOPAR and PRTPAR must be "real numbers", not "exact integers". Mode 0 doesn't translate anything. Mode 1 translates Line Feed codes (used as "New Line" codes on the calculator). Mode 2 adds translation of non-ECMA 94 codes 128-159 and \ itself, and for transfers back to the calculator, \nnn codes \000-\159. Mode 3 adds translation of the rest of the non-ASCII codes (160-255), and for transfers back to the calculator, can use all \nnn codes \000-\255.

For generating a character string that shows the translations for non-ASCII characters in the current translation mode on a calculator, you could try one of these UserRPL programs. The "binary" values will be in the current mode, BIN, OCT, DEC, or HEX. "\010" represents a string containing the Line Feed (New Line) character.

Approximate timings, in seconds:

```
48SX: 23.45
48GX: 16.87
49G:  17.26
49g+:  6.25
```

Be sure to choose the right program for your model. The wrong address for SYSEVAL is likely to be disastrous!

```
%%HP: T(3)A(D)F(.);
@ For 49 series only!
@ Download with calculator in exact mode.
@ Results from BYTES command:
@   Checksum: # A162h
@   Size:       116.5
\<<
  ""                                  @ Start with
an empty string.
  128 255                             @ For each
non-ASCII value.
  FOR n
    "\010"                            @ Start a new
line.
    n                                 @ The decimal
value.
    " "                               @ A space.
    OVER                              @ The value
from level 2.
    R\->B                             @ Convert
value to "binary".
    OVER                              @ The space
```

```
from level 2.
    +                                 @ Concatenate
levels 1 and 2.
    PICK3                             @ Decimal
value from level 3.
    CHR                               @ Convert
value to string.
    PICK3                             @ Space from
level 3.
    OVER                              @ String from
level 2.
    # 2F34Eh SYSEVAL                  @ KVIS for 49
series only!.
    + + + + + + +                     @ Concatenate
levels 1-8.
  NEXT                                @ Loop for
next value.
  "\010"                              @ End with a
new line.
  +                                   @ Concatenate
the new line.
\>>
```

Note that if you view the decompiled form of the string (by using LeftShift CursorDown), then each \ will be doubled.

```
%%HP: T(3)A(D)F(.);
@ For 48 series only!
@ Results from BYTES command:
@   Checksum: # 58A5h
@   Size:       128.5
\<<
  ""                                  @ Start with
an empty string.
  128 255                             @ For each
non-ASCII value.
  FOR n
    "\010"                            @ Start a new
line.
    n                                 @ The decimal
value.
    " "                               @ A space.
    OVER                              @ The value
from level 2.
    R\->B                             @ Convert
value to "binary".
    OVER                              @ The space
from level 2.
    +                                 @ Concatenate
levels 1 and 2.
    3 PICK                            @ Decimal
value from level 3.
    CHR                               @ Convert
value to string.
    3 PICK                            @ Space from
level 3.
    OVER                              @ String from
level 2.
    # 2FEDDh SYSEVAL                  @ KVIS for 48
series only!
    + + + + + + +                     @ Concatenate
levels 1-8.
  NEXT                                @ Loop for
next value.
  "\010"                              @ End with a
new line.
  +                                   @ Concatenate
the new line.
\>>
```

If the 48 series was in BIN mode while generating the string, then you'll have to scroll right to see the end of the translation sequence for characters converted to the \nnn form, but nnn will be the same as the decimal value anyway.

Viewing the string in the 48 series' command line editor seems annoyingly slow.

Once generated, the string could be stored in a variable.

Of course, the above programs are optimized for size and speed, not for readability. I used KVIS, which the calculators use for printing "via wire", but I could as well have used KVISLF. which the calculators use for Kermit ASCII transfers. The program goes back to when the 48SX was current, and I really don't recall why I wrote it exactly as I did, but it works.

The documentation is wrong about control code <LF>. <LF> is translated to a <CR><LF> pair, not to a <LF><CR> pair. Here <LF> means Life Feed, ASCII 10 (decimal), and <CR> means Carriage Return, ASCII 13.

What's more, the Kermit translation is buggy for <CR><LF>. Although <LF> is translated to Kermit's canonic <CR><LF> line termination string, a <CR><LF> pair is left as is instead of being translated to <CR><CR><LF>. That is, both <LF> and <CR><LF> are sent to the PC as <CR><LF>, and when sent back to the calculator, both are translated to <LF>. Of course, text editors may change the "end-of-line" codes too. To make these unambiguous in a character string in a text file, you can use \010 for <LF> and \013 for <CR>. This isn't a problem unless you really do, for whatever reason, want a <CR><LF> pair within a character string on the calculator. As far as I've been able to determine, this is the only bug in the Kermit translations.

With Kermit, for transfers to a calculator, a \ that isn't the beginning of a valid translation sequence is left as is. For that matter, anything that isn't a valid translation sequence is left as is.

An additional consideration on the 49 series is that NUL (ASCII control code 0, the "null character"), ", and \ within a character string are decompiled to \00, \", and \\, so after the Kermit translation, show up in the file as \\00, \\", and \\\\. But Conn4x handles these differently; see the Conn4x Help for the differences, and for information on how it translates between global variable names and MS Windows file names.

Also note that with 49G ROM revisions prior to 1.19-6, \00 within a source code character string is incorrectly compiled to 00 instead of to NUL.

The 49 series compiler simply discards a \ within in a character string if it isn't immediately followed by 00, ", or another \.

Conn4x doesn't use the calculators' built-in translation routines, instead doing the translations in the Conn4x application on the PC. It doesn't have Kermit's problem with <CR><LF>, and optionally translates ASCII control codes 0-9, 11-31, and 127 to \nnn sequences, but apparently in attempting to "simplify" the translations of the decompiler's \00, \", and \\, it introduces a new bug. Outside of a quote-

delimited string, Conn4x leaves \ as is, instead of translating it to \\. For transfers back to the calculator, Conn4x may mistake an untranslated \ for the beginning of a valid translation sequence. To work around this bug, change any \ in the file that could be misinterpreted to \092, which Conn4x correctly translate back to \. Note that the 48 series use a counted string form for decompiling strings with an embedded ", and the \ could occur in these, and \ is perfectly valid in a name.

To be sure, these bugs should rarely be a problem, but they've all "bitten" me.

<plug> You could also see my "ASCII on SD" programs for converting between a compiled object and a decompiled (and optionally translated) source code string on a 49 series. Converting a commented source code string returns both a translated but still commented source code string and the compiled object. They're available here. These are intended for the 49g+ specifically, and wouldn't work on the 48 series as written. I prefer to use the card and these programs for the 49g+ instead of using Conn4x. </plug>

Regards,
James

Are you serious ?

*Message #99 Posted by **Valentin Albillo** on 21 Nov 2005, 4:51 a.m.,*
in response to message #95 by James M. Prange (Michigan)

Hi, James:

James posted:

"I thought the examples posted before demonstrated that RPL was easiest to understand, but why not ?"

Are you serious ?

"This first program doesn't use local variables. It uses only a few stack levels, so it's easy to see where everything is.

```
[...] DUP2 [...] 3 PICK  3 PICK [...] DUP2 6 ROLL 6
ROLL
[...] ROT [...] ROT [...] ROT [...] 5 ROLL [...]
"
```

Again, are you serious ?

"This second program doesn't use any stack manipulation commands at all, using local variables instead."

```
<< RCLF 'SIN(X)-((X-1.5)^2-1)'  0   0   0   \->
f  b  l  u   a  <<  RAD  -3 SF  b  'X'  {1 0}  ROOT
'l'
STO   b  'X' {2 3}  ROOT  'u' STO  l  u  b  'X'  \.S
'a' STO  l  "X lower" \->TAG  u  "X upper" \->TAG
a  "Area" \->TAG  IERR  "Err Int" \->TAG  { X IERR }
```

```
PURGE
f   STOF  \>>  \>>
```

So, even without using obfuscating stack manipulations, are you suggesting that that load of gibberish above is clearer than:

```
 10 DEF FNF(X) = SIN(X) - (X-1.5)^2 + 1
 20 PRINT INTEGRAL( FNROOT(0,1, FNF(FVAR)),
FNROOT(2,3, FNF(FVAR)), 1E-5, FNF(IVAR))
```

which essentially is:

```
 Define  f(x) = Sin(x)-(x-1.5)2 +1
 Print   Integral( Root(0,1, f(x)), Root(2,3,
f(x)), precision, f(x))
```

so that your non-stack-based RPL version is equally clear or even clearer to a non-RPL (or even RPL) programmer than the one for the 71B ? (notice that it *doesn't even use variables at all*, local or not, except for the dummy, placeholder variable in the definition of f(x) itself).

If you're stating this and you're serious, then it's clear to me we have significant differences about what "clarity" means, to the point that mutual understanding seems not possible.

Best regards from V.

Edited: 21 Nov 2005, 5:40 a.m.

Re: Are you serious ?

*Message #100 Posted by **James M. Prange (Michigan)** on 21 Nov 2005, 5:06 p.m.,*
in response to message #99 by Valentin Albillo

Yes, I am indeed quite serious. As for why, I suppose first because my examples use postfix notation, which I'm accustomed to using on a calculator, and second, because I'm used to seeing a few stack levels in my mind. I suppose it depends on who's looking at the code, though.

I could simplify them by not restoring modes, returning the limits, labeling results, or cleaning up the global variables.

```
%%HP: T(3)A(D)F(.);
\<<                                  @ Begin Program.
  RAD                                @ Force radians
mode.
  -3 SF                              @ Force numerical
integration.
   6 FIX                             @ Force precision
for integration.
  'SIN(X)-((X-1.5)^2-1)'             @ Expression.
  'X'                                @ Global variable
name.
   DUP2                              @ Make copies.
  {1 0}                              @ Guesses for
lower limit.
  ROOT                               @ Find lower
limit.
  3 PICK                             @ Expression.
  3 PICK                             @ Global variable
name.
  {2 3}                              @ Guesses for
```

```
upper limit.
  ROOT                              @ Find upper
limit.
  4 ROLL                            @ Expression.
  4 ROLL                            @ Global variable
name.
  \.S                               @ Integrate.
\>>                                 @ End program.
```

Or using a local variable for the expression to avoid using any stack manipulations at all:

```
%%HP: T(3)A(D)F(.);
\<<                                 @ Begin program.
  'SIN(X)-((X-1.5)^2-1)'           @ Expression.
  \->                               @ bind local
variables.
  b                                 @ Expression.
  \<<                               @ begin defining
procedure for
                                    @ local
environment,
    RAD                             @ Force radians
mode.
    -3 SF                           @ Force numerical
integration.
    6 FIX                           @ Force precision
for integration.
    b                               @ Expression.
    'X'                             @ Global variable
name.
    {1 0}                           @ Guesses for
lower limit.
    ROOT                            @ Find lower
limit.
    b                               @ Expression.
    'X'                             @ Global variable
name.
    {2 3}                           @ Guesses for
upper limit.
    ROOT                            @ Find upper
limit.
    b                               @ Expression.
    'X'                             @ Global variable
name.
    \.S                             @ Integrate.
  \>>                               @ Abandon local
environment.
\>>                                 @ End Program.
```

Consider your BASIC program:

```
10 DEF FNF(X) = SIN(X) - (X-1.5)^2 + 1
20 PRINT INTEGRAL( FNROOT(0,1, FNF(FVAR)),
FNROOT(2,3, FNF(FVAR)), 1E-5, FNF(IVAR))
```

Line 10 defines f(x) clearly enough.

In line 20, we're going to find the integral of something, with the arguments following. But the first argument isn't a number, it's another function,

```
FNROOT(0,1, FNF(FVAR))
```

with the arguments following again, apparently 2 guesses and then a nested function,

```
FNF(FVAR)
```

again with the argument following, What could the arcane-looking FVAR represent? Well, that more or less takes care of the first argument, and the second argument is like the first argument except with different guesses.

The third argument is simply a number for the precision.

The fourth argument looks like another function,

```
FNF(IVAR)
```

again with the argument following. What could IVAR mean, and how does it differ from FVAR?

Okay, now that I've muddled through the arguments, I can recall that they were supposed to be integrated.

Granted, part of my problem with all this is not being familair with the keywords, but are you seriously saying that all those nested parentheses are clearer than straight-forward postfix notation? If I found that clearer, then I'd probably be using the 49 series in ALG mode.

Regards,
James

Edited: 21 Nov 2005, 5:09 p.m.

Yes, I'm serious !

*Message #101 Posted by **Valentin Albillo** on 22 Nov 2005, 6:41 a.m.,*
in response to message #100 by James M. Prange (Michigan)

Hi, James:

James posted:

"Consider your BASIC program: ..."

> Ok, let's.

"What could the arcane-looking FVAR represent?"

> **FNROOT** (FiNd ROOT) can call itself to solve a non-linear system of several unknowns. As such, you need a formal variable to stand for the particular variable you're solving for. You can't name it "X", say, because perhaps you're solving for "Y" or for "E7", say, and perhaps you already do have a local or global variable called "X".
>
> That being so, **FVAR** (Function VARiable) stands for the variable you're solving for.

"What could IVAR mean, and how does it differ from FVAR?"

> **INTEGRAL** (Integral) can call itself to compute a multiple integral over several variables. As such, you need a formal variable to stand for the particular variable you're integrating over. You can't name it "X", say, because perhaps you're integrating over "Y" or over "E7", say, and perhaps you already do have a local or global variable called "X".

That being so, **IVAR** (Integration VARiable) stands for the variable you're integrating over.

As you can Integrate a function being Solved or Solve a function being Integrated, their respective formal variables *must* differ, so that's why one is called FVAR, and the other, consistently enough, is called IVAR, so as not to get confused in an integral being solved, say.

"Granted, part of my problem with all this is not being familair with the keywords, but are you seriously saying that all those nested parentheses are clearer than straight-forward postfix notation?"

There's no such thing as *"straight-forward postfix notation"*, that's actually a contradiction of terms. That's why the vast majority of people find RPL "**R**e**P**e**L**ent" and wouldn't touch it with a ten-feet pole.

That being so in the mind of most people, *yes, I'm serious* when I state that all your code posted above, commented and optimized several times, in several flavors, is much less clearer that my one-and-only, uncommented, never optimized BASIC line, which I wrote down without even thinking about it for a moment, that automatic and straightforward the task at hand is.

Nay, it's too simple to be considered a *program*, I gave it a line number because the original challenge asked for a program, but actually it's an immediate command-line expresion, in the same league as 2+2, say.

And I notice that you refrained from commenting several key features of both solutions, probably because you were on the losing side, namely:

- My 71B BASIC version uses *no* local or global variables at all, so it's that much easier to set up and no chance for variable-related conflicts. No need to change or set up environments, etc.

- I notice in your code that you *"Force precision for integration."*, and that consists in changing the display mode. Now, why on earth should you have to do the wholly unrelated task of changing the display mode just in order to specify some precision for your integration process ? and with the side effect of changing the display mode to the user, no less ?

  If you want to specify a particular precision,

why, just do it, include the desired precision as a parameter to the integration process, which is just what my BASIC version does. Remember, we're talking about someone who's trying to fathom what the code does, and changing display modes instead of explicitly specifying a desired accuracy seems much more obscure, arbitrary, and less clean to me.

Anyway, entering this kind of threads is mostly a waste of time, because there's no way I (or anyone else) can convince *you* with arguments or examples, no matter how obvious or clear. If you, subjectively, find your code or RPL in general clearer, that's the way it's going to be to you, and nothing will change that.

Fine with me, to each his own. But then don't be surprised if you find that the vast majority doesn't agree with your concepts.

(Oh, and by the way, replicating the top register in classic 4-level RPN is **not** a bug or quirkiness or anything like that. It was done on purpose, by design, because thanks to that valuable **feature** *you can evaluate polynomials of arbitrary degree extremely efficiently* (Horner's rule), which you couldn't were it not for it. And, as you know, these advanced RPN calculators were originally designed for engineers by engineers, and at the time, real engineers found themselves evaluating polynomials constantly, and needed to do it fast, simply, and efficiently, even if they had a *non-programmable* model. That's why.)

Best regards from V.

Edited: 22 Nov 2005, 7:56 a.m.

Re: Yes, I'm serious !

*Message #102 Posted by **James M. Prange (Michigan)** on 23 Nov 2005, 8:33 p.m.,*
in response to message #101 by Valentin Albillo

Hi Valentin,

I really didn't want to get in a flame war over this. I perceived your posts as particularly hostile and responded in kind. I'm sorry that I didn't restrain myself.

I'm not claiming that RPL is perfect, it does have flaws and quirks. Even more so in the 49 series, although they did add some nice features there.

And I rather like BASIC too, but when the argument list has nested parentheses, it looks obfuscated to me.

Quote:

> **FNROOT** (FiNd ROOT) can call itself to solve a non-linear system of several unknowns. As such, you need a formal variable to stand for the particular variable you're solving for.

Agreed.

> Quote:
>
> You can't name it "X", say, because perhaps you're solving for "Y" or for "E7", say, and perhaps you already do have a local or global variable called "X".

Other than the problem of possibly overwriting a variable with the same name, I don't see any reason why whatever name I'm solving for couldn't be used. I've never particularly liked RPL's root-finding methods potentially overwriting a global variable, but it goes back to the RPL solver, where the user sees the variable names in the menu, and knows that they'll be used as global variable names. It has the advantage that the values will be persistent, (until purged or overwritten) and I don't see it as especially harmful.

> Quote:
>
> That being so, **FVAR** (Function VARiable) stands for the variable you're solving for.

I gather that FVAR represents the X in your FNF(X)? Sort of like a reserved variable in RPL?

> Quote:
>
> As you can Integrate a function being Solved or Solve a function being Integrated, their respective formal variables *must* differ, so that's why one is called FVAR, and the other, consistently enough, is called IVAR, so as not to get confused in an integral being solved, say.

You're saying that solving and integrating are occurring at the same time? Yes, I know within the same "outer" function, but in your program for example, I'd think that both limits must be completely solved before integration could proceed.

But whatever your 71B needs is fine with me. In

RPL, ROOT isn't a function, so couldn't be used in an algebraic form of the integral function even if I wanted to do so.

> Quote:
>
> There's no such thing as *"straight-forward postfix notation"*, that's actually a contradiction of terms. That's why the vast majority of people find RPL "**R**e**P**e**L**ent" and wouldn't touch it with a ten-feet pole.

Isn't RPN (mostly) postfix too? How do the vast majority of people find that?

> Quote:
>
> That being so in the mind of most people, *yes, I'm serious* when I state that all your code posted above, commented and optimized several times, in several flavors, is much less clearer that my one-and-only, uncommented, never optimized BASIC line, which I wrote down without even thinking about it for a moment, that automatic and straightforward the task at hand is.

Good for you! I'm glad that you're so familiar with your calculator!

The comments are intended as a courtesy to anyone who doesn't immediately recognize the keywords, know the syntax of the commands, or has trouble picturing the stack. I certainly don't need them for myself.

Since some seem to have trouble seeing a stack of over four levels, I chose to write one program the way I prefer, using just the stack, and another using no stack commands, but local variables instead. Then, of course, you expressed your opinion, so I edited them down to simplified versions just for you.

Karl's "challenge" isn't very clear to me as posted, but I decided to have the program return more than was actually required, since it was already available, and tag the results.

I did have some problems. First off, I seldom integrate anything, so I had to look up the syntax for the integral function. I tried that out on the 48GX, and it worked just fine, I solve for roots and intersections often enough, but I normally use the solver for that, so I also had to look up the syntax for ROOT, and

that too worked fine on the 48GX. Okay, everything seemed clear enough, so I wrote the program in the text editor on the PC, commented it, and transferred it to the 49g+. But it didn't work. It gave me a "Bad Argument Type" error for the integral function. Looking over the program, everything seemed right. Well, sometimes the 49 series doesn't behave the same as the 48 series. Maybe because it was trying symbolic integration? So I stuck in the -3 SF, which didn't help, and I forgot to remove it. Maybe something else about that blasted CAS mucking things up? So I transferred it to the 48GX and tried it there, and it still didn't work. Double-checked the syntax for the integral function and single-stepped the program in the debugger. Sure enough, that's exactly where it failed, although the arguments on the stack sure looked right to me. Fooled around with the integral function by itself, and finally realized that although it works fine with real numbers for the limits, it fails with tagged real numbers there! Now that's really out of the ordinary; I don't think I've ever seen another case where a command didn't work correctly with a tagged argument. It sure seems like a bug to me. Well, that pretty well meant that there was no use tagging the limits until the integration was finished, so back to the text editor to rewrite the source code. This time, it worked perfectly on the first try on all of my 48 and 49 models. So I edited a copy to the version using local variables, and that worked perfectly the first time. When I edited copies down to the "special" versions, they worked the first time.

So are they "optimized several times"? Debugged and edited, yes, definitely, and I did look them over carefully before posting, but didn't see where I could improve them, so I wouldn't say "optimized" at all.

By the way, now that I've thought a bit more about that -3 SF, I tried taking it out and clearing flag -3, and find that it does serve a purpose after all. With the flag clear (Function -> symb), IERR is left as a name instead of its value being returned.

> Quote:
>
> Nay, it's too simple to be considered a *program*, I gave it a line number because the original challenge asked for a program, but actually it's an immediate command-line expression, in the same league as 2+2, say.

Well, my programs aren't quite as simple as 2+2, but interestingly enough, if I edit out the program delimiters, they'll run just fine from the command line too. The one without local variables could be just

keyed in one thing at a time too, but with the local variable, everything from the \-> to the \>> ending the defining procedure would have to be on the command line at the same time.

> Quote:
>
> And I notice that you refrained from commenting several key features of both solutions, probably because you were on the losing side, namely:

Key features? Actually, I didn't think the following were relevant.

> Quote:
>
> My 71B BASIC version uses *no* local or global variables at all, so it's that much easier to set up and no chance for variable-related conflicts. No need to change or set up environments, etc.

My programs do use the global variable X because the ROOT command and integral function on these models require that. I'm not ambitious enough to try to write my own versions of those. Come to think of it, the integral function use the global variable IERR too. So what? My "stack-based" program doesn't use any local variable either. In the program that does use local variables, there's no chance of a conflict because they're local and the defining procedure doesn't try to use anything else with those names.

What kind of variables are your FVAR and IVAR? Do your FNROOT and INTEGRAL functions use any other variables?

True, I do force modes. And as first written, the programs restord the original modes. Again, so what?

> Quote:
>
> I notice in your code that you *"Force precision for integration."*, and that consists in changing the display mode. Now, why on earth should you have to do the wholly unrelated task of changing the display mode just in order to specify some precision for your integration process ? and with the side effect of changing the display mode to the user, no less ?
>
> If you want to specify a particular precision, why, just do it, include the

> desired precision as a parameter to the integration process, which is just what my BASIC version does. Remember, we're talking about someone who's trying to fathom what the code does, and changing display modes instead of explicitly specifying a desired accuracy seems much more obscure, arbitrary, and less clean to me.

Now there's a point that I heartily agree with you on! Assuming any association between the current display mode and the desired accuracy is pure nonsense to me.

Interestingly, in the 28 series, the accuracy is a parameter for the integral function, and even the order of the parameters makes more sense to me. What ever possessed them to change this for the 48 series is beyond me.

> Quote:
>
> Anyway, entering this kind of threads is mostly a waste of time, because there's no way I (or anyone else) can convince *you* with arguments or examples, no matter how obvious or clear. If you, subjectively, find your code or RPL in general clearer, that's the way it's going to be to you, and nothing will change that.

Probably so.

> Quote:
>
> Fine with me, to each his own. But then don't be surprised if you find that the vast majority doesn't agree with your concepts.

I can live with that.

> Quote:
>
> (Oh, and by the way, replicating the top register in classic 4-level RPN is **not** a bug or quirkiness or anything like that. It was done on purpose, by design, because thanks to that valuable **feature** *you can evaluate polynomials of arbitrary degree extremely efficiently* (Horner's rule), which you couldn't were it not for it. And, as you know, these advanced RPN

> calculators were originally designed for engineers by engineers, and at the time, real engineers found themselves evaluating polynomials constantly, and needed to do it fast, simply, and efficiently, even if they had a *non-programmable* model. That's why.)

Thank you for the history lesson; it does help me to understand how that came about. And yes, I do realize that back in those days, calculators were designed for "real world" use, not for students or gamers.

That use of "Horner's rule" rather sparked sparked my interest. These fancy calculators have rather spoiled me, but I do recall it as a method of factoring polynomials such as a+b*x+c*x^2+d*x^3+e*x^4 to the form a+x*(b+x*(c+x*(d+x*e))). That does eliminate all exponentiation, but converted to an RPN sequence is:

```
a x b x c x d x e * + * + * + * +
```

which couldn't even be used with a 4-register stack. Okay, I re-arranged it to (((e*x+d)*x+c)*x+b)*x+a. That's a little better; converted to an RPN sequence, this is:

```
e x * d + x * c + x * b + x * a +
```

so it would need only two registers. But to take advantage of the "replicate downward" feature, I want all of the x'es first. Okay, rearranged it to x*(x*(x*(x*e+d)+c)+b)+a, which converts to the RPN sequence:

```
x x x x e * d + * c + * b + * a +
```

which, with an infinite supply of x values available in the stack, would be considerably easier to key in, especially with a higher-degree polynomial.

I surmise that this, or something quite similar, was what they were using. Very neat, and even on an RPL model, might be easier than keying in the polynomial as an algebraic.

Just for a check, that last RPN sequence, after being executed and COLLECTed on a 49g+ with flag -114 set (Disp x+1 -> 1+x), shows up exactly as the expression that I started out with.

Regards,
James

Edited: 23 Nov 2005, 8:50 p.m.

RPL challenge & Horner's method

*Message #103 Posted by **Karl Schneider** on 24 Nov 2005, 12:56 a.m.,*
in response to message #102 by James M. Prange (Michigan)

Hello, James --

James Prange posted,

> Quote:
>
> Karl's "challenge" isn't very clear to me as posted...

And yet you were able to provide a working RPL-based solution that met my specifications, as did Arnaud Amiel and Raymond Del Tondo before you, and as did Valentin for HP-71B BASIC. I take some mild umbrage at the suggestion that I didn't describe the task clearly.

However, *lack of specificity in every detail does not equate to lack of clarity.* The task was simply to prepare an RPL-based program that would automatically and correctly calculate three numerical answers: the two limits of integration and the area over those limits. Purposely, no other requirements were imposed; the approach was left to the user's discretion. I even provided working RPN-based code and the correct answers.

> Quote:
>
> I did have some problems. First off, I seldom integrate anything, so I had to look up the syntax for the integral function. I tried that out on the 48GX, and it worked just fine, I solve for roots and intersections often enough, but I normally use the solver for that, so I also had to look up the syntax for ROOT,
>
> *13 lines of narrative describing James' trials and tribulations snipped...*

Hmm... maybe it was a real challenge after all! :-)

> Quote:
>
> That use of "Horner's rule" rather sparked sparked my interest. These fancy calculators have rather spoiled me, but I do recall it as a method of factoring polynomials such as

> a+b*x+c*x^2+d*x^3+e*x^4 to the form a+x*(b+x*(c+x*(d+x*e))). That does eliminate all exponentiation, but converted to an RPN sequence is:
>
> *lengthy narrative describing an application of Horner's Method snipped...*

Well, upon re-reading of your narrative, it seems that you did, in fact, understand the point. But, I'd already submitted my write-up:

Horner's Method was described in the HP-15C manual, and probably others that preceded it. The idea is that the polynomial

$f(x) = a_n(x^n) + a_{n-1}(x^{n-1}) + a_{n-2}(x^{n-2}) + ... + a_0$

is to be factored into terms based on addition of each coefficient a_k, and subsequent multiplication by the variable x, in order to avoid use of computationally-slow exponentials.

To do this on an HP RPN-based calculator, arrange the polynomial in descending order of terms, and load the stack with values of x, so that x can be replicated infinitely in the t-register.

For example, to evaluate

$f(x) = 5x^4 + 2x^3 - x^2 + 7$ at x = -2.0:

```
2
[+/-]
[ENTER]
[ENTER]
[ENTER]
5
*           5x
2
+           5x + 2
*           5x^2 + 2x
1
-           5x^2 + 2x - 1
*           5x^3 + 2x^2 - x
*           5x^4 + 2x^3 - x^2
7
+           5x^4 + 2x^3 - x^2 + 7
```

Answer: 67.0

Horner's method is noticeably faster on an older RPN calc. I even employed it for a Fortran mainframe program in the 1980's that required calculation of a low (5th?)-order polynomial at thousands of data points. This might not have *substantially* reduced the computational burden, if the object code for the power function "**" performed a multiplication-loop (instead of

logarithms and e^x) for small positive-integer exponents. However, Horner's Method would still require fewer operations.

-- KS

Edited: 24 Nov 2005, 1:33 a.m.

Re: RPL challenge & Horner's method

*Message #104 Posted by **James M. Prange (Michigan)** on 5 Dec 2005, 5:25 p.m.,*
in response to message #103 by Karl Schneider

Hello Karl,

> Quote:
>
> James Prange posted,
>
> > Quote:
> >
> > Karl's "challenge" isn't very clear to me as posted...
>
> And yet you were able to provide a working RPL-based solution that met my specifications, as did Arnaud Amiel and Raymond Del Tondo before you, and as did Valentin for HP-71B BASIC. I take some mild umbrage at the suggestion that I didn't describe the task clearly.
>
> However, lack of specificity in every detail does not equate to lack of clarity. The task was simply to prepare an RPL-based program that would automatically and correctly calculate three numerical answers: the two limits of integration and the area over those limits. Purposely, no other requirements were imposed; the approach was left to the user's discretion. I even provided working RPN-based code and the correct answers.

Okay, I'm quite willing to take any blame for not immediately understanding exactly what you expected. Perhaps part of my confusion was because you seemed to be asking for the

limits to be returned, yet solutions deemed correct, although they do find the limits for use in finding the integral, do not seem to return the limits used.

> Quote:
>
> Hmm... maybe it was a real challenge after all! :-)

Indeed, more than it should've been.

> Quote:
>
> Well, upon re-reading of your narrative, it seems that you did, in fact, understand the point. But, I'd already submitted my write-up:

Okay, I don't always read posts (or documentation) that don't seem to be relevant to models that I actually own or expect to own in the future.

> Quote:
>
> Horner's method is noticeably faster on an older RPN calc. I even employed it for a Fortran mainframe program in the 1980's that required calculation of a low (5th?)-order polynomial at thousands of data points. This might not have substantially reduced the computational burden, if the object code for the power function "**" performed a multiplication-loop (instead of logarithms and ex) for small positive-integer exponents. However, Horner's Method would still require fewer operations.

Indeed, depending on how the power function is implemented in a particular language, I expect that Horner's method can be an advantage.

Some languages, for example, Saturn assembler for the RPL models, don't even provide a power function. In assembler, if I wanted to implement a power funtion, I'd either have to iterate multiplication, or else call an RPL routine. Offhand, if I chose to work with a polynomial in assembler, Horner's method offers a way to avoid using up the limited

number of processor registers.

My conclusion is that when working with polynomials, Horner's method is well worth considering.

Regards,
James

Re: RPL challenge & Horner's method

*Message #105 Posted by **Bill Wiese** on 6 Dec 2005, 3:08 p.m.,*
in response to message #104 by James M. Prange (Michigan)

6+ years ago I was writing DSP modelling software (on PC) for a custom voice compresion algorithm.

Multiple 5th-degree polynomials needed to be evaluated as part of an interleaved rootfinding algorithm to convert LPC coefficients to line spectra.

Horner's method really sped things up!

Bill Wiese
San Jose, CA USA

Re: Yes, I'm serious !

*Message #106 Posted by **Valentin Albillo** on 24 Nov 2005, 7:06 a.m.,*
in response to message #102 by James M. Prange (Michigan)

Hi, James:

James wrote:

"I really didn't want to get in a flame war over this. I perceived your posts as particularly hostile and responded in kind."

> Nah, no hostility at all, it's just that my attitude is easily interpreted as 'hostile', while the proper adjective would be 'intense' or perhaps 'passionate'. But don't get me wrong, frequent posters here do know that this is just a problem in understanding my attitude, not a problematic attitude on my part; in other words, I may bark but I mean no harm and usually don't resort to name calling, most specially with polite and educated posters like yourself.

"Other than the problem of possibly overwriting a

variable with the same name, I don't see any reason why whatever name I'm solving for couldn't be used."

> It has to do with nesting. Both FNROOT and INTEGRAL can be nested, i.e., an FNROOT can solve a function which itself calls FNROOT, and INTEGRAL can integrate a function which itself calls INTEGRAL, and further FNROOT can solve INTEGRALs and INTEGRAL can integrate FNROOTs.
>
> That being so, were you to use a normal variable, say "X", that "X" would have different meanings and would hold different values depending on the level of nesting where it was used. That cannot be accomodated with a single, normal user variable, which is a unique location in memory, while FVAR is actually a *keyword* which holds the value of your solved or integrated variable at any and *all* levels of nesting, transparently to the user.
>
> So, if you were to single-step your function while being solved or integrated by a nested call, you'd see that FVAR isn't the same value from one level of nesting to another, while the keyword (i.e.: formal variable in this case) is one and the same to you: FVAR.

"I gather that FVAR represents the X in your FNF(X)? Sort of like a reserved variable in RPL? "

> That's correct, FVAR is the X in FNF(X), the Y in FNF(Y), in other words, the formal variable. But internally it's not a variable but a keyword which holds a set of values, one for each level of nesting. I don't know if that corresponds to a reserved variable in RPL but seems unlikely.

"You're saying that solving and integrating are occurring at the same time?"

> Why, yes. In Karl's particular example, that's *not* the case, you're actually integrating a function which isn't being solved, the solving procedure is only performed twice to compute the limits of integration and it's completely over before the integration process proper starts.

But have a look at this example (already published at this Forum as part of a Test Suite for advanced HP models, search the archives for "Turtle and Hare"), where you're solving for a root of a function that itself is an integral of an implicit function (!), i.e.: you're Solving an Integral whose integrand requires Solve:

```
    Test 7: Solving a definite
integral of an implicit function


                                    /X
                                    |
      Find X in [0,1] such that     |
y(x).dx = 1/3,
                                    |
                                   /0
      where y(x) is the implicit
function defined by:


                y^5 + y = x


       using a precision of 1E-3 for
the integral. HP-71B code:


            FNROOT(0,1, INTEGRAL(0,
FVAR,1E-3, FNROOT(0,1, FVAR^5+FVAR-
IVAR))-1/3)


       gives 0.854136725005
(precision = 1E-3)
          or 0.854138746461
(precision = 1E-6)
```

As you may see, solving and integrating are absolutely intertwined in this example. You can also see that the first FVAR appearing in that expression corresponds to the variable being solved by the outer FNROOT, while the 2nd and 3rd FVAR correspond to the variable being solved by the inner FNROOT. You wouldn't be able to do that using a regular, user variable like 'X', say, because in this case both 'X' would have different meanings. Of cousrse, IVAR is the formal integration variable and you can see as well that it has to be different from FVAR because they refer to wholly unrelated values.

By the way, the above expression is a command-line expression, not a program, and uses no local/global variables at all, flags, modes, or whatever. So, it will work as-is, no need to change modes, be aware of the status of some flags, or keep care that you don't overwrite some variable.

"Isn't RPN (mostly) postfix too? How do the vast majority of people find that?"

> Repelent, of course. The difference is that while most people find RPN repelent except those few that do like it, RPL is found repelent almost universally, even among RPN fans.
>
> As for prefix-postfix, RPN is indeed postfix for all the parts that need to be postfix, namely mathematical operations. Utility operations such as changing flags, modes, or storing/recalling numbers which have no mathematical nature have no reason to be postfix and they aren't.
>
> To make them postfix as well is perverting the original intent of the elegant RPN's postfix notation, cluttering up the stack with all kinds of non-mathematical 'operands' and 'arguments' which are nothing but control parameters which don't belong in the stack to begin with. Doing that, in the name of 'consistency', only results in unnatural, unreadable code, unnecessary and constant growth and shrinking of the stack, and redundant stack manipulations, throwing out the window the innately elegant paradigm so well served by classic RPN.

"Good for you! I'm glad that you're so familiar with your calculator!"

> James, please ... there's no need to be 'so familiar' with my calculator to write down:
>
> ```
>     Print Integrate( FindLimit1, FindLimit2, Precision, Function )
> ```
>
> I can do it in my dreams, and you probably could, too !! Does it actually feel so difficult or unfathomable to you !?

"So are they "optimized several times"? Debugged and edited, yes, definitely, and I did look them over carefully before posting, but didn't see where I could improve them, so I wouldn't say "optimized" at all."

> As you wish. On the other hand, I simply wrote down my expression immediately, never gave it a second thought nor did I have to remember any syntax or whatever as it's so obvious. And of course, it ran first time, no complaints, quirks, special modes, or bugs.

"What kind of variables are your FVAR and IVAR? Do your FNROOT and INTEGRAL

functions use any other variables?"

> That's been fully answered above and no, no other 'variables' are used. As FVAR and IVAR aren't actually variables but keywords that stand for formal variables and transparently take care of the different values at different levels of nesting, the inescapable conclusion is that my version uses no variables, at all.

"True, I do force modes. And as first written, the programs restord the original modes. Again, so what?"

> James, please, be serious. If I point out some illogical and undesirable effect in your proceedings and you come and say "True, but so what ?" you'll merely reinforce my impression that this kind of exchanges are useless and a waste of time, at least for me.

"Now there's a point that I heartily agree with you on! Assuming any association between the current display mode and the desired accuracy is pure nonsense to me."

> That's better, now we're making progress. But then, I now understand your previous "True [...] so what ?" even less.

"Thank you for the history lesson; it does help me to understand how that came about."

> You're welcome.

*"A method of factoring polynomials such as a+b*x+c*x^2+d*x^3+e*x^4 to the form a+x*(b+x*(c+x*(d+x*e))). That does eliminate all exponentiation, but converted to an RPN sequence is:*

*a x b x c x d x e * + * + * + * +*

which couldn't even be used with a 4-register stack."

> You're right, your constant using of RPL has really spoiled you if you can come up with that particularly inefficient, multi-level scheme.

*"Okay, I re-arranged it to (((e*x+d)*x+c)*x+b)*x+a. That's a little better"*

> Wrong, it's much better, because now you can do it using the classic 4-level stack, no

matter how large the degree of the polynomial, and you're reducing significantly the chance of making a mistake. As you now know, the correct sequence is like this example:

```
    Evaluate a5*x^5 + a4*x^4 +
a3*x^3 + a2*x^2 + a1*x + a0


      x
    ENTER
    ENTER
    ENTER
     a5
     *
     a4
     +
     *
     a3
     +
     *
     a2
     +
     *
     a1
     +
     *
     a0
     +
```

where you always begin by ENTER, ENTER, ENTER, no matter the degree of the polynomial, and you can easily detect and correct errors, while never needing more than classic-RPN 4 levels. This procedure is extremely easy do to manually on a non-programmable RPN calc, and can be made into an extremely short program, even the HP-25 included it using 10 steps or less

Best regards from V.

Re: Yes, I'm serious !

*Message #107 Posted by **James M. Prange (Michigan)** on 5 Dec 2005, 5:17 p.m.,*
in response to message #106 by Valentin Albillo

Hi Valentin,

Quote:

"Other than the problem of possibly overwriting a variable with the same name, I don't see any reason why whatever name I'm solving for couldn't be used."

It has to do with nesting. Both FNROOT and INTEGRAL can be nested, i.e., an FNROOT can solve a function which itself calls FNROOT, and INTEGRAL can

> integrate a function which itself calls INTEGRAL, and further FNROOT can solve INTEGRALs and INTEGRAL can integrate FNROOTs.
>
> That being so, were you to use a normal variable, say "X", that "X" would have different meanings and would hold different values depending on the level of nesting where it was used. That cannot be accomodated with a single, normal user variable, which is a unique location in memory, while FVAR is actually a *keyword* which holds the value of your solved or integrated variable at any and *all* levels of nesting, transparently to the user.
>
> So, if you were to single-step your function while being solved or integrated by a nested call, you'd see that FVAR isn't the same value from one level of nesting to another, while the keyword (i.e.: formal variable in this case) is one and the same to you: FVAR.
>
> *"I gather that FVAR represents the X in your FNF(X)? Sort of like a reserved variable in RPL?"*
>
> That's correct, FVAR is the X in FNF(X), the Y in FNF(Y), in other words, the formal variable. But internally it's not a variable but a keyword which holds a set of values, one for each level of nesting. I don't know if that corresponds to a reserved variable in RPL but seems unlikely.

I had a look at FNROOT and INTEGRAL in the *Math Pak Owner's Manual*, and it looks to me as if FVAR and IVAR are more like RPL's variable of integration and variable for plotting. "Formal variable" does seem like a good name for them. The FVALUE and FGUESS stored by FNROOT, and IVALUE and IBOUND stored by INTEGRAL, are examples of what I'd call "reserved variables" in RPL.

Quote:

"You're saying that solving and integrating are occurring at the same time?"

Why, yes. In Karl's particular example, that's *not* the case, you're actually integrating a function which isn't being solved, the solving procedure is only performed twice to compute the limits of integration and it's completely over before the integration process proper starts.

But have a look at this example (already published at this Forum as part of a Test Suite for advanced HP models, search the archives for "Turtle and Hare"), where you're solving for a root of a function that itself is an integral of an implicit function (!), i.e.: you're Solving an Integral whose integrand requires Solve:

```
    Test 7: Solving a
definite integral of an
implicit function


/X

|
      Find X in [0,1] such
that  | y(x).dx = 1/3,

|

/0
      where y(x) is the
implicit function defined
by:
```

$$y^5 + y = x$$

```
       using a precision of
1E-3 for the integral. HP-
71B code:


           FNROOT(0,1,
INTEGRAL(O, FVAR,1E-3,
FNROOT(0,1, FVAR^5+FVAR-
IVAR))-1/3)


       gives 0.854136725005
(precision = 1E-3)
          or 0.854138746461
(precision = 1E-6)
```

As you may see, solving and integrating are absolutely intertwined in this example. You

> can also see that the first FVAR appearing in that expression corresponds to the variable being solved by the outer FNROOT, while the 2nd and 3rd FVAR correspond to the variable being solved by the inner FNROOT. You wouldn't be able to do that using a regular, user variable like 'X', say, because in this case both 'X' would have different meanings. Of cousrse, IVAR is the formal integration variable and you can see as well that it has to be different from FVAR because they refer to wholly unrelated values.

Actually, it took me a while to see what was going on in that example.

Anyway, in the first program following, I use only two distinct names, and the 48 and 49 series manage to keep track of what they mean. Of course this makes for truly obfuscated code, so normally I use distinct names for distinct variables. Not only does using distinct names make things clearer to me, but it avoids any possible problem with the calculator getting them mixed up.

```
%%HP: T(3)A(D)F(.);
@ Overwrites any 'X' or 'IERR' in
current directory!
@ Takes a number argument to set an
error tolerance;
@ for example, 3 specifies an error
tolerance of 10^-3.
@ Sets display mode to FIX while
running, but normally restores
@ original mode.
@ Results from the BYTES command:
@   48 series checksum: # B2BCh
@   49 series checksum: # B3E6h
@                 Size:     197
\<<
  RCLF SWAP FIX
  'X' PURGE
  \<<
    \-> x
    \<<
      'X^5.+X-x'
      'X'
      { 0. 1. }
      ROOT
    \>>
  \>>
  \-> x
  \<<
    \<<
      0. X
      'x(X)'
      'X'
      \.S
      1. 3. / -
    \>>
    'X'
    { 0. 1. }
```

```
    ROOT
  \>>
  SWAP STOF
\>>
```

With an error tolerance of 10^{-3}, this returns .854136725005, with 3.33478395859E-4 stored as IERR.

With an error tolerance of 10^{-6}, this returns .85413874646, with 3.33369684455E-7 stored as IERR.

In case anyone's interested, here are some approximate timings, in seconds:

```
Error tolerance 10^-3   Error tolerance
10^-6
     48SX: 267              48SX: 548
     48GX: 181              48GX: 376
     49G:  223              49G:  455
     49g+:  81.2            49g+: 166
```

Maybe this next example will look a bit clearer (but maybe not):

```
%%HP: T(3)A(D)F(.);
@ Overwrites any 'X', 'Z', or 'IERR'
in current directory!
@ Takes a number argument to set an
error tolerance;
@ for example, 3 specifies an error
tolerance of 10^-3.
@ Sets display mode to FIX while
running, but normally restores
@ original mode.
@ Results from the BYTES command:
@   48 series checksum: # 2FB6h
@   49 series checksum: # 2EECh
@                 Size:     197
\<<
  RCLF SWAP FIX
  \<<
    \-> a
    \<<
      'Z^5.+Z-a'
      'Z'
      { 0. 1. }
      ROOT
    \>>
  \>>
  \-> f
  \<<
    \<<
      0. X
      'f(Y)'
      'Y'
      \.S
      1. 3. / -
    \>>
    'X'
    { 0. 1. }
    ROOT
  \>>
  SWAP STOF
\>>
```

This returns the same as the previous program, except of course that the "inner" root 'Z' doesn't get overwritten by the "outer" root 'X'.

> Quote:
>
> By the way, the above expression

> is a command-line expression, not a program,

Okay, I wrote mine on the PC, originally as two separate programs, but I decided that I may as well just combine them into one.

Maybe you do this sort of thing frequently, but it strikes me as an unusual case. Ordinarily, I use the solver instead of the ROOT command to find roots and intersections. I don't use integration often, but I've always just typed the arguments into the command line and pressed the integrate key. For this case, it seems especially unfortunate that ROOT isn't a function, because the integrate function on the 48/49 series requires the integrand to be an algebraic.

> Quote:
>
> and uses no local/global variables at all, flags, modes, or whatever. So, it will work as-is, no need to change modes, be aware of the status of some flags, or keep care that you don't overwrite some variable.

I see very little problem with using local variables; they're local to the defining procedure and are abandoned when the procedure finishes. A local variable will definitely never overwrite any other variable. The only thing to be careful of with them is that while a local variable exists, there's no way to access anything else (including a previously bound local variable) with the same name. For example, if you're going to use e or i, or for that matter, SIN, in the procedure, then don't use it for a local name.

Hmm, on second thought, there is another possible problem with local names. Consider the sequence:

```
0 \-> x \<< 'x' \>> [ENTER]
```

That briefly stores 0 in the local variable x, puts the quoted local name 'x' on the stack, and abandons the variable. Any attempt to evaluate this 'x' while no local variable named 'x' is defined results in an "Undefined Local Name" error. Note however, that if I key in another 'x', then this new x is compiled as a global name, so evaluating the new 'x' doesn't

error out.

Although the variable of integration can be either a global or local name, I believe that the system changes it to a new local name to store values with, so any existing variable with the same name is ignored, and is not overwritten by the integration. I suppose that it could be called a "formal variable", rather like your FVAR and IVAR, except that I can use whatever name I choose.

Yes, sometimes global variables are used (and possibly overwritten), as with ROOT and the solver. I typically use one-letter names for these, and have never had any problem with confusing them with the names of variables that I really do want to keep long-term.

"Reserved variables" are global variables such as IERR that the system uses for its own purposes. There are quite a few of these, so there's some danger that the user could inadvertently choose a reserved name for his own variable, but I've never found it to be a problem. Rather like you wouldn't usually store anything with the names FVALUE, FGUESS, IVALUE, or IBOUND, knowing that the system would overwrite them the next time FNROOT and INTEGRAL were used.

Using global variables has a possible advantage that they're saved until overwritten or purged, and of course that there's a name to go with each value. For the solvers, there may be several variables, some with values set by the user, and some solved by the calculator. The solution is placed on the stack, tagged with its name, but having them all stored as global variables with their names displayed in the menu seems useful to me. In the case of the ROOT command, the result is stored in the variable as well as being pushed onto the stack; I suspect that they had the solver in mind when they designed ROOT. For the integrate function, IERR is a supplementary result; it very likely won't be used in subsequent calculations, so there wouldn't be much sense in pushing it onto the stack, but it may be worth checking.

Regarding modes, as long as you don't have any modes that could affect the result, or can safely assume that they're already in the state you need, fine. I'm in the habit of forcing (and restoring, of course) modes when I know they'll make a difference, and even sometimes

when I'm not absolutely sure but suspect that they will. Of course, when I'm not writing a program and I'm reasonably sure that a mode is already the way I need it, there's no need to force it.

> Quote:
>
> *"Isn't RPN (mostly) postfix too? How do the vast majority of people find that?"*
>
> Repelent, of course. The difference is that while most people find RPN repelent except those few that do like it, RPL is found repelent almost universally, even among RPN fans.

Or maybe the difference is that while most people find RPL repellent except for those few who do like it, "Classic RPN" is found repellent almost universally, even among RPL fans?

But I really don't know which of RPL or Classic RPN has more fans. I do expect that there are a lot of 12C users out there.

> Quote:
>
> As for prefix-postfix, RPN is indeed postfix for all the parts that need to be postfix, namely mathematical operations. Utility operations such as changing flags, modes, or storing/recalling numbers which have no mathematical nature have no reason to be postfix and they aren't.

I think that the idea is that any result should be available as an argument to subsequent operations. For a stack-based system, putting all results on the stack and using all postfix operations strikes me as the most elegant method to achieve this (as long as the stack can be deep enough).

> Quote:
>
> To make them postfix as well is perverting the original intent of the elegant RPN's postfix notation, cluttering up the stack

> with all kinds of non-mathematical 'operands' and 'arguments' which are nothing but control parameters which don't belong in the stack to begin with.

Note that RPL operations can take "symbolic" arguments and return "symbolic" results, which are just RPN sequences of a special type, very similar to SysRPL programs. The start and stop values of FOR loops, for example, often depend on previous calculations. In my program above, I expect the user to have the value for FIX in the command line or on the stack, where FIX in the program can find it, saving the user the slight trouble of switching to alpha mode and keying in FIX. Sure, we could store anything deemed non-mathematical in a named variable (for use with prefix operations) instead of putting it on the stack, but having to do it that way strikes me as a lot of extra bother.

> Quote:
>
> Doing that, in the name of 'consistency', only results in unnatural, unreadable code, unnecessary and constant growth and shrinking of the stack, and redundant stack manipulations, throwing out the window the innately elegant paradigm so well served by classic RPN.

Ah well, I expect that we'll never agree on this. To me, it seems more like it's for functionality, not just for consistency. Is keeping track of a growing and shrinking stack all that difficult? It's true, although to a much lesser extent, of Classic RPN too. What's so hard about using, for example, 3 FIX instead of FIX 3? I put 3 on the stack and it grows one level, but FIX takes the 3 off so it's right back where it was. The consistency helps too; I always know where any operation will take its argument from (though not always which order is needed for multi-argument operations that I seldom use). As long as the hardware to make a very deep stack is available, why not take advantage of it? With RPL, the user is free to choose to take results off of the stack for storage in named variables, leave the results on the stack for as long as they're needed, or whatever mixture of

these he's comfortable with.

> Quote:
>
> *"Good for you! I'm glad that you're so familiar with your calculator!"*
>
> James, please ... there's no need to be 'so familiar' with my calculator to write down:
>
> ```
>      Print Integrate(
> FindLimit1, FindLimit2,
> Precision, Function )
> ```
>
> I can do it in my dreams, and you probably could, too !! Does it actually feel so difficult or unfathomable to you !?

Well, I suppose that if I were familiar with the keywords and which order the arguments needed to be in, I'd catch on soon enough. It looks as if functions can't be used as postfix commands, and everything is either prefix or algebraic notation. Now that I've glanced at the owners manuals, I wouldn't mind having a 71B to play around with, although I'll stick with the 48 series for "real work". Besides, having a 71B available while I read the *HP-71B Hardware Internal Design Specification* might be handy. But I expect that a 71B would cost more than I could justify to myself.

But it always amazes me that so many seem to find RPL difficult. After playing with a display sample of the 28S in the store for a few minutes, I knew that it was a lot easier for me than switching between "CAL", "PRO", and "RUN" on my Sharp or using short algebraic "keystroke" programs on my little Radio Shack model. To me, RPL has seemed so very intuitive right from day one that it's hard for me to imagine how anyone could find it overly complicated.

But I can understand that if someone has a Classic RPN model that does everything he wants from a calculator and he's quite familiar with it, then getting an RPL model and getting used to the differences would probably be a mistake, except perhaps as a hobby.

Actually, I sometimes get irritated with some of the changes in the 49 series. To be sure, some of the new features are nice, and I can happily ignore a new command when I don't

have the foggiest notion of what it's good for, but when the 49 series return something that looks a lot more complicated to me than what the 48 series returns for the same commands, it makes me wonder what they were thinking of with this new CAS stuff.

> Quote:
>
> ```
>          a x b x c x d x e *
> + * + * + * +
> ```
>
> which couldn't even be used with a 4-register stack."[/italic]
>
> You're right, your constant using of RPL has really spoiled you if you can come up with that particularly inefficient, multi-level scheme.

Sure; with RPL, I can enter a polynomial as an algebraic. Why would I bother factoring it? Anyway, all I remembered of Horner's method was that it was factoring a polynomial to eliminate all powers; I didn't remember what use it had beyond that, until you pointed it out. Leaving it in ascending order, then factoring it and converting it from an algebraic expression to an RPN sequence was just an exploratory first step in my seeing what else Horner's method would be useful for on an RPN calculator.

Regards,
James

Re: Yes, I'm serious !

*Message #108 Posted by **Gene Wright** on 5 Dec 2005, 5:58 p.m.,*
in response to message #107 by James M. Prange (Michigan)

Hi James!

You wrote: "But it always amazes me that so many seem to find RPL difficult. ... To me, RPL has seemed so very intuitive right from day one that it's hard for me to imagine how anyone could find it overly complicated."

Gene: I agree. I have never found RPL particularly vexing, and I'm one of the few people here who cut their teeth on an algebraic model (the SR-51A, the SR-56 and the SR-52). I then spent nearly 10 years with the

HP41 getting used to 4-level RPN. RPL has an infinite stack? So what? The HP28S and 48SX weren't really a problem for me.

You wrote: "Actually, I sometimes get irritated with some of the changes in the 49 series. To be sure, some of the new features are nice, and I can happily ignore a new command when I don't have the foggiest notion of what it's good for..."

Gene: Hopefully, now that there is a real AUR out for the 49g+, you won't have to ignore any new commands, since they're documented. :-)

Re: Yes, I'm serious !

*Message #109 Posted by **James M. Prange (Michigan)** on 5 Dec 2005, 7:03 p.m.,*
in response to message #108 by Gene Wright

> Quote:
>
> Gene: Hopefully, now that there is a real AUR out for the 49g+, you won't have to ignore any new commands, since they're documented. :-)

Yes, they are documented, but I just don't have the mathematics background to understand, for example, the command CHINREM. To make all of the commands useful to me, the documentation would have to include several volumes on mathematics, which wouldn't be appropriate. For the foreseeable future, I'll ignore any commands relating to mathematics that I don't understand.

Regards,
James

Re: Try my RPL challenge?

*Message #110 Posted by **GE** on 21 Nov 2005, 6:45 a.m.,*
in response to message #95 by James M. Prange (Michigan)

Nice exercise in programming.
It is incredible that the 49G+, being praised as a "speed demon", is actually not so much faster than the 48GX ???
That's really disappointing.
On the debate RPN vs RPL, I must stress the fact that the 48/49 screens are too narrow for proper code reading, and the poor editor effectively obfuscate the code by (almost always) improper line breaks and indenting.
On the other hand, I wonder why no one ever issued a BASIC (the real thing), graphical machine (with grapher, scrollable

history or stack... I sure would love this combination.

Re: Try my RPL challenge?

*Message #111 Posted by **Valentin Albillo** on 21 Nov 2005, 7:08 a.m.,*
in response to message #110 by GE

Hi, GE:

GE posted:

"On the other hand, I wonder why no one ever issued a BASIC (the real thing), graphical machine (with grapher, scrollable history or stack... I sure would love this combination. "

> The HP-71B itself can be connected to HP-IL displays or even plotters by using the proper interfaces to accomplish most any graphic needs.
>
> As for built-in graphics display, there are many SHARP BASIC-language handhelds that do have large graphical screens, recall of past command lines, and some even admit small but capable 4-colour pen plotters, to produce your graphics on paper.
>
> Typical BASIC commands supported for graphics and graphic text output:
>
> ```
> CIRCLE, COLOR, CROTATE, CSIZE, CURSOR,
> GCURSOR, GLCURSOR,
> GPRINT, GRAPH, LF, LINE, LLINE, LPRINT,
> LTEXT, PAINT, POINT,
> PSET, PRESET, PRINT, RLINE, TEXT
> ```
>
> most of them are multi-function commands, i.e.: CIRCLE can draw a whole circle or a sector, circles proper or ellipses, just the outline or filled-in, solid lines or dots, dashes, etc, black or some given color, etc., depending on the particular models.

Best regards from V.

Edited: 21 Nov 2005, 7:23 a.m.

Re: Try my RPL challenge?

*Message #112 Posted by **James M. Prange (Michigan)** on 21 Nov 2005, 7:46 p.m.,*
in response to message #110 by GE

> Quote:
>
> It is incredible that the 49G+, being praised as a "speed demon", is actually not so much faster than the 48GX ???
> That's really disappointing.

Perhaps those who praised the 49g+ as a "speed demon" were comparing it to the 49G?

Other than that, just how fast any model is depends on what it's doing.

> Quote:
>
> On the debate RPN vs RPL, I must stress the fact that the 48/49 screens are too narrow for proper code reading,

Well, it's a calculator; how wide would you expect the screen to be? How much of the code can you see at one time on any calculator?

But it might've been nice to use a "landscape" layout instead of a "portrait" layout,

On the 49 series, you can use the VIEW operation to see the code displayed in a mini-font, so more can be seen at one time, although I don't find it easier to read that way.

> Quote:
>
> and the poor editor effectively obfuscate the code by (almost always) improper line breaks and indenting.

Well, the line breaks may look improper to you or me, but any separator is logically equivalent to any other separator or series of separators to the compiler, and the decompiler simply inserts a Line Feed code instead of a space character wherever it needs to wordwrap a line or start an indented line for a structure word or UserRPL program delimiter.

Maybe it would be more readable to you or me if each "word" were on its own line, but that would mean a lot of vertical scrolling for editing, and we'd see less of the code at one time. I suppose that the decompiler's formatting style for the editor was a compromise between using much of the display area and indenting to indicate structure,

Regards,
James

Re: Try my RPL challenge?

*Message #113 Posted by **Massimo Gnerucci (Italy)** on 22 Nov 2005, 7:01 p.m.,*
in response to message #95 by James M. Prange (Michigan)

> Quote:
>
> Some approximate timings, in seconds:
>
> ```
> Model   6 FIX mode   STD mode
> ```

```
48SX    12.72        20.54
48GX     8.84        13.20
49G     15.98        26.45
49g+     6.80        11.52
```

Some interesting things about the timings:

- As should be expected because its processor speed is higher, the 48GX is faster than the 48SX.
- The 49G is even slower than the 48SX. Maybe this is because of the CAS? Well, that's progress.
- The 49g+ is fastest, but not by as much as might be expected; remember that the Saturn processor is emulated (simulated?) in firmware.

I always find it unfair when people simply transfers a program from a 48 to a 49 without modifications.
Do you use numbers? Then make'em REALs.
Just add a fraction mark, dot or comma (as is my case), after each and every number in your program.

My timings, for your first program, on a 49G are:

```
Unmodified: 26,41 sec  (STD)
REAL-ized:  15,50 sec  (STD)
REAL-ized:  10,48 sec  (6 FIX)
```

I am no big fan of RPL but let's use each calc as it is meant to be used.
Still no winner vs a 48GX, maybe I'll make some benchmarks on my hardware if I'll find some spare time.

Greetings,
Massimo

Re: Try my RPL challenge?

*Message #114 Posted by **James M. Prange (Michigan)** on 23 Nov 2005, 1:05 p.m.,*
in response to message #113 by Massimo Gnerucci (Italy)

Thanks Massimo,

Good catch. I don't know why I wrote it using exacts; I really do know better.

Quote:

Quote:

Some approximate timings, in seconds:

```
Model   6 FIX mode   STD mode
```

```
48SX    12.72        20.54
48GX     8.84        13.20
49G     15.98        26.45
49g+     6.80        11.52
```

Some interesting things about the timings:

As should be expected because its processor speed is higher, the 48GX is faster than the 48SX.

The 49G is even slower than the 48SX. Maybe this is because of the CAS? Well, that's progress.

The 49g+ is fastest, but not by as much as might be expected; remember that the Saturn processor is emulated (simulated?) in firmware.

I always find it unfair when people simply transfers a program from a 48 to a 49 without modifications.

Actually, the programs were transfered from a PC.

Quote:

Do you use numbers? Then make'em REALs. Just add a fraction mark, dot or comma (as is my case), after each and every number in your program.

Easier than editing every exact in the program to a real is: Put the calculator in approximate mode, RCL the program to the stack "edit" the program by pressing the down arrow, press ENTER, STO the changed program.

Quote:

My timings, for your first program, on a 49G are:

```
Unmodified: 26,41 sec  (STD)
REAL-ized:  15,50 sec  (STD)
REAL-ized:  10,48 sec  (6 FIX)
```

I am no big fan of RPL but let's use each calc as it is meant to be used. Still no winner vs a 48GX, maybe I'll make some benchmarks on my hardware if I'll find some spare time.

My new timings:

```
Model   6 FIX mode   STD mode
```

```
49G     10.22         15.02
49g+    4.70          7.33
```

Regards,
James

Re: Try my RPL challenge?

*Message #115 Posted by **Massimo Gnerucci (Italy)** on 23 Nov 2005, 1:22 p.m.,*
in response to message #114 by James M. Prange (Michigan)

Hello James,

> Quote:
>
> Easier than editing every exact in the program to a real is: Put the calculator in approximate mode, RCL the program to the stack "edit" the program by pressing the down arrow, press ENTER, STO the changed program.

You're right, of course. :-)
The fact is that I began editing the program by changing the integration limits and verified an improvement; what I didn't expect was increasing speed as I went on changing parameters in stack manipulation commands.

Greetings,
Massimo

My RPL and 32/33 solutions to programming challenge

*Message #116 Posted by **Karl Schneider** on 24 Nov 2005, 4:48 p.m.,*
in response to message #84 by Karl Schneider

All --

Based on the solution provided by Howard Owen, and using some enhancements from the other RPL solutions submitted, this would be my "favored" RPL solution for my RPL challenge:

```
'SIN(X)' 'F' STO
'(x-1.5)^2-1' 'G' STO


<< RAD F G - -> d
  << d 'X' { 0 1 } ROOT
'll' STO
d 'X' { 2 3 } ROOT
'ul' STO
ll ul d 'X' {integ} ->NUM
'I' STO
ll ul I
  >>
>>


'CHAL'  STO
execution:
```

```
5 FIX
CHAL  [ENTER]


(10 seconds elapse)


0.34372   (lower limit, also in variable "ll")
2.69618   (upper limit, also in variable "ul")
3.11057   (the area between the curves, also in variable
"I")
```

Here is the solution I developed for the HP-32SII, which should run just fine on the HP-32S and HP-33S. It closely parallels the structure of the solution for the HP-15C and HP-34C.

```
L01  LBL L         F01  LBL F
L02  RAD           F02  RCL X
L03  0             F03  SIN
L04  STO X         F04  RCL X
L05  1             F05  1.5
L06  FN= F         F06  -
L07  SOLVE X       F07  x^2
L08  STO L         F08  1
L09  2             F09  -
L10  STO X         F10  -
L11  3             F11  RTN
L12  SOLVE X
L13  STO U
L14  RCL L
L15  RCL U
L16  {S}FN d X
L17  STO I
L18  RTN


Execution:


FIX 5
XEQ L


(10 seconds elapse)


3.11057    (the area between the curves, also in
register I)
Rdown
0.00001    (estimated solution error, rounded; use SHOW
or ALL)
Rdown
2.69618    (upper limit, also in register U)
Rdown
0.34372    (lower limit, also in register L)
```

Both of these solutions are functionally-equivalent, in that they provide two values guess that bound each SOLVE or ROOT, in order to guarantee the correct solutions. They also store each result into variables or storage registers, and display the results on the stack, as well.

Thanks to all. In keeping with Valentin's recent post regarding nested execution of INTEG and SOLVE, I might release another simple challenge on that topic.

-- KS

Edited: 24 Nov 2005, 4:52 p.m.

Re: RPN postfix for non-math operations

*Message #117 Posted by **Abbas Bhagat** on 23 Nov 2005, 2:21 a.m.,*

in response to message #80 by James M. Prange (Michigan)

Quote:

Karl,

You've really lost me in that paragraph. What I take away from all of this is:

- You don't like to see postfix non-mathematical operations because it seems counterintuitive to you.
- I've given myself a good review of just why postfix operations are so important to making a stack-based language easy to use.
- You find RPL program structures hard to read.
- In general, you don't like RPL.

Actually, that last point I figured out a long time ago.

Regards,
James

Your point being...? [RPN vs. RPL]

*Message #118 Posted by **Karl Schneider** on 24 Nov 2005, 2:16 a.m.,*
in response to message #117 by Abbas Bhagat

Did you have something to add to that, Abbas?

-- KS

Edited: 24 Nov 2005, 2:17 a.m.

Re: RPN postfix for non-math operations

*Message #119 Posted by **bill platt** on 23 Nov 2005, 10:29 a.m.,*
in response to message #80 by James M. Prange (Michigan)

Hi James,

An important distinction between RPL machines and RPN comes out from this discussion.

RPN allows *only* one datatype on the stack: "real".

RPL has multiple datatypes.

RPL is an operating system and a language--one might in fact even talk about RPL language and RPL operating system differently?

RPN is not a language. It is a parser, or something more low-level.

The language aspect, combined with multiple datatypes and the need for parameter passing with a stack system, leads very logically to the total postfix logic that is RPN.

Ultimately the discussion, viz between Valentin and others regarding

"readablility" is rather unimportant. The fact is that anyone can trip over the syntax of *any* language, if he does not know it.

The value in this dicsussion lies not in finding the "flaw" but rather in illuminating the "paradigms" (what an abused word:) . --From this illumination can come understanding--and the ability to learn the RPL language if one (me for instance, or Karl etc) is an RPN keystroke guy.

Regards,

Bill

Re: RPN postfix for non-math operations

*Message #120 Posted by **Valentin Albillo** on 23 Nov 2005, 11:04 a.m.,*
in response to message #119 by bill platt

Hi, Bill:

Bill posted:

*"RPN allows *only* one datatype on the stack: "real"."*

> Bill, pleeeease ! ... The 41C's RPN does admit ALPHA strings on the stack, HP-15C's RPN does admit complex numbers and matrices on the stack, HP42S's RPN does admit complex numbers, matrices, and ALPHA strings on the stack, ... Besides, it has nothing to do with RPN itself *per se* but with the particular data types implemented in a particular model, man !

"RPN is not a language. It is a parser, or something more low-level."

> If you say so ... but I must confess I know accepted programming languages that are lower level than RPN. My guess is that you won't consider anything a proper language unless it includes structured programming and such. That would exclude programming languages in widespread use before the concept of structured programming made its appearance. Reiventing history, we could say ...

"The language aspect, combined with multiple datatypes and the need for parameter passing with a stack system, leads very logically to the total postfix logic that is RPN."

> Great statement ! I fully agree !! Oh, but wait ... you meant "RPL" instead, right ? :-)

*"Ultimately the discussion, viz between Valentin and others regarding "readablility" is rather unimportant. The fact is that anyone can trip over the syntax of *any* language, if he does not know it."*

> And !? ...

"The value in this dicsussion lies not in finding the "flaw" but rather

in illuminating the "paradigms" (what an abused word:) . --From this illumination can come understanding--and the ability to learn the RPL language if one (me for instance, or Karl etc) is an RPN keystroke guy."

Give the man a cigar ! :-)

Best regards from V.

Re: RPN postfix for non-math operations

*Message #121 Posted by **Geir Isene** on 23 Nov 2005, 11:53 a.m.,*
in response to message #120 by Valentin Albillo

Quote:

"RPN is not a language. It is a parser, or something more low-level."

If you say so ... but I must confess I know accepted programming languages that are lower level than RPN. My guess is that you won't consider anything a proper language unless it includes structured programming and such. That would exclude programming languages in widespread use before the concept of structured programming made its appearance. Reiventing history, we could say ...

And that would indeed exclude Assemblers, Fortran, various Basics and a host of others. If we don't call those languages, what term should we invent when we want to speak of them as a group?

Re: HP Calc. Promo

*Message #122 Posted by **bill platt** on 23 Nov 2005, 12:21 p.m.,*
in response to message #121 by Geir Isene

Well, glad I got your attention :-)

I guess what I am getting at is that the *RPN* aspect is merely describing the parsing order. The "language" of an hp 67 or 97 or 32sii etc is not the *RPN" part of it. In fact the "programming language" is a steadily evolving set--but it is not the RPN that makes the language. RPN is the operating paradigm under which the language operates.

For example, RPN can essentially be boiled down to the following:

```
Put stuff on the stack
operate on the last one or two things on the stack
put the result back on the stack
```

The "programming language" functions within this paradigm, but includes all sorts of other stuff--control stuff--"verbs" if you will such as DSE, PSE, XEQ, GTO, GSB, RTN, and

uses some of the "direct calculations" verbs as well such as SWAP, ROT, etc.

Notice that the programming "language" of the 20s is not fundamentally different from the 11c except for the RPN aspect and more branching structures--they are both "keystroke" systems that act directly on a "stack" or a "calculator line" and that commands are run from a special logical space called a "program".

RPL is a different situation. What it retained is the stack. What is different is that commands or "verbs" *themselves* can be parsed onto the stack to be executed later. That is the real change in thinking.

Edited: 23 Nov 2005, 12:29 p.m.

Re: HP Calc. Promo

*Message #123 Posted by **Geir Isene** on 23 Nov 2005, 2:55 p.m.,*
in response to message #122 by bill platt

> Quote:
>
> RPL is a different situation. What it retained is the stack. What is different is that commands or "verbs" *themselves* can be parsed onto the stack to be executed later. That is the real change in thinking.

= Good *old* Forth :)

Re: RPN postfix for non-math operations

*Message #124 Posted by **bill platt** on 23 Nov 2005, 12:27 p.m.,*
in response to message #120 by Valentin Albillo

> Quote:
>
> Bill, pleeeease ! ... The 41C's RPN does admit ALPHA strings on the stack, HP-15C's RPN does admit complex numbers and matrices on the stack, HP42S's RPN does admit complex numbers, matrices, and ALPHA strings on the stack, ... Besides, it has nothing to do with RPN itself per se but with the particular data types implemented in a particular model, man !

Well, I forgot about the alpha (I don't use the 41 very often) but as far as numbers go on the 15c---even though you have "logical" complex numbers, they are in fact "real" *on the stack* when you enter them. They are processed as complex because of the complex mode. Perhaps this is splitting hairs, but it seems quite different to me than the RPL case where putting parens around numbers and putting them on the stack declares to the

parser that they are complex, whereas in the 15c, you have to first tell the parser that you are now in complex mode, then do something, then tell it you are now out of complex mode. In the RPL model, it isn't a "mode change" but a different data type. The matrix business again--each entry is a "real" and it is only by 1st telling the parser that the "reals" you are typing are to be parsed into a matrix, that it ends up that way.

Edited: 23 Nov 2005, 12:28 p.m.

Re: RPN postfix for non-math operations

*Message #125 Posted by **Valentin Albillo** on 23 Nov 2005, 12:53 p.m.,*
in response to message #124 by bill platt

Hi again, Bill:

Bill posted:

*"[...] as far as numbers go on the 15c---even though you have "logical" complex numbers, they are in fact "real" *on the stack* when you enter them."*

> Am I supposed to take this 'explanation' of yours seriously !? C'mon !!

"The matrix business again--each entry is a "real" and it is only by 1st telling the parser that the "reals" you are typing are to be parsed into a matrix, that it ends up that way."

> Bill, I can see you mean well, but seems to me you either have no idea what you're talking about, or else are not very knowledgeable about just how the HP-15C works.

Just to refresh your mind, if you want to add matrix A to matrix B and then subtract matrix C, with the final result stored in A (i.e.: A = A + B - C), you do this in the HP-15C's RPN flavor:

```
RESULT A
RCL MATRIX A
RCL MATRIX B
     +
RCL MATRIX C
     -
```

Does this seem RPN enough to you ? With matrices on the stack, being manipulated as if they were simple numbers, though each one is operated upon as a whole ?

That you can do because, in HP-15C's RPN, the stack registers can hold and operate with whole matrices, including all stack manipulations, ENTER, X<>Y, Roll down & up, STO, RCL, LASTX, the works.

That you can do because each stack register holds a *matrix descriptor*, which is nothing but a *pointer* to where the matrix elements are actually stored, which is no different

from the *pointers* to various objects held by RPL stack registers.

Think about it a little and then re-read your statements and judge if they make sense.

Best regards from V.

Re: RPN postfix for non-math operations

*Message #126 Posted by **bill platt** on 23 Nov 2005, 2:58 p.m.,*
in response to message #125 by Valentin Albillo

[sheepishly...] You're right, Valentin.

[sorry excuse for an explanation...] I was thinking of the "input" side of the matrix operations--essentially loading the stack, one element at a time. I conveniently forgot to think the operating part through.

Actually this 15c matrix functionality really is a huge departure from all the previous keystroke programmables in that sense, it seems to me. Really is a pinnacle in terms of development...but you can see how the input side, and the "reading or viewing the elements" of an array side is so dramatically different from an RPL machine, where you can see the whole matrix at once (well, as long as it ins't really large....)...you can see how the movement to RPL seemed an attractive idea.

Re: RPN postfix for non-math operations

*Message #127 Posted by **Karl Schneider** on 24 Nov 2005, 2:03 a.m.,*
in response to message #126 by bill platt

Hello, Bill --

You posted,

> Quote:
>
> ...the "reading or viewing the elements" of an array side is so dramatically different *(on an HP-15C)* from an RPL machine, where you can see the whole matrix at once (well, as long as it ins't really large....)...you can see how the movement to RPL seemed an attractive idea.

Well, the matrix-editing capabilities on the HP-15C had to be *possible* on its one-line 7-segment LCD, and I think HP did a thorough and thoughtful job.

On models with a free-form dot-matrix display, I

prefer the HP-42S matrix-editing and display to that of RPL-based 28/48/49. On the 42S, one sees only one element at a time, but generally with at least five significant digits for each component if it is complex-valued. One can scroll up or down, left or right, using cursor softkeys.

The 28/48/49 try to display as much as possible, but it's a real mess if the matrix elements are floating-point or complex (as they often are in real-world applications). It helps somewhat to use the matrix editor on the 48 and 49, which eliminates the brackets.

On the other stuff, Valentin expressed my own thoughts, and there's no need to re-hash. You *can* take some consolation in that, strictly speaking, you are correct that the HP-15C does not put complex-valued elements on the dedicated stack. Instead, it borrows five registers from the free pool of user RAM to create a "four level plus LASTx" stack for the imaginary-valued components of complex arguments.

-- KS

Edited: 24 Nov 2005, 2:14 a.m.

Re: RPN complicated? Well, not really, BUT... (was: programming: RPN vs. RPL vs. hi-level language)

*Message #128 Posted by **Thomas Okken** on 14 Nov 2005, 2:52 p.m.,*
in response to message #71 by James M. Prange (Michigan)

If you're going to compare RPL and RPN programming, it would be fairer to look at the more evolved RPN models. The 16C and 12C were never top programmables; they were just specialized calculators with some limited programmability slapped on.

The HP-41C, and its successor, the HP-42S, have alphanumeric displays so you don't need to decipher key codes; they have label addressing and subroutines, insert/delete of program lines, and ISG/DSE loop counters without the limitations of the silly ISZ/DSZ. They do have four-level stacks, though.

Those two machines are what most RPN enthusiasts are thinking about when comparing RPN to RPL. (Well, I am, anyway. :-))

- Thomas

Re: programming: RPN vs. RPL vs. hi-level language

*Message #129 Posted by **Ed Look** on 23 Nov 2005, 10:33 a.m.,*
in response to message #69 by Karl Schneider

A year or two ago, I was able to write simple programs in RPL on my 48G's to find the average, median, maximum, and minimum of a set of numbers. They work. I'm not a professional programmer, only an occasional one (only 'cuz I gotta), so I cannot attest to their elegance, not even in a wild drunken boast.

But the one I tried for finding the mode still doesn't work and haven't had the time to troubleshoot it.

I wrote one to index a x-ray powder pattern and it does work, but I fear it's a bit clunky and may even be a little bloated.

Incidentally, if anyone wants, I could post that diffraction program to the museum, not because it's such a work of art (a good programmer or even another scientist might laugh), but there aren't too many programs on HP calculators for basic scientific work aside from the usual college freshman chemistry stuff.

Re: programming: RPN vs. RPL vs. hi-level language

*Message #130 Posted by **Arnaud Amiel** on 23 Nov 2005, 2:03 p.m.,*
in response to message #129 by Ed Look

Indexing diffraction patterns was my first evolved sysRPL program! Once it was fully working with graphics and all, I demonstrated it to my classmates and during the IR upload something went terribly wrong and I lost everything. Since then I bought a RAM card (which regularly failed anyway :-() and always backup

Now I am interested in statistics as well and am writing a random numbers generator for different distributions...

But this is on hold due to Valentin new challenge

Arnaud

Re: programming: RPN vs. RPL vs. hi-level language

*Message #131 Posted by **Ed Look** on 23 Nov 2005, 2:38 p.m.,*
in response to message #130 by Arnaud Amiel

Graphics??!!!

Wow!

All mine does is to give the ratios of sums of the Miller indices and you'd still have to use your head to determine the actual Miller indices from these reduced sums! (I mean what's complex for me is simple to most others!)

I did think about some way of doing that using the 48G and 49G+ RPL, but I chickened because it looked like it would take too long. Well, maybe this holiday weekend...

... maybe!

And I'm very sorry to hear that after all that hard work, you lost it. Maybe the first upload should be to a PC, so that you can keep a copy for just that reason... if it doesn't screw up during THAT transmission.

I have one 48G and one 48G+; when I put something I need (a program, some data, etc.) on one, I try to remember (but not always) to beam it to the other, just for safekeeping.

Edited: 23 Nov 2005, 11:06 p.m.

Re: RPL *is* complicated. Here are three threads...

*Message #132 Posted by **James M. Prange (Michigan)** on 11 Nov 2005, 9:20 p.m.,*
in response to message #65 by Karl Schneider

I've read those threads, but for me, RPL is indeed "intuitive and practical", and easier to use than RPN.

Regards,
James

Re: RPL *is* complicated. Here are three threads...

*Message #133 Posted by **Howard Owen** on 11 Nov 2005, 10:26 p.m.,*
in response to message #132 by James M. Prange (Michigan)

I like Bill's theory that one's attitude toward RPL and RPN are conditioned mainly by which style one was exposed to first. If there is such a thing as an objective truth about these two, perhaps defined as the opinion of someone who has no opinion, it may be something like "they are *both* ugly and hard."

But I find I can break through surface ugliness to get at a tool, as long as I'm sufficiently motivated. And frequently I find hidden beauty when I do that. When I learned RPN, the motive was to figure out what this "programming" thing was all about. The fact that the 41C was the first machine I ever programmed had a big impact on my later career as a student and as a professional. Today, I'm motivated to learn RPL because it's cool. That has a slightly less urgent edge to it than the motive that drove me to learn the 41C. But I'm getting to the point where I'm having some success in writing code that doesn't strike me as pure gobbledygook when I look at it later. That's a lot of fun. In fact, that sort of thing is 80% of the fun of collecting computing devices, for me.

I still think that RPL is oddball, and that the 48 is very complicated. But I don't seriously hold that against either. 8)

Re: RPL more complicated?

*Message #134 Posted by **James M. Prange (Michigan)** on 10 Nov 2005, 3:38 a.m.,*
in response to message #58 by Howard Owen

Oh, I don't want to start any war. It's just that I keep seeing RPL referred to as "complicated" compared to "Classic RPN", and I just can't see it that way.

To me, it's the "Classic RPN" programming that seems more complicated; sort of like having to write an assembly language program for something that could be accomplished very simply in UserRPL.

Of course, the RPL models are capable of things that the 16C and 12C just aren't capable of, so using them adds complexity, but I mean just the basic things that the more basic models are capable of.

I learned UserRPL first, and it all seemed pretty straight-forward and logical to me. A few different object types, arguments and operators using RPN syntax, a few stack manipulation commands, global and local variables, a few programs structures, name resolution, and realizing that any command line can be the contents of a program (and is made into one by ENTER) and that the contents of any program can be executed from the command line editor. Of course, you don't have to use all of the capabilities of RPL; a lot can be accomplished with a relatively simple program.

I'm beginning to feel that SysRPL is, in some ways, even easier, because the "magic" going on internally isn't quite so hidden behind the "smoke and mirrors" of UserRPL. Of course, with SysRPL, the command set is much larger and there are even more ways to accomplish the same thing, and it doesn't automatically check the arguments to protect the user from his own mistakes. The main advantages of

SysRPL are that the programs are, as a general rule, smaller and much faster. Still, for fast development of "ad hoc" programs, UserRPL has the advantage that it's difficult to get a TTRM with it.

Of course, I suppose that it could be argued that assembly language gives me the penultimate "peek behind the curtain". There are relatively few instructions available, but remembering which operations are possible with which registers is a challenge, and it generally requires what seems like a lot of instructions to accomplish something that seems pretty basic. Note that the emulated (simulated?) Saturn processor on the 49g+ includes a lot of instructions "missing" from the physical Saturn of earlier models, although I haven't experimented with the new ones yet. The advantage of assembly language is that these programs can be amazingly fast.

Now with the 16C and 12C, trying to write any non-trivial program just seems too complicated. Why go to all that trouble when it's so simple to write a UserRPL program?

Regards
James

Edited: 10 Nov 2005, 6:11 a.m.

Re: RPL more complicated?

*Message #135 Posted by **Arnaud Amiel** on 10 Nov 2005, 6:24 a.m.,*
in response to message #134 by James M. Prange (Michigan)

> Quote:
>
> UserRPL has the advantage that it's difficult to get a TTRM with it.

I have been looking for a UserRPL program (excluding SYSEVAL and LIBEVAL and Dev Library commands) that would TTRM. Any example?

Arnaud

Re: RPL more complicated?

*Message #136 Posted by **James M. Prange (Michigan)** on 10 Nov 2005, 8:33 a.m.,*
in response to message #135 by Arnaud Amiel

> Quote:
>
> I have been looking for a UserRPL program (excluding SYSEVAL and LIBEVAL and Dev Library commands) that would TTRM. Any example?

Or in the 49 series, FLASHEVAL.

Of course, this includes calling any program that uses the above commands improperly, or calling buggy SysRPL or assembly language programs or external library commands.

In some cases, the problem may not be immediately apparent, but may corrupt memory so that later perfectly normal operations will end up with a TTRM.

Of course, the [ON]+[A]+[F] operation is supposed to cause a TTRM.

Other than those, any UserRPL operation that causes a TTRM is caused by a bug in the operating system; it's just not supposed to happen. A buggy UserRPL program may well return "unexpected" results or error out, but it should never cause a warmstart or TTRM.

That said, if I recall correctly, it's not that hard to write a "circular reference" program that requires a warmstart to break out of.

Using the filer to rename a global variable to an invalid name (as can also be done with S~N) can cause some problems, but I rather doubt anything that would cause a TTRM.

For some examples, see this search. Some of these may well have been fixed in later ROM revisions.

Overall, it seems to be pretty rare to stumble across an operating system bug that causes a warmstart or TTRM in normal "pure UserRPL" operations, but I wouldn't entirely rule it out.

Regards,
James

Re: RPL more complicated? A POLL

*Message #137 Posted by **bill platt** on 10 Nov 2005, 9:36 a.m.,*
in response to message #134 by James M. Prange (Michigan)

Hi James,

Point 1: please compare the 15c or 32sii etc to the 48 series. The 12c is a crippled programming environment.

Point 2: as I rather suspected, if someone (and you are an example) is exposed to RPL before RPN keystroke programming, then RPL is "easier".

Perhaps we aught to take a real poll, and ask the questions:

1. Which is easier to use, RPN or RPL programming? 2. Which do you learn first?

Re: RPL more complicated? A POLL

*Message #138 Posted by **James M. Prange (Michigan)** on 11 Nov 2005, 9:12 p.m.,*
in response to message #137 by bill platt

> Quote:
>
> Point 1: please compare the 15c or 32sii etc to the 48 series.

I'd like to, but I don't happen to have one of those, and I'm not likely to get one. I'd love to have a "pocket-sized" RPN calculator, but considering the current prices, I'll "make do" with the RPL models, and struggle with a cheap "Brand X" model on those occasions when I feel a need to carry a calculator in my pocket.

> Quote:
>
> The 12c is a crippled programming environment.

It seems that way to me. How about the 16C? Maybe I should look into what advantages the 15C and 32sII might have.

> Quote:
>
> Point 2: as I rather suspected, if someone (and you are an example) is exposed to RPL before RPN keystroke programming, then RPL is "easier".

I expect that that's very much the usual case. With RPL so easy to use, I personally don't have much incentive to try getting familiar with programming a "True RPN" model.

That's not to say that I have anything particular against "True RPN" models. I can program them, but it just seems like too much bother.

For someone who's already comfortable with programming an RPN model and finds that it suffices for his purposes, there's probably not much incentive to learn to work with RPL.

> Quote:
>
> Perhaps we aught to take a real poll, and ask the questions:
>
> 1. Which is easier to use, RPN or RPL programming? 2. Which do you learn first?

I expect that in this forum, the usual would be "1: RPN, 2: RPN" with a few "1: RPL, 2:RPL", with just a very few "1: RPN, 2: RPL" and "1: RPL, 2: RPN".

Of course, if asked in comp.sys.hp48, first off, it would require some explanation of what was meant by "RPN" as distinguished from "RPL", and there you'd find relatively few who either peferred RPN or had learnt it first (if at all).

Regards,
James

Re: RPL more complicated? A POLL

*Message #139 Posted by **Howard Owen** on 11 Nov 2005, 10:44 p.m.,*
in response to message #138 by James M. Prange (Michigan)

> Quote:
>
> Quote: The 12c is a crippled programming environment.
>
> It seems that way to me. How about the 16C? Maybe I should look into what advantages the 15C and 32sII might have.

They all three have more programming power than the 12C. As noted previously in this thread, the 16C leaves out a lot of the standard scientific fuctions, replacing them with bit fiddling operations.

The 33S is very similar to the 32SII, and it goes for 50 bucks or so. You want to be sure to get a recent one, as noted in this thread, and elsewhere in the archives. But if you have time and inclination to play, I'd get the Free42 simulator. The consensus here is that the 42S represented the pinnacle of the pure RPN programmable calculator. Free42 will only cost you the time required to set it up. And at least you won't be turned off by arbitrary and silly limits like those the 33S and 32SII suffer under. The other models mentioned also lack alphanumeric capability to a greater or lesser degree, whereas the 42S is fully alphanumeric.

> Quote:
>
> I expect that in this forum, the usual would be "1: RPN, 2: RPN" with a few "1: RPL, 2:RPL", with just a very few "1: RPN, 2: RPL" and "1: RPL, 2: RPN".

> Of course, if asked in comp.sys.hp48, first off, it would require some explanation of what was meant by "RPN" as distinguished from "RPL", and there you'd find relatively few who either peferred RPN or had learnt it first (if at all).
>
> Regards,
> James

Yes, by cracky, us old uns is gettin' scarce in these latter, decadent days! Why, when I was a youth, I'd walk three miles through snow just to get enough "N" cells to keep my 41C working with the card reader! Nowadays these youngsters have standard batteries. Bah! Them triple-A's is a dime a dozen!

8) 8)

Re: RPL more complicated?

*Message #140 Posted by **James M. Prange (Michigan)** on 12 Nov 2005, 4:09 a.m.,*
in response to message #139 by Howard Owen

The 16C does indeed lack such vital (to me) cababilites as trig and statistical functions, so although it's great for what it's designed for, it doesn't suit my usual needs at all. The 48/49 series doesn't have all of the "binary" capabilites of the 16C built-in, but I'm confident that I could write programs for them if I felt the need; it does seem a bit of a shame that they aren't all built-in.

I've been thinking of the 33S, but it still doesn't look as if it would fit very comfortably in my shirt pocket, and doesn't seem as if I could do anywhere near with it what I can do with the 48SX, so what would be the advantage over the 48 series? $50 is still $50, and I don't want to waste it on something that I have no use for. Now they've come out with the improved version, but since it still has the same model name, it would seem to be a bit difficult to know which version one is buying online. It's not as if I could walk into a store and look at the calculator or its serial number. Of course, that keyboard is about as ugly as I can imagine, although I could live with that if there were a good reason for my owning one.

Maybe I'll look into Free42, but still, what advantage would that have over the 48 series? On the other hand, at least it's free, and might be fun to play around with.

Regarding the N cells, I still need them for the 28 series. To be sure, I don't use the 28S very much since the 48SX came out, but the 28S is still a very useful calculator, with some advantages over the 48/49 series. The thing that really put me off on the 28S was that the first time I got a "low battery" annunciator, I promptly bought a new set, installed them, and pressed ON, only to have the 28S turn back off immediately. It turned out that the "new" N cells were almost completely dead, and the memory had been cleared. Of course, with no way to input anything other than with the keyboard, my only backups were printouts. Since then, I just don't trust the 28 series for storing any object that I really don't want to key in all over again.

By the way, I expect that the "three miles through snow" was "uphill both ways"?

With the 49 series, they might better have used AA instead of AAA cells. The 49g+ in particular goes through them faster than I'd like.

Regards,
James

Re: RPL more complicated? A POLL

*Message #141 Posted by **Ed Look** on 11 Nov 2005, 11:15 p.m.,*
in response to message #137 by bill platt

You know, I learned FORTRAN (my only REAL programming language outside of calculators; never had the gumption to fully learn anything else) before I ever got a RPN machine and of course, I used HP's RPN beauties for a long time before RPL was ever introduced and finally obtained a RPL unit myself.

I find the order of ease to be RPN > FORTRAN > RPL.

But what I didn't say was that due to my own circumstances, I've had more experience programming a scientific programmable (34C, 32SII, 33S) than FORTRAN on any sized machine, and this more than RPL (48G, 48G+, 49G+)

But I think from the experience of the three for me that RPN is MORE INTUITIVE, as essentially, you are helped by the language being laid out right there for you, right on the keyboard you are pressing on! It did not take me long to figure out programming in RPN on a programmable scientific (though that wonderful old HP-34C manual helped greatly) ; RPL I'm still trying to master and FORTRAN... well, I rub the bumps on my head every time I pass by that guy...

... this stupid comment being said now, I would like to state that I wish schools, from the high school level on, would offer as an alternative (at the start, and make it a fixed part of the curriculum years later) programming a 33S (or better, a 34C if they can manage to get any, so there goes THAT idea...) as a "starter language" or "pre-programming" (in the same spirit as "pre-calculus", which is how they seem to be packaging some essential algebra and trigonometry for the kids in many U.S. schools these days).

This is because I think programming in the program space of a RPN machine is *SO* easy to pick up for a teenager starting out. It is easier, really than something even little grade school kids (who are still struggling with the multiplication table) can do- use HTML and create a knockout webpage better than some pros.

RPN is better than HTML because you are not concentrating on cosmetics, but calculations and true math, from basic to (acidic... okay, bad joke...) incredibly advanced (see some of the programs archived here on this very site).

Even though I still do it for my 33S and less now, my 32SII, I still dream wispy-eyed about programming and using my 34C.

Norm Hill, I think, once said to me on this forum that the best thing for an adolescent math student was a HP 33E (no continuous memory means no stored data and thus no... um, less cheating on tests). This is because this rather powerful (and even at the time) affordable calculator had all the basic mathematical functions that anyone in high school to even some scientific research might ever need and is programmable with enough memory for short, useful programs, but not for games or other such waylaying stuff for schoolkids.

* * *

The take home message of this long winded post? RPN is easier. ;)

Re: RPL more complicated? A POLL

*Message #142 Posted by **Wayne Brown** on 12 Nov 2005, 11:21 a.m.,*
in response to message #137 by bill platt

> Quote:

> Perhaps we aught to take a real poll, and ask the questions:
>
> 1. Which is easier to use, RPN or RPL programming? 2. Which do you learn first?

I think RPN is easier to use, and I learned RPN first. But perhaps I should add that I learned Fortran, BASIC, 6502 assembly, C, Pascal, Forth, COBOL, Natural and Unix shell programming before either RPN or RPL. I still like RPN better even though I think RPL is more like the other languages with which I've worked.

(I also should mention that I needed -- and achieved -- only a minimal amount of proficiency in all but a few of the afore-mentioned languages.)

Re: RPL more complicated?

*Message #143 Posted by **Karl Schneider** on 10 Nov 2005, 11:20 p.m.,*
in response to message #134 by James M. Prange (Michigan)

James posted,

> Quote:
>
> To me, it's the "Classic RPN" programming that seems more complicated; sort of like having to write an assembly language program for something that could be accomplished very simply in UserRPL... I learned UserRPL first, and it all seemed pretty straight-forward and logical to me.
>
> ...
>
> Now with the 16C and 12C, trying to write any non-trivial program just seems too complicated. Why go to all that trouble when it's so simple to write a UserRPL program?

Yes, and there are those to whom a Rubik's Cube is simple and straightforward, and who can solve it for any initial state in only a few minutes. That's probably not like most people, though...

I agree with Bill Platt: Please use the 15C, 32S/SII, 41S, or 42S as a good example of the RPN programming paradigm. The 12C's programming is primitive; the 16C has a limited set of mathematical operations.

I'll quote several examples from the three earlier threads I linked in a post earlier in this thread. First, my RPL programming challenge, which was to develop a complete program to determine the area between two function curves

```
f(x) = sin(x)  (x in radians)
g(x) = (x-1.5)^2 - 1
```

using SOLVE to find the limits of integration where f(x) = g(x), and then INTEG to compute the area between those limits.

My RPN program for the 15C and 34C:

```
x_lower = 0.343717
x_upper = 2.696175
Area = 3.110575


LBL "A"         LBL "B"         (execution)
0               SIN             RAD
ENTER           X<>Y            FIX 5
1               1               GSB "A"
```

```
SOLVE "B"       .
STO 0           5
2               -
ENTER           X^2
3               1
SOLVE "B"       -
STO 1           -
RCL 0           RTN
X<>Y
INTEG "B"
STO 2
RTN
```

The approach is quite direct:

1. Program the driver routine under label "A" and program the routine to calculate f(x)-g(x) under label "B".
2. SOLVE for x at the first crossing of f(x) and g(x) between 0 and 1 on the stack; store the result in register 0.
3. SOLVE for x at the second crossing of f(x) and g(x) between 2 and 3 on the stack; store the result in register 1.
4. INTEGrate f(x)-g(x) over the two solved limits placed on the stack; store to register 2.

Here are the RPL programs the respondents provided:

```
(store 'SIN(X)' in 'F'; store 'SQ(X-1.5)-1' in 'G')
<< RAD F G - DUP 'X' 0 ROOT OVER 'X' 3 ROOT ROT 'X' (INTEG) >>


(with 'SIN(X)-SQ(X-1.5)-1' on the stack)
<< 'X' DUP2 0 ROOT 3 PICK 3 PICK 3 ROOT 4 ROLL 4 ROLL (INTEG) >NUM >>
```

Good grief! How would the typical, logical engineering/scientific person read and interpret the respective procedures of those programs? They certainly don't make much sense to me.

How about this program statement:

```
"IF (A .LT. B)  A = A + 360.0"             (Fortran '77)
"<< IF A B < THEN A 360 + 'A' STO END >>"  (RPL)
```

To read substantial material regarding RPL, RPN, and BASIC discussed last year at length by Valentin Albillo and Vincent Weber, just follow the link to the "RPN vs. RPL" thread I provided. David Ramsey also had some good, clear insights in the "leisure suit" thread.

-- KS

Edited: 10 Nov 2005, 11:31 p.m.

Re: RPL more complicated?

*Message #144 Posted by **Howard Owen** on 11 Nov 2005, 1:44 a.m.,*
in response to message #143 by Karl Schneider

I've just put my finger on what I think is the principal problem I have with RPL. I'm continuing to explore the graphics on the 48G, and I just wrote a program to REPL a list of GROBs into a larger GROB so I can make sure I have the dimensions right and so forth. Here's my very rough, not completely correct work in progress:

```
<< # 131d # 64d BLANK @ Create a GROB the size of the display
   'DICE' RCL          @ Get the list of 6 dice images
   1                   @ Starting index into the list
   WHILE DUP 6 <=      @ 6 dice images
   REPEAT
    DUP 1 -
    20 * R->B # 30d    @ Point in large GROB to REPL the small GROB
    2 ->LIST
    3 ROLLD GETI       @ Pick the current die out o the list
    3 ROLLD 5 ROLLD
```

```
    5 ROLLD           @ Set up the stack for the REPL
    REPL
    3 ROLLD           @ Set up the stack for the while loop
   END
>>
```

Now, I could probably be more efficient and logical in my use of the stack. *But why the heck should I have to worry about it?* But here's a second version that's a little more general, and uses named local variables to clarify what is going on:

```
<< # 131d # 64d BLANK @ Create a GROB the size of the display
   'DICE' RCL         @ Get the list of dice images
   DUP SIZE -> big dice top @ names!
   << 1 1 top         @ The first 1 is a dummy for our return val
     FOR idx DROP     @ Index named. DROP the dummy (but not the last time)
      idx 1 -
      20 * R->B # 30d   @ Point in large GROB to REPL the small GROB
      2 ->LIST -> loc   @ name our location.
      <<
        big loc
        dice idx GET
        REPL          @ MUCH better
      >> DUP 'big' STO @ use the same big GROB each time!
                       @ Also, the DUPd value will stay on the stack
                       @ the last time only
     NEXT
  >>
>>
```

This one is actually completely correct, too.

Why do I have to worry about the stack so much, even in this version? I think it's because Prof. Wickes and colleagues were just coming out of an era in which memory constraints were quite painful in handheld devices. I base this of an analysis of why FORTH's stack oriented quality was perceived as a benefit to many in the 80's, and particularly in the 70's. *Stacks are efficient* Stack oriented systems can be designed so that limits on stack size aren't arbitrary. That is, you can get pretty close to the ideal maximum of memory usage with stacks. Microcomputers in the 1980s had one or two letter variable names, and a limited number of these. The hassle of keeping track of deep stacks of variables was part of the price you paid to get to use all the memory as efficiently as possible.

But memory no longer needs to be the limiting factor in what are now called "embedded systems." One of my Zaurii has 64MB of SDRAM, and 128MB of flash built in. I can run a version of Linux on that machine that isn't stripped down. The performance is pretty close to a PII/300 or so. The battery life is suprisingly good for all that.

My point is that there is no necessary virtue in using stacks to the extent they are used on the HP48G[X+]. The HP48SX had only 32K to start, which was a lot for the day. But I'm sure that System RPL allowed for a much more capable machine within the RAM constraints. And I'll bet stack usage was a big part of the story. But the 48GX shipped with 128K standard, and expandibility up to 4MB. Suddenly we were looking over the crest of a hill into the era of abundant RAM. And just as suddenly, the need for a stack oriented machine became less pressing.

And what's the tradeoff? Stack diagrams on paper while you are developing a solution. And these tend to disappear ater the initial development, so you get to come back later and figure it out all over again.

Edited: 11 Nov 2005, 4:16 p.m.

Re: RPL more complicated?

*Message #145 Posted by **James M. Prange (Michigan)** on 11 Nov 2005, 11:54 p.m.,*
in response to message #144 by Howard Owen

I don't see where you're worrying about the stack much in your second version. You use DUP

twice and DROP once, the only stack manipulation commands that I see in the program. Surely anyone who programs in RPN should find those simple enough?

Yes, RPL's unlimited (well, limited only by available memory) variable depth stack does require some complications over a fixed stack size. Such commands as ROLL, ROLLD, PICK, and UNPICK, require an argument for which stack level is to be used, and for DUPN and DROPN how many levels, and there's a need for such commands as DEPTH and CLEAR. In particular, when the stack gets "too deep", it gets hard to keep track of just where things are. Of course, "too deep" varies with the individual user, and for a given user, such matters as how tired he is and what distractions he's dealing with. To make it easier to deal with a deep stack, the stack can be managed by making objects on the stack into a list, or even easier in many cases, by temporarily storing stack objects into named local variables.

Note that dealing with lists in temporary memory (never stored as a global variable, that is) has a disadvantage in that it's difficult to deal with for "garbage collection" (really, "memory packing" describes it better). Any element "extracted" from a list is referenced by a pointer into the still existing (even if it's no longer on the stack) list until the element is either stored into a global variable or a NEWOB is done on it. Now, the size of the list is unknown, so the garbage collection routine has to examine every object in the list to find the end of it, needed for deciding how much of temporary memory needs to be kept (and usually, moved) or can be overwritten. In the case of a large list that's been "exploded" unto the stack, for example, garbage collection can take a very long time.

I expect that there will be objections that it's a hassle to create a new local environment every time you want to store another object into a local variable. But you can "initialize" all of the local variables that you're going to use with a dummy value right at the beginning of a program. For example, by storing the object 0 into each of them, and then using STO to replace the dummy object with the desired object as it becomes available. If you discover that you want another local variable, it's easy enough to edit the program to add another dummy object and name at the beginning. If you decide that you don't need a local variable after all, you can edit out the dummy object and name, or you can just leave them there; they'll do no harm other than using up a little memory.

So why have a stack in the first place? Well, first off, how would you implement an RPN system without one? As long as you already have a stack, why not have the stack manipulation commands available to the user, in case he chooses to use them?

I doubt that using the stack is all that much more memory efficient than using local variables. Either way, the object exists in memory in only one place. Using the stack, it's referenced by a pointer on the stack (having objects "on the stack" is a bit of an illusion by the "smoke and mirrors" of RPL to make things easy for the user). Using a local variable, it's referenced by a name in the local environment.

It seems to me that the advantage (or disadvantage) of keeping objects on the stack and using the stack manipulation commands is mostly a matter of speed. If you have plenty of time to develop a faster program using just the stack, you can do that, but if you need to develop something quickly, or want it to be easy to debug or modify, you can use local variables, with a bit of an execution speed penalty. With both local variables and stack manipulation commands available, it's up to the individual user to choose which method, or, perhaps more likely, mixture of methods, to use. Where would you rather spend extra time, in developing the program, or in running the program? For a fairly complicated program, if you're going to run the program, say, only a few hundred times, it's probably going to be difficult to accumulate enough saved execution time to make up for the extra development time. If you're going to be using the program frequently for the foreseeable future, or intend to distribute it, or are just refining your skills, then it may be worthwhile to spend extra time on development.

Actually, I suspect that having so many ways to accomplish things may be a large part of the

reason so many seem to find RPL overly "complicated". It's difficult to teach how to use RPL because there's no one "right way" to accomplish much of anything in RPL.

Regards,
James

Re: RPL more complicated?

*Message #146 Posted by **Howard Owen** on 12 Nov 2005, 2:28 a.m.,*
in response to message #145 by James M. Prange (Michigan)

Interesting comments, James. Thanks.

> Quote:
>
> I don't see where you're worrying about the stack much in your second version. You use DUP twice and DROP once, the only stack manipulation commands that I see in the program. Surely anyone who programs in RPN should find those simple enough?

Yes, as I've remarked elsewhere, I'm beginning to find ways to code RPL that scan better for me. The names are the key, of course.

There's one other stack oriented oddity in that second example. The "1" placed on the stack before the range of the FOR statement, only to be immediately DROPped off. As the comment states, that's a place holder for the return value of the inner function.

> Quote:
>
> Yes, RPL's unlimited (well, limited only by available memory) variable depth stack does require some complications over a fixed stack size. Such commands as ROLL, ROLLD, PICK, and UNPICK, require an argument for which stack level is to be used, and for DUPN and DROPN how many levels, and there's a need for such commands as DEPTH and CLEAR. In particular, when the stack gets "too deep", it gets hard to keep track of just where things are. Of course, "too deep" varies with the individual user, and for a given user, such matters as how tired he is and what distractions he's dealing with. To make it easier to deal with a deep stack, the stack can be managed by making objects on the stack into a list, or even easier in many cases, by temporarily storing stack objects into named local variables.

I prefer the latter. My contention is that large gobs of anonymous data floating on a stack is broken My first attempt shows why I think this is so, not that I hold that up as a prime example of that approach to using an unlimited stack. It's not just an issue of how many things you can juggle in your head via a stack metaphor, either. Source code has a way of creeping away from its author. If someone else ever needs to read that sort of code, the first thing they'll do, once they stop crying, is to start graphing out the anonymous data, assigning temporary names so they can track the stack manipulations on paper. The third thing they'll do is start poking pins in a voodoo doll with your name on it. 8)

> Quote:
>
> Note that dealing with lists in temporary memory (never stored as a global variable, that is) has a disadvantage in that it's difficult to deal with for "garbage collection" (really, "memory packing" describes it better). Any element "extracted" from a list is referenced by a pointer into the still existing

> (even if it's no longer on the stack) list until the element is either stored into a global variable or a NEWOB is done on it. Now, the size of the list is unknown, so the garbage collection routine has to examine every object in the list to find the end of it, needed for deciding how much of temporary memory needs to be kept (and usually, moved) or can be overwritten. In the case of a large list that's been "exploded" unto the stack, for example, garbage collection can take a very long time.

That's interesting. So there's a reference to the element in the list which is the only one, so it doesn't get cleared until the object it references either gains another reference or is explicitly destroyed. That means that the list also hangs around, meaning a reference is kept somewhere to its storage. And GC has to walk the list to see how many and how large the objects it contains are. Because .. why? Because that information isn't kept anywhere else? Must be it.

So anonymous data on the stack is hard for machines and humans both? 8)

> Quote:
>
> I expect that there will be objections that it's a hassle to create a new local environment every time you want to store another object into a local variable.

Not from me. I find not having the name to be more of a hassle.

> Quote:
>
> So why have a stack in the first place? Well, first off, how would you implement an RPN system without one? As long as you already have a stack, why not have the stack manipulation commands available to the user, in case he chooses to use them?

Anonymous stack data: just say "no!" 8)

C'mon, the unlimited stack isn't just provided, it's a central feature of the machine's architecture.

> Quote:
>
> I doubt that using the stack is all that much more memory efficient than using local variables. Either way, the object exists in memory in only one place. Using the stack, it's referenced by a pointer on the stack (having objects "on the stack" is a bit of an illusion by the "smoke and mirrors" of RPL to make things easy for the user). Using a local variable, it's referenced by a name in the local environment.

The names themselves take up space, even if you are hashing them. An 8 character variable name is nothing on a machine with 128K, or even 32K. But User RPL debuted on the HP-28C, with, what was it, 2K?

But, point taken. The major difference between stack oriented and variable oriented processing on the 48G must be the time it takes to create those local variables.

> Quote:
>
> Actually, I suspect that having so many ways to accomplish things may be a

> large part of the reason so many seem to find RPL overly "complicated". It's difficult to teach how to use RPL because there's no one "right way" to accomplish much of anything in RPL.

I think so too. But there is also the counter-example I offered elsewhere of Perl. Perl can be quite a mess because of the variety of ways in which you can do practically everything in the language. But, as I also stated, Perl offers idioms that match the way I think. I find no such easy idiom in RPL. RPL, like RPN, is *weird* to the rest of the world. I mean, it's an infix world out there, by and large. RPL is even weirder since it carries the postfix notion and stack orientation beyond where the RPN models left off.

To give some idea of what I view as "normal" coding, here's how I would code the GROB example in Perl:

But first, a word about curly braces. ({}). See those nice braces? I can't get them into the [pre] section below. Not only that, but when I type them here, they echo as "|" and "]" in the editor. But they render just fine in the HTML. Have I offended the HP Calculator gods by calling RPN "weird?" Will my calculator collection get up in the middle of the night to give me a good talking to? Let's hope not! 8)

```
open IN, "blank.grob" or die $!; # No native GROBs, of course.
my @grob_data=(<IN>);            # slurp all the data in the file into
(named) memory
for (my $i=1;$i<7;$i++){         # Very "C" like iterator
   open IN, "die$i" or die $!    # no need to close in Perl
   push @dice_images, [(<IN>)]   # semi-anonymous data, Perl style
   # The brackets [] create an anonymous array reference whose
   # content is the lines of the file currently open under the IN
   # file handle. This array ref gets pushed into the @dice_images
   # array, which is a LIFO stack. But in this case there's a name
   # associated with the stack. So the third die image is
   # $dice_images[2] (0 based arrays) and so forth.
}
for (my $i=1;$i<=@dice_images;$i++){ # an array in scalar context returns
its length
  my $x=20*($i-1)+1;
  replace_grob(
               grob_data    => \@grob_data,
               replace_loc  => [$x,30],
               repl_grob    => $dice_images[$i]
  );
}
open OUT ">out.grob" or die $!
print OUT @grob_data;
close OUT;  # This flushes buffers on output, but so does ending the
program.
```

Re: RPL more complicated?

*Message #147 Posted by **Vassilis Prevelakis** on 13 Nov 2005, 7:21 a.m.,*
in response to message #146 by Howard Owen

Before starting let me say that how you do things is a matter of taste, and programming style. No-one can presume to tell you how to do things.

> Quote:
>
> The names themselves take up space, even if you are hashing them.

If you hash the names then you are left with the hash, how are you going to display the name? Also, how will you know you have the correct variable if two names produce the same hash.

Hashing is used to speed up searches not to save memory.

> Quote:
>
> Anonymous stack data: just say "no!" 8)

You are confusing variables with objects. In programming languages you can use variables for temporary values, and they will go away once you exit their scope. In RPL these variables are objects that exist in non-volatile memory until you delete them. This is where the garbage collection issue comes in. Its not the computer that will have to do the GC, its the user.

If the program creates variables and then makes sure they are destroyed, then the programmer is burdened with the GC.

If you use the stack, then the computer does the GC without having you to worry about it. Even if you leave garbage on the stack (bad practice, anyway), the user may have to clear the stack, but he will not have to wonder whether to delete that object or not, anything on the stack is assumed to be temporary.

So, as I said aerlier, its a matter of taste, and programming style. Use whatever style *you* like and feel comfortable with.

**vp

Re: RPL more complicated?

*Message #148 Posted by **James M. Prange (Michigan)** on 15 Nov 2005, 12:43 p.m., in response to message #146 by Howard Owen*

> Quote:
>
> There's one other stack oriented oddity in that second example. The "1" placed on the stack before the range of the FOR statement, only to be immediately DROPped off. As the comment states, that's a place holder for the return value of the inner function.

Yes, I do find that rather "odd". My suggestion is to remove that 1, the DROP, and the DUP right after your "inner" program, and insert a "big" (but unquoted) right after your NEXT. Not only does that simplify things and make your program smaller, but there's a speed and run-time memory usage advantage to keeping operations outside of any loop where feasible, so they don't have to be executed in every iteration of the loop.

The "unlimited" stack can indeed be difficult to deal with. Of course, dealing with any program code gets worse if you want to debug or modify code that you wrote quite a while ago, and worse yet if trying to understand someone else's source code. Using local variables can help a lot, as can careful commenting of the source code. Retaining any comments and the source code formatting requires that the source code is within a character string or a file on another device, such as your PC.

On the other hand, even in "True RPN", one has to be careful of where things are on the stack, although with only four stack registers and the LAST X register available, it's arguably less of a chore. But being careful not to try to use more than the available stack can be a bit of a chore too. If storage registers are used, the burden is shifted to keeping track of which storage registers are used, somewhat like keeping track of variables.

The original RPL is what we now call "SysRPL", intended to ease the development of new "operating system" code as calculators became more complicated. Using assembler to develop new ROM code was thought to be too complicated, and apparently none of the existing "higher-level" languages was considered quite right for the calculators, so the new language was developed. UserRPL makes a useful subset of SysRPL available to the ordinary user, with the built-in compilers checking syntax and run-time argument checking of UserRPL operations to protect the user from his own mistakes, as well as checking for a press of the ATTN (or now, CANCEL) key and such details as occasionally checking the battery condition. Perhaps some of the perceived "problems" with UserRPL stem from it being an adaptation of a language not intended for the "ordinary user".

A problem now is that the original developers are no longer available, and HP "rested on its laurels" for a long time, with no development of new calculators or training of new developers. Of course now even most of the developers of the 49G are no longer available "in-house", and the in-house "development team" is very small indeed, with most development (such as the "emulated Saturn processor" and hardware design) presumably out-sourced. I suspect that the developers of the 49G sometimes didn't quite understand the 48GX as a whole, and worked on the areas that they were most interested in, without enough of a look at how changes affected the system as a whole, or due consideration of what "ordinary users" would find most useful. In particular, sometimes the "CAS" causes the 49 series to return results that look far more complicated to me than what the 48 series returns, although they may perhaps make more sense to a "pure mathematician", so may be better for educational mathematics. Sometimes the CAS rather cavalierly uses variables in a "higher-level" directory that it has no business tinkering with, and of course, the CAS routinely fails to restore any modes that it's changed. And now we have such niceties as "styles" (bold, italic, underlined, or inverse) and user-definable fonts, which, while interesting and arguably even useful, may seem a bit out of place on a "calculator". Is it intended to be a calculator with rudimentary character string processing capabilities, or is it supposed to be also a "word processor"? It seems to me that the distinction between "calculator" and "computer" has shifted again. That said, I don't have to use styles or user-defined fonts, but I do pretty well have to put up with the wonderful CAS if I choose to use a 49 series as a "calculator".

But I confess, I actually do use my own custom font, to make ASCII control codes 0-9 and 11-27 distinguishable instead of the same little black square, and make such characters as 0, 7, Z, and z more to my liking. But I consider the user-defined fonts to be a frill, rather than essential to a calculator.

> Quote:
>
> That's interesting. So there's a reference to the element in the list which is the only one, so it doesn't get cleared until the object it references either gains another reference or is explicitly destroyed. That means that the list also hangs around, meaning a reference is kept somewhere to its storage. And GC has to walk the list to see how many and how large the objects it contains are. Because .. why? Because that information isn't kept anywhere else? Must be it.

It's complicated, at least to me. Mercifully, a good deal of the "magic" of RPL (even SysRPL) is hidden from the user by "smoke and mirrors" (well, perhaps "multiple layers of indirection" would be more technically correct). Most of the time, the details of exactly how memory is managed are important only to assembly language programmers, and perhaps not all that much to them. With the "internal" languages, it's mostly a matter of knowing under what circumstances a GC may occur, and being

careful that a GC isn't going to conflict with the execution of the code. But sometimes, knowing a bit about what really goes on "behind the scenes" can be interesting, and even useful, to even "ordinary" UserRPL programmers.

Although I'm fairly experienced in UserRPL, I'm not qualified to explain the details what goes on what goes on "behind the curtains", particularly where it gets into assembler.

I'm tempted to explain more of what I do understand, but it would be very complicated, very lengthy, and mostly irrelevant in this forum. If you really want to know more about the "internals" of RPL, I suggest looking in the "usual places" such as http://www.hpcalc.org/, http://m.webring.com/hub?ring=hp48, searching the newsgroup archive at http://groups.google.com/group/comp.sys.hp48?, and the information available in the MoHPC CD set/DVD. If you still have a question, ask on the newsgroup.

> Quote:
>
> So anonymous data on the stack is hard for machines and humans both? 8)

I don't understand what you mean by "anonymous" in this context.

Nothing simply appears on the stack without a reason, and every object contains the information to identify which type of object it is.

Anyway, for composites and GC, the problem isn't so much what's on the stack as it is skipping through composites in TEMPOB, although what pointers are on the stack certainly determines whether GC has to do this, and how many times it has to be done.

Notably, don't keep anything that you no longer need on the stack. Among other considerations, a GC has to look at every pointer on the stack.

> Quote:
>
> C'mon, the unlimited stack isn't just provided, it's a central feature of the machine's architecture.

Okay, the operating system does use the stack a lot, but that's mostly hidden from the user. For the user, it may well be convenient to use a few more than the four levels available on a "True RPN" calculator. In some cases, a large meta-object may be used on the stack (and usually, combined into a new composite or array after it's been operated on), but I doubt that many users keep even a dozen objects on the stack as a general rule. A 4-level stack for the user may suffice in many cases, but that's up to the individual user with RPL.

> Quote:
>
> The names themselves take up space, even if you are hashing them.

Huh? Names aren't hashed. And yes, of course they take up space.

> Quote:
>
> An 8 character variable name is nothing on a machine with 128K, or even 32K.

Well, let me see now, an 8-character name takes up 11.5 bytes unquoted, or 16.5 bytes quoted. But for local variables, I usually just use 1-character names, which each use 4.5 bytes unquoted, or 9.5 bytes quoted. After all, it's not likely that I'll be using all that many local variables in a program, so that's enough to tell me what it's for. I do know a SysRPL programmer who would be very happy to find a way to shave 14 nibbles off of his programs, but for me, saving keystrokes is the main reason, although saving bytes helps.

Of course, the code for setting up each local environment uses 7.5 bytes too.

And the local environment must use up some memory too, while it exists, but I don't know how much.

Each stack pointer to an object uses 2.5 bytes. While it exists in TEMPOB, an object takes up an extra 3 bytes beyond its own size. Each stack manipulation command uses 2.5 bytes.

I expect that, at least in most cases, using local variables will indeed use more memory than keeping objects on the stack, but as you note, the extra memory requirements may be considered negligible in all RPL models except the 28C.

> Quote:
>
> But User RPL debuted on the HP-28C, with, what was it, 2K?

Perhaps 2KB, but only about 1700 bytes are actually available to the user, and that's with last command lines, arguments, and stack saves diabled.

I think we can agree that the 28C is rather crippled by it low memory capacity. I guess that releasing it with so little memory could be considered a "marketing experiment".

> Quote:
>
> But, point taken. The major difference between stack oriented and variable oriented processing on the 48G must be the time it takes to create those local variables.

And the time for retrieving or replacing the contents of local variables (these entail a "search by name"), and abandoning the local environment at the end.

And of course, "ease of use" and individual preferences.

But don't assume that stack oriented programs will necessarily be faster. Any operation does take some time. For example, ROLL or ROLLD, particularly with a high stack level and iterated in a loop, take an appreciable time, and accessing a local variable is reasonably fast, as is accessing a global variable at the beginning of the current directory.

Since any local variable requires a "defining procedure" (a program or algebraic, or FOR or START loops with their index local variable) it would be unusual to use one outside of a program, although one can do so from the command line, which is in fact compiled to a secondary (the SysRPL version of a program) by ENTER.

Each style of programming has its advantages and disadvantages. It may well be that the choice of "variable-oriented" or "stack-oriented" programming, or which mixture of styles, is mostly simply a matter of individual preference.

Regards,
James

Re: RPL more complicated?

*Message #149 Posted by **Howard Owen** on 15 Nov 2005, 1:59 p.m.,*
in response to message #148 by James M. Prange (Michigan)

James,

Thanks again for a thoughtful response.

> Quote:
>
> My suggestion is to remove that 1, the DROP, and the DUP right after your "inner" program, and insert a "big" (but unquoted) right after your NEXT.

Thanks. I'll do that in the current version, which retains the kludge.

> Quote:
>
> *Quote: So anonymous data on the stack is hard for machines and humans both? 8)*
>
> I don't understand what you mean by "anonymous" in this context.

I mean "unnamed," which I believe is the dictionary definition of "anonymous." Data on the stack has no name, but is addressed by the user by its position on the stack.

> Quote:
>
> Each style of programming has its advantages and disadvantages. It may well be that the choice of "variable-oriented" or "stack-oriented" programming, or which mixture of styles, is mostly simply a matter of individual preference.

If you like, hop on over to this thread, where we are discussing what a fusion of RPN and RPL might look like. We could use the perspective of an RPL fan.

Regards,
Howard

Re: RPL more complicated? No, Simpler Than TI-Basic

*Message #150 Posted by **I, Claudius** on 10 Nov 2005, 6:33 a.m.,*
in response to message #58 by Howard Owen

RPL is simpler than TI-Basic. I progam my 49 a lot, also have a TI89. Programs that have the same function are almost always shorter and faster in RPL on the 49 than the 89, neglecting processor speed differences.

TI definitely won the calculator war, but not on programming merits. I've never seen any math/science/engineering professor teaching calculator programming, by the way. Bright kids who are inclined to program will do so on their own, learning from a variety of sources.

The reasons TI dominates the market are: their machines are good quality, easy to use right out of the box, and TI did a great job of selling to educators.

RPL/TIBasic

*Message #151 Posted by **bill platt** on 10 Nov 2005, 9:32 a.m.,*
in response to message #150 by I, Claudius

Or in other words, 99 44/100 % of graphing calculator buyers have no intention of programming anything--the programmability is not in their minds *at all* wit hregards to purchasing.

Re: RPL/TIBasic

*Message #152 Posted by **I, Claudius** on 11 Nov 2005, 8:22 a.m.,*
in response to message #151 by bill platt

I think you're right here. It's another reason why TI calcs are so popular: they're so easy to use and do most everything right out of the box.

TI's are fairly easily programmed in TI-basic, though, and thousands of programs have been written for them from kids to pros. Check out the immensive archive at www.ticalc.org Sad part is half of them seem to be games.

Re: RPL more complicated? Do you want to start a flame war???

*Message #153 Posted by **Vassilis Prevelakis** on 11 Nov 2005, 1:04 a.m.,*
in response to message #47 by James M. Prange (Michigan)

Is Linux better than *BSD?

Is Windows superior to Linux?

Is RPL better than RPN?

Come on, stop wasting everybody's time with silly questions like these.

Don't like it don't use. That's my rule.

So anything *anybody* says in this forum is not going to change this.

=> the discussion is pointless

**vp

pointless, or not

*Message #154 Posted by **bill platt** on 11 Nov 2005, 9:05 a.m.,*
in response to message #153 by Vassilis Prevelakis

Hi Vassilis,

I don't think this discussion has been pointless. Rather than arguing "mine's better" or something, we have been making some progress towards understanding *why* we feel one is more difficult.

That may be boring to you (you may have already figured it out!) but not to some of us--me included.

BTW as you are a person with considerable interest in outer space, I thought I'd relay a story I told the other day:

The press go all excited about the X-prize for a little while, and Bert Rutan even started to let it get to his head enough to change his mind and start considering an orbital mission as being within the cards sooner rather than later.

So I took a piece of paper, drew a circle on it, and drew a 60 mile high "prick" on the circle. Then I completed the "orbit" that they made--pretending the earth was not in the way. It is of course a very elliptical orbit--looks like a straight line on a piece of paper.

Then I drew a picture of the 1st Mercury orbit. A big circle more or less, only slightly bigger than the earth.

The reaction was pretty dramatic. The visual nature of the difference in energy is striking. In other words Rutan did something great, but even by his own earlier admission, nowhere near the big leagues yet.

Another method of explanation that I used on somebody who did not really get the picture part: "Throw a ball 50 feet in the air. Dfficult? Not really. Now, throw it 50 feet in the air while also getting it to go 385 feet horizontally. Now how difficult was it?"

The light-bulb came on. It is sort of fun figuring out how to de-mystify some of these problems "for the masses".

To some extent, this discussion about RPN/RPL is a delf-directed group "demystification exersize".

Regards,

Bill

Edited: 11 Nov 2005, 9:06 a.m.

Re: Latest 33s Display is Indeed Improved

*Message #155 Posted by **Dave Bernazzani** on 11 Nov 2005, 3:03 p.m.,*
in response to message #1 by Paul Brogger

As another point of reference, the local Walmart had 3 HP33S units. Two were the older, smaller and harder to read decimal point. They had a serial numbe in the CNA 4xx range. One of the units had a much nicer display - bigger comma and DP and just generally much easier to read. Some of the major bugs seemed to have been fixed (I only tried the cNr and polar conversion but I assume other issues were fixed). This much better 33S had a serial number that started with CNA 532 (which places it mid-2005-ish). Fortunately, HP puts the SN on the back of the blister pack. I never used an older poor-display 33S other than the display model and didn't buy one because of that issue (the bugs were unknown to me at the time). The newer unit seems much improved.

Re: Latest 33s Display is Indeed Improved

*Message #156 Posted by **bill platt** on 11 Nov 2005, 3:42 p.m.,*
in response to message #155 by Dave Bernazzani

Yay!

Now maybe my original pre-issue buggy version will become a collector's item ;-)

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New improved HP 12c platinum - where to find?

*Message #1 Posted by **Marcus von Cube, Germany** on 8 Nov 2005, 10:44 a.m.*

Hi to all!

Does anybody know where I can find the improved HP 12c platinum, preferably in Germany or at least in the EC (Euro zone)?

The offers I have found so far are either not specific about the model or they show the older version without the additional functions.

Marcus

Re: New improved HP 12c platinum - where to find?

*Message #2 Posted by **John** on 8 Nov 2005, 12:35 p.m.,*
in response to message #1 by Marcus von Cube, Germany

I think it has been said that there is no way to know unless the unit is visually inspected before purchase.

No online or mail order location will be able to guarantee which version you would receive.

Re: New improved HP 12c platinum - where to find?

*Message #3 Posted by **Namir** on 9 Nov 2005, 3:01 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Do you havea link to the algoriths used to calculate he various trig functions?

Namir

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TI & HP related?

*Message #1 Posted by **NA** on 7 Nov 2005, 10:23 p.m.*

TI calcs related to HP calcs!??

Re: TI & HP related?

*Message #2 Posted by **Vassilis Prevelakis** on 8 Nov 2005, 2:04 a.m.,*
in response to message #1 by NA

yes, in the sense that they were competing for the same market.

Re: TI & HP related?

*Message #3 Posted by **Mike3** on 8 Nov 2005, 5:04 p.m.,*
in response to message #1 by NA

Yes sir, seriously, the TI Calcs were designed by TI's Engineers who were actually using HP Calcs.

Re: TI & HP related?

*Message #4 Posted by **Thomas Radtke** on 8 Nov 2005, 6:20 p.m.,*
in response to message #3 by Mike3

My whistle-blower at TI told me however that the batteries were empty when they came to the keyboard design.

Of course they are related

*Message #5 Posted by **Palmer O. Hanson, Jr.** on 8 Nov 2005, 10:51 p.m.,*
in response to message #4 by Thomas Radtke

The following text by Guy Ball appeared in the Fall 1977 issue of The International Calculator Collector:

"From their invention of the first portable prototype, to their supplying the industry with chips and other components in the early 1970s, to their marketing acumen in becoming a world leader in sales, Texas Instruments played a leading role in the birth and growth of IC-based electronic calculators. We take the opportunity of the thirtieth anniversary of the "Cal-Tech" to celebrate their contributions."

The "Cal Tech" was the very first handheld. As such it is the granddaddy of all the handhelds that came later. In that sense ALL of the handheld's are related.

Re: TI & HP related?

*Message #6 Posted by **Greg Whitfield** on 9 Nov 2005, 12:08 a.m.,*
in response to message #3 by Mike3

I don't know if the TIers who designed calculators used HPs, but I was one TIer who used my HP-16C when testing and developing industrial controls software for PLCs! I gave up on TI calculators back in college when my TI-59 keyboard went north (no disrespect intended, but I'm from the south) and I replaced it with the HP-15C!

Re: TI & HP related?

*Message #7 Posted by **db (martinez, ca.)** on 9 Nov 2005, 12:36 a.m.,*
in response to message #6 by Greg Whitfield

Greg; That story has the makings of **the** numero uno "Memories Forum" entry.

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ALG/RPN (and more) in the new Platinum

*Message #1 Posted by **Vieira, L. C. (Brazil)** on 7 Nov 2005, 2:54 p.m.*

Hi, all;

I just grabbed a new HP12C Platinum (with parenthesis, back-arrow and undo) and I realised that, now, neither [f][ALG] nor [f][RPN] clear stack register contents. Also, [f][PRGM] in normal, RUN mode cause the program pointer to return to step 000. Finally, if the calculator is in ALGebraic mode and you enter interest rate through [g][12÷] or number of periods through [g][12×] and immediately after that you try to compute the unknown financial value, you no longer need to press the same key twice.

The IRR issue for small values is also corrected.

If we consider that these were particular characteristics of the previous HP12C Platinum, the new one has its own set. And it is considerably fast, though.

Anything else being observed with the new model?

Cheers.

Luiz (Brazil)

Edited: 7 Nov 2005, 2:56 p.m.

Re: ALG/RPN (and more) in the new Platinum

*Message #2 Posted by **Gene** on 7 Nov 2005, 4:21 p.m.,*
in response to message #1 by Vieira, L. C. (Brazil)

Hi Luiz!

1) ALG/RPN not clearing the stack...that's a feature, not a bug :-)

2) I believe the f PRGM in run mode does what it did on the black/gold 12c now. Don't have that one handy, but I think that's correct.

3) Yep...this is/was a bug fix.

4) Small IRR...yep, that means my friends in Brazil can rest easy. :-)

Other than #1, this is as the black/gold 12c, I think. That's a good thing.

Keep an eye open for a good set of games written for the new 12cp from Tony Hutchins. They will show up in future Datafiles.

How much do 12cp's cost in Brazil?

Hope all is well! Gene

Re: ALG/RPN (and more) in the new Platinum

*Message #3 Posted by **Vieira, L. C. (Brazil)** on 7 Nov 2005, 5:45 p.m.,*
in response to message #2 by Gene

Hi Gene, guys; (I confess I was about to write you an e-mail, but I missed the opportunity...)

The HP12C Platinum costs about R$420,00 in the regular, official market. If main commercial taxes are deducted, it goes to regular R$220,00. In some circumstances (not to be discussed here, though...), you can buy one for about R$270. I am not sure if the new version is already available here, neither in regular nor in alternate commerce.

About the IRR issue: thank you, Gene, for your invaluable help.

Best regards.

Luiz (Brazil)

Edited: 7 Nov 2005, 5:47 p.m.

Re: ALG/RPN (and more) in the new Platinum

*Message #4 Posted by **Gene** on 7 Nov 2005, 6:17 p.m.,*
in response to message #3 by Vieira, L. C. (Brazil)

Well, you (or some friends down in Brazil) found it - I didn't do much of anything! And, I think there are some instructions based on your suggested fix available from HP somewhere online... :-)

What's the equivalent US cost of those 12cp's?

Re: ALG/RPN (and more) in the new Platinum

*Message #5 Posted by **Charlie O.** on 7 Nov 2005, 8:55 p.m.,*
in response to message #4 by Gene

currently 2.2 real per usd.

see here:

http://www.oanda.com/converter/classic?user=advsport&lang=en

Re: ALG/RPN (and more) in the new Platinum

*Message #6 Posted by **bill platt** on 7 Nov 2005, 10:18 p.m.,*
in response to message #3 by Vieira, L. C. (Brazil)

Hi Luiz,

R$100 tax on R$220? Ouch! Wasn't the Aerospace business supposed to make so much money from exports that taxes like that could be eliminated?

OT: prices of calculators in Brazil (was: ALG/RPN (and more) in the new Platinum)

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 8 Nov 2005, 12:14 a.m.,*

in response to message #6 by bill platt

Hi Bill, all;

in fact, but remember we're talking about Brazil. And some things happen in here that, although history may tell us a reason, only history would know this so-called reason. The problem is not exactly when the product leaves USA; in our case, the actual 'problem' resides in its delivery... Brazilian taxes over industrialized products (known here as IPI, or 'Imposto sobre Produto Industrializado') and others are, by themselves, so high that, in some cases, they go close to 50% of the final consumming COST, then we have commerce margin...

The fact is that most of the technology that is 'consummed' in Brazil is of foreign origin. I myself believe that as other countries have their own technology, we more than likely might also have ours, but in a moment in history where many countries were developping their own technology in many 'high-tech' areas, somehow Brazil decided that it would be less expensive to buy their final products instead of investing the same way inside here (reasons 'unknown'). I know other countries have done the same because of their own, very reasons, and that, in some cases, results were differently taken by their people. In our case, consumming foreign technology (no local equivalent, most cases) has its consequences...

(Please, in the following analysis, consider all references to product price as related to the HP12C Platinum) That's why a close to US$80 (US$105 is the MSRP, right?) product is regularly sold in Brazil for about R$450. If the straight current conversion is applied (US$1 ~= R$2.2) we have no more than R$176. The alternate commerce (final price: R$250) gives us a ~42% add-on, including profit and some expenses. The regular commerce (final price: R$450) asks for a ~156% add-on, that might include the regular commerce taxes (Brazil) + expenses + final profit. I know that final profit in terms of regular commerce is, depending on some circumstances, either lower or higher than that practiced in alternate commerce.

This is a very, very raw (and macro) analysis from the point of view of an engineer. Economists would see (and explain) it differently; in fact, terms like 'internal commerce protection' and 'incentive to local developments' would arise, but other considerations like 'extreme profit for those who only see profit' (not commerce, instead those who are interested on this scenario) would be intentionaly omitted. As this is a technology forum (not an economy one), I think that putting things straightly simple would be 'fitting them in'.

Oops! Wrote too much. Sorry! at least I hope it makes sense in all aspects, though. And I hope this elucidates a bit for you, Bill.

Please, forgive any typos (no spell checking).

Cheers.

Luiz (Brazil)

Edited: 8 Nov 2005, 12:22 a.m.

Brazil Tech

*Message #8 Posted by **bill platt** on 8 Nov 2005, 10:15 a.m.,*
in response to message #7 by Vieira, Luiz C. (Brazil)

Hi Luiz,

It's ironic that in fact Brazil had an HP factory that made 12c calculators.

I have flown on "Embraer" aeroplanes--made in Brazil. How much tax revenue comes from the Ariannespace launching facility?

Must be more of them.

We used to have our own manufacturing in the USA but we don't anymore. But we do have technology. But not for long. But we'll have something else I suppose. Or we will have a more balanced economy at a lower standard of living (most likely outcome--our standard is pretty excessive!).

It sounds like the Politicos in Brazil are doing what Politicos do best everywhere: hoodwinking. By making technology expensive, they dramatically slow growth. Without tools, one cannot build more tools. But someone is getting rich on this policy--just follow the money trail. My bet is Big Landowners-big agrarian?

We have the same sort of hoodwinking here. A recent (this week) proposal to modify a major portion of the federal income tax with regards to deductions of real estate interest payments has led to this huge resistance from the "realtors" and the "experts" who all put their arms up and say how it will "harm" the average american. And yet they quote no figures. When I run the numbers, I see benefits for 90% of the population, and increased taxes for the richest 10%.

The powerful like to pretend they are our friends and protectors. Like Great France--the nanny state par excellence. Too bad they have so many slums. Their (the politicos) motives are impure as is always the case.

But I digress :-)

I use an HP to do all my financial calculations :^)

Re: Brazil Tech

*Message #9 Posted by **Vieira, L. C. (Brazil)** on 8 Nov 2005, 1:49 p.m.,*
in response to message #8 by bill platt

Hi, Bill;

> Quote:
>
> It sounds like the Politicos in Brazil are doing what Politicos do best everywhere: hoodwinking. By making technology expensive, they dramatically slow growth. Without tools, one cannot build more tools. But someone is getting rich on this policy--just follow the money trail. My bet is Big Landowners-big agrarian?

Exactly what I tell my students in order to try showing them that technology ownership goes beyond financial power. About the big landowners, I guess that their way of enhancing their ownership is a little bit different. as you mention, Politicos are the ones to take advantage.

About Embraer: I know some guys that have already worked there, and most of their design is local. Part of the technology happens to be developped here, but I cannot tell the percentage of nacional technology in each airplane.

I'd go a bit ahead about HP fasctories in Brazil. Internal policy and foreign interests moved factories from here to elsewhere. Once we know how to deal with technology, we are able

to go ahead.

Oops! Once again I'm driftting...

Cheers.

Luiz (Brazil)

Re: Brazil Tech (correction)

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 8 Nov 2005, 10:26 p.m.,*
in response to message #9 by Vieira, L. C. (Brazil)

Hi, all;

because I logged in in a different computer, I was not able to edit previous post (couldn`t remember password). Please, replaced last paragraph for the one below.

> Quote:
>
> I'd go a bit ahead about HP factories in Brazil. Internal policy and foreign interests moved factories from here to elsewhere. Once one knows how to deal with technology, he'd be able to go ahead. Unfortunately it id not happen this very way here. And the HP12C/Platinum are produced in other countries, now. You may have seen that the Brazilian units are not that bad...

Thanks.

Luiz (Brazil)

Edited: 8 Nov 2005, 10:27 p.m.

Re: Brazil Tech

*Message #11 Posted by **Vassilis Prevelakis** on 9 Nov 2005, 4:36 a.m.,*
in response to message #8 by bill platt

```
bill platt wrote:
> How much tax revenue comes from the Ariannespace launching facility?
```

What "arianespace" launching facility. Arianespace have a launch site in Kuru, but thats not in Brasil, its in French Guyana.

Brasil has its own launch capability.

**vp

Ariannespace

*Message #12 Posted by **bill platt** on 9 Nov 2005, 7:36 a.m.,*
in response to message #11 by Vassilis Prevelakis

Hi Vassilis,

Thanks for the clarification!

Re: Brazil Tech [OT]

*Message #13 Posted by **Arnaud Amiel** on 9 Nov 2005, 10:24 a.m.,*
in response to message #11 by Vassilis Prevelakis

> Quote:
>
> ```
> bill platt wrote:
> > How much tax revenue comes from the Ariannespace launching
> facility?
> ```
>
> What "arianespace" launching facility. Arianespace have a launch site in Kuru, but thats not in Brasil, its in French Guyana.
>
> Brasil has its own launch capability.

Actually I have met a lot of people who do not understand this. Kuru is in France. French Guyana is not an independant country.

Arnaud, always amased to realise that France has border with Brazil

Edited: 9 Nov 2005, 10:37 a.m.

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MoHPC *The Museum of HP Calculators*

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HP48g - Arithmetic Rounding querry

*Message #1 Posted by **Caribe T** on 7 Nov 2005, 7:40 a.m.*

I am sure there is a reason for this explained somewhere in the manual, but I am hoping that someone knows the answer off the top of their head. As an example,why is it that I get the following - equating: '5/3' (or 3, 'SPC', 5, /) = 1.66666666667 (which gives me '5/3' if i put it back as a fraction.

But if I do '5*(1/3)' (or 5,'SPC', 3, '1/x', x) = 1.66666666666 (which gives me '62500000003/37500000002' as a fraction; which is of course the exact solution of the 1.66...6 solution).

How do I prevent getting the second answer?(other than just by entering the equation in using the first method). Reason that I ask is that during exams I don't want to have to be always worrying about what format I should be entering the problem (so as to not get a large fraction as above.) I am supposing that there is a setting that I may need to change. Can anyone point me in the right direction here? Thanks

Re: HP48g - Arithmetic Rounding querry

*Message #2 Posted by **Arnaud Amiel** on 7 Nov 2005, 8:49 a.m.,*
in response to message #1 by Caribe T

My 48 ran out of batteries but my 49 suggests that using ->QPi (where Pi is the greek letter) should help.

Or if you have a connection cable you should try: QPI from hpcalc.org

Arnaud

Edited: 7 Nov 2005, 9:04 a.m.

Re: HP48g - Arithmetic Rounding querry

*Message #3 Posted by **Chris Dean** on 7 Nov 2005, 11:14 a.m.,*
in response to message #1 by Caribe T

I would hazzard a guess that it is to do with the order that the expression is calculated.

5 * (1 / 3) = 5 * (0.333333333....) = 1.666666666666.....5 and rounded 1.666666666666....6

5 / 3 = 1.6666666666666666666.....6 and rounded 1.6666666666666666...7

You can replicate this problem with any calculator.

Edited: 7 Nov 2005, 11:37 a.m.

Re: HP48g - Arithmetic Rounding querry

*Message #4 Posted by **Tom Steiner** on 7 Nov 2005, 2:13 p.m.,*
in response to message #3 by Chris Dean

That would have been my guess as well. But my 12C Platinum calculates 1.666666667 either way.

Re: HP48g - Arithmetic Rounding PROBLEM?

*Message #5 Posted by **Caribe T** on 7 Nov 2005, 2:57 p.m.,*
in response to message #4 by Tom Steiner

Yeah my Casio gives the me correct fraction regardless of how I enter it.....

What confuses me again is this: '2/3' = 0.666666666667 (which in turn gives me '2/3' as a fraction.

But if I do '2(1/3)' = 0.6666666666666 - this gives me '2/3' as a fraction.

Can anyone figure out the inconsistency from this and the initial problem I mentioned?

Edited: 7 Nov 2005, 3:48 p.m.

Re: HP48g - Arithmetic Rounding querry

*Message #6 Posted by **Gunnar Degnbol** on 7 Nov 2005, 5:30 p.m.,*
in response to message #4 by Tom Steiner

> Quote:
>
> That would have been my guess as well. But my 12C Platinum calculates 1.666666667 either way.

It depends on the rounding. 0.33...333 * 5 is 1.66...665. This is one digit too much, so the final 5 has to be either truncated or rounded. ...665 is right between ...660 and ...670, and there are different methods in use. Half-up always rounds 5 up, and so the result is ...67. Half-even (sometimes called banker's rounding) rounds fives to the nearest even digit, which in this case is 6.

The advantage of half-even rounding is that it gives a better statistical distribution of errors, because 5 really is right between 0 and 10, and always rounding up isn't fair.

This makes interesting reading (includes code)

*Message #7 Posted by **Valentin Albillo** on 8 Nov 2005, 10:55 a.m.,*
in response to message #6 by Gunnar Degnbol

Hi, Gunnar:

This link features an interesting and worthwhile discussion on rounding, and includes simple code to implement most usual rounding strategies.

Best regards from V.

Re: This makes interesting reading (includes code)

*Message #8 Posted by **Gunnar Degnbol** on 8 Nov 2005, 3:09 p.m.,*
in response to message #7 by Valentin Albillo

Thank you, It is very interesting.

I knew about the difference between VBA and Excel, but I was not aware that they had such a

mess across their product line, and I had not noticed that Java had a homebrew not-seen-anywhere-else round() function.

Mike Cowlishaw's General Decimal Arithmetic Specification has a list of all the rounding modes you may need when things are actually designed, and not just happens.

This is a superset of the modes described in the IEEE 854 standard, and implemented in the HP 71B.

He has the following note:

> Quote:
>
> The term ‘round to nearest’ is not used because it is ambiguous. round-half-up is the usual round-to-nearest algorithm used in European countries, in international financial dealings, and in the USA for tax calculations. round-half-even is often used for other applications in the USA, where it is usually called ‘round to nearest’ and is sometimes called ‘banker’s rounding’.

Re: HP48g - Arithmetic Rounding querry

*Message #9 Posted by **J-F Garnier** on 8 Nov 2005, 3:16 p.m.,*
in response to message #6 by Gunnar Degnbol

Another example of half-even rounding (in Saturn-based HP calculators):
1E12 1 - 2 / gives 500000000000 (rounded up from 499999999999.5)
1E12 3 - 2 / gives 499999999998 (rounded down from 499999999998.5)

J-F

Re: HP48g - Arithmetic Rounding querry

*Message #10 Posted by **guest** on 7 Nov 2005, 7:54 p.m.,*
in response to message #1 by Caribe T

I stumbled across the solution to this recently. Just change the display mode to FIX.

Re: HP48g - Arithmetic Rounding querry - PROBLEM SOLVED! But any more ways?

*Message #11 Posted by **Caribe T** on 7 Nov 2005, 8:14 p.m.,*
in response to message #10 by guest

Hey thanks for that.....It seems to solve the problem! Genius!

However is there another way of doing this (so you don't have all these decimal places after a whole number for example.(like having just '3' on the stack and not '3.00000000...', depending on what FIX number you set)?

Edited: 7 Nov 2005, 9:24 p.m.

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CalcPro - Buyer Beware!

*Message #1 Posted by **I, Claudius** on 7 Nov 2005, 4:36 a.m.*

I once placed an order with CalcPro, www.calcpro.com, and only received part of it. Attempts to resolve the problem were never responded to, and thus I've never done business with it again.

Now it seems CalcPro has sold pirated books without reimbursing the author, among other complaints:

http://groups.google.com/group/comp.sys.hp48/browse_frm/thread/a4db63204e4e81b7/9c564f6fcc921647?tvc=1#9c564f6fcc921647

It appears this CalcPro may be in the same ethics league as Coburlin, buyer beware!

Re: CalcPro - Buyer Beware!

*Message #2 Posted by **JDH** on 7 Nov 2005, 7:23 a.m.,*
in response to message #1 by I, Claudius

I've ordered off CalcPro in the past without an issue, good reliable service in my case.

Re: CalcPro - Buyer Beware!

*Message #3 Posted by **James F. Chumbley** on 8 Nov 2005, 3:51 a.m.,*
in response to message #1 by I, Claudius

Any details you can post or send me on Coburlin?

Re: CalcPro - Buyer Beware!

*Message #4 Posted by **I, Claudius** on 8 Nov 2005, 7:19 a.m.,*
in response to message #3 by James F. Chumbley

Read threads below. Probably the most interesting comment came from Coburlin himself, who considers his customers "dumb." Ready to give him some business?

Many here want only discussions of technical issues, and don't like postings of business stuff. I and several others feel that pointing out bad business practices and frauds is just as important as hardware and code. If you can't make a good or honest purchase you might as well start manufacturing your own calculators.

Re: CalcPro - Buyer Beware!

*Message #5 Posted by **John Nguyen** on 14 Nov 2005, 11:42 p.m.,*
in response to message #1 by I, Claudius

I just ordered an HP-82241A AC Adapter for the IR printer and an HP 49G Advanced User's Guide from CalcPro with no problem. I didn't expect the AC Adapter to be brand new (it isn't) but it is in excellent shape. The 49G guide came with the shrink wrap still on. Anyway, these aren't exactly big, expensive items.

John

Re: CalcPro - Buyer Beware!

*Message #6 Posted by **I, Claudius** on 16 Nov 2005, 8:30 a.m.,*
in response to message #5 by John Nguyen

The crowd is cheering your good fortune to be one of the few with a completed order...

Re: CalcPro - Buyer Beware!

*Message #7 Posted by **Ed Look** on 16 Nov 2005, 11:36 a.m.,*
in response to message #6 by I, Claudius

To be fully honest, I haven't really had a problem with CalcPro. Stuff might have been some days late, but it did come.

Now, I have received stuff I never ordered, but I always returned it to them.

Re: CalcPro - Buyer Beware!

*Message #8 Posted by **Hal** on 16 Nov 2005, 11:42 a.m.,*
in response to message #7 by Ed Look

According to CalcPro's home page, the 33s is a graphing calculator. ...interesting.

Re: CalcPro - Buyer Beware!

*Message #9 Posted by **Iqbal** on 16 Nov 2005, 8:52 p.m.,*
in response to message #8 by Hal

I like dealing with Calcpro. Never had a problem with any order. Probably just a one off situation.

Re: CalcPro - Buyer Beware!

*Message #10 Posted by **John Nguyen** on 16 Nov 2005, 8:59 p.m.,*
in response to message #6 by I, Claudius

I actually ordered these items before I noticed your original posting (or maybe it was someone else's) warning the buyer. My stomach was in knots until after the package arrived. If CalcPro was a questionable operation, I count myself lucky this time.

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tds ranger/off topic a bit

*Message #1 Posted by **david bowers** on 6 Nov 2005, 11:24 p.m.*

hi. i am surveying in taiwan and have been told i will go to jamaica next, i need a backup for my hp48gx with tds cogo. is the new tds ranger too much overkill. does it function with an hp rpn calculator system, i only do large construction sites and refineries, but i like the idea of plotting a 3d topo and then printing it out, or should i get another hp 48 gx with tds cogo pro thanks, got my hp33 today from the states, kinda junkie built arent they ,really. cheers david

Re: tds ranger/off topic a bit

*Message #2 Posted by **Tim Wessman** on 7 Nov 2005, 8:56 a.m.,*
in response to message #1 by david bowers

When will you be there by? I ask because depending on when it is, I may have a replacement availible.

TW

Re: tds ranger/off topic a bit

*Message #3 Posted by **david bowers** on 7 Nov 2005, 5:05 p.m.,*
in response to message #2 by Tim Wessman

hi i will be going in january, after i have a xmas visit to oz. do yu have cogo pro for a 48gx or a ranger, you can use my email off line if you want. have you used the ranger cheers david

Re: tds ranger/off topic a bit

*Message #4 Posted by **Tim Wessman** on 8 Nov 2005, 8:03 a.m.,*
in response to message #3 by david bowers

Nope. I am talking about a new data collector based on the 49g+. We've been working on it for about 2 years and it will 95% sure be on sale in december unless I happen to die or something. ;-) Yes I have used the ranger. It is so inefficient it makes me want to cry. =(

Should be about 950$US for the full unit or 350 software+calc.

www.pssllc.com

TW

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HP 34C battery pack

*Message #1 Posted by **Steve from peru** on 6 Nov 2005, 6:06 p.m.*

I just found my old HP 34c and i am trying to get it up and running. The original battery doesnt seem to want to take a charge. Does anyone know the technical specs for these batteries, and how I might find a modern replacement. thanks.

Re: HP 34C battery pack

*Message #2 Posted by **Gerson W. Barbosa** on 6 Nov 2005, 7:09 p.m.,*
in response to message #1 by Steve from peru

Just read the recent thread **Batteries for 41CV or 33E**.

Gerson.

Re: HP 34C battery pack

*Message #3 Posted by **Paul Marin** on 6 Nov 2005, 8:42 p.m.,*
in response to message #1 by Steve from peru

I've been using 2 x AA 1.5v alkalines in my 33E for over 1 year. No problems

This is a quick no fuss fix only. It suits me fine. You can repair the existing pack based on info on this site

Paul

1.5V "AA" will break the battery contacts...

*Message #4 Posted by **Karl Schneider** on 6 Nov 2005, 10:24 p.m.,*
in response to message #3 by Paul Marin

... because they are longer, and depress the curved part of the contacts more. The contacts will fracture along the crease between the riveted flat part and the curved part.

There are two designs of Spice (31/32/33/34/37/38) battery pack; either can be disassembled and rebuilt properly with 1.2V rechargeable flat-top "AA" cells (without posts).

I would eventually like to use Katie Wasserman's procedure to install stronger fabricated contacts, allowing use of either longer 1.5V cells (jumpered by aluminum foil) or a rebuilt pack.

-- KS

Re: 1.5V "AA" will break the battery contacts...

*Message #5 Posted by **Paul Marin** on 7 Nov 2005, 6:15 p.m.,*
in response to message #4 by Karl Schneider

Have had no such problems. Contacts have flattened yes, but remain this way with no other forces on them. The pressure of the batteries is very light. They will fracture if bent backwards and then re-flattened continiously, but if they stay as they are, there is no problem. I don't use the re-built pack therefore I never needed to readjust the contacts, therefore no fracture will occur unless I start fiddling with them. I have had to re adjust contacts in remote controls for eithertv's dvd's or stereo's and I've used pliers to pry them closer to maintain good battery contact and I've never had problems with fractures and some of these remotes are cheap units from China and Taiwan. My 2 cents worth

Paul

Re: 1.5V "AA" will break the battery contacts...

*Message #6 Posted by **Karl Schneider** on 8 Nov 2005, 12:39 a.m.,*
in response to message #5 by Paul Marin

Paul stated,

> Quote:
>
> Contacts have flattened yes, but remain this way with no other forces on them. The pressure of the batteries is very light. They will fracture if bent backwards and then re-flattened continiously, but if they stay as they are, there is no problem.

If the contacts have flattened, then some metal fatigue has already taken place. The force of contact using longer cells is certainly higher than intended by design. Certainly, repeated flexing due to continual removal and re-installation of cells would fatigue the contacts faster. If you are using disposables (as indicated by "1.5V") and are also using the calc regularly, replacement will be required. That's why the HP LED-based models were designed for rechargables.

The two HP-34C's I bought on eBay turned out to have fractured battery terminals. I strongly suspect that this was caused by use of longer 1.5V disposables after the US$12 (in the 1980's!) rechargeable pack gave out. One of them was advertised as having good contacts, but one contact simply broke upon a light touch. It looked fine, but clearly was fatigued and cracked.

-- KS

Re: 1.5V "AA" will break the battery contacts...

*Message #7 Posted by **Paul Marin** on 8 Nov 2005, 5:19 p.m.,*
in response to message #6 by Karl Schneider

Karl, I'm not debating that with constant bending that the contacts wouldnt break. The original rechargable pack flexes the contacts just like any electronic device that uses metal straps to engage the cells. I've just pressed mine flatter to the point where the AA's press lightly enough to make the contact. We are not talking imence pressure exerted here that flex the contacts millimeters each time they are inserted or removed. If mine break in the near future, I'll post a log of how long they lasted. PS The owner of this 33E I own is by coincedent my employer, who happens to be a mechanical Engineer. I did consult his knowledge on what I had done and he believes that the contacts should last once flattened.

Paul

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HP Ports

*Message #1 Posted by **danny** on 6 Nov 2005, 11:36 a.m.*

I have a survey card in port 1 and a ram card in port two.. once inserted their is a process I go thru to enter into the tripod data system for surveyors... I have just changed the batteries and have reentered the cards, now the calculator will not let my process get entered so I can get back to the program, it keeps telling me no memory, I've never seen it do this, can you help or tell me where to go for help,

Re: HP Ports

*Message #2 Posted by **Randy** on 6 Nov 2005, 12:18 p.m.,*
in response to message #1 by danny

Pulled from the TDS manuals:

1. Turn your HP 48 GX OFF
2. Remove any cards you may have plugged into your 48.
3. Insert your TDS-48 GX Surveying Card into Port 2 of your HP 48 GX. Ports 1 & 2 may be identified by the graphic on the back of the HP 48 GX.
4. Turn the 48 [ON] and clear the system memory by pressing [ON], [A] and [F] simultaneously. A message will appear asking to try to recover memory - select NO.
5. Type, [alpha] [alpha] T D S 4 8 and press [Enter]
6. The following messages will appear on the display as the installation is taking place: Installing Library... Completed.
7. When prompted to insert your RAM Card, turn your HP 48 GX OFF. Move the Survey Card from Port 2 to Port 1 and insert the RAM card in port 2.
8. Turn your 48 [ON] and once again type [alpha] [alpha] T D S 4 8[Enter]

The first time that you install a RAM card, which has not been used previously with TDS-48 GX, the unit will prompt you with the message “Erase all data in port 2? [Y/N].” All data stored on this card will be lost when you press [Y], so be certain that you do not need any data stored on the card. In order for the program to continue you must enter [Y] to this prompt.

If you have installed the RAM card properly and you get a “No RAM card in port 2” error message, you probably have the write protect switch on you RAM card set.

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41c 1/2N battery woes

*Message #1 Posted by **Hal** on 6 Nov 2005, 2:32 a.m.*

Does anybody out there rebuild the rechargable battery pack for the 41's? My local Batteries Plus won't order the required 1/2 N's because the manager says he can only order a case of 50, and he doesn't want to be stuck with the remaining 46.

Any help greatly appreciated.
Thanks, Hal

Re: 41c 1/2N battery woes

*Message #2 Posted by **Randy** on 6 Nov 2005, 8:22 a.m.,*
in response to message #1 by Hal

Just use ni-mh 1/3 AAA's and a piece of 1/16" double sided sticky foam to take up the extra volume. Gold Peak has one rated at 160mah which is almost 2.5X more capacity than the original HP 1/2 N cells.

http://fixthatcalc.com/images/82120_finished.jpg

Edited: 6 Nov 2005, 8:25 a.m.

Re: 41c 1/2N battery woes (HP-41 Rechargeable Battery Pack)

*Message #3 Posted by **James F. Chumbley** on 8 Nov 2005, 3:36 a.m.,*
in response to message #1 by Hal

Hi, Hal,

I would recommend that you contact Mark Hoskins (waterhosko@aol.com). I have bought several hand-made rechargeable battery packs--as well as numerous other items--from Mark, and I am almost certain that one of these was a rechargeable battery pack for the HP-41 Calculator. Of all the suppliers from whom I have ever ordered on ebay, the man I would recommend the highest is Mark Hoskins. All product has been ideal, delivery has always been on-time or sooner, and prices have been most reasonable.

Unfortunately, however, Mark is not perfect; he is from Chicago, yet is NOT a White Sox fan. Dante has these people encamped in the seventh circle of hell, If I remember correctly. I am a Brooklyn Dodgers fan, myself.

Oh, by the way, if you mention my name to Mark, I'm sure that he will at least double the price he would normally have been going to charge you.

Regards, Jim Chumbley

to: Hal, hal4635@msn.com cc: Mark Hoskins, waterhosko@aol.com

Edited: 8 Nov 2005, 4:10 a.m.

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Angell Martin and SandMath III

*Message #1 Posted by **PeterP** on 6 Nov 2005, 12:47 a.m.*

Hi, Angel if you are around (or if anyone knows how to find Angel) - I'm interested in a docu (at least a QR) for your fabulous Sandmath III mod. Any chance something like that is available anywhere? Cheers Peter

Re: Angell Martin and SandMath III

*Message #2 Posted by **Gene Wright** on 6 Nov 2005, 8:07 a.m.,*
in response to message #1 by PeterP

And QR guides of some sort for your other great modules. :-)

Maybe a listing of commands and what they do?

Gene

Re: Angell Martin and SandMath III

*Message #3 Posted by **Ángel Martin** on 7 Nov 2005, 4:35 a.m.,*
in response to message #2 by Gene Wright

Yes, I'm still around - albeit with little time left for hobbies... but I'd better put some documentation together before even I forget what the module functions do (unforgiving time-passing, amazing how things fade away in our brains).

So let me see, I can prepare a QRG during the next couple of w-ends, hope that's enough to get the basics covered.

Best, ÁM.

Re: Angell Martin and SandMath III

*Message #4 Posted by **Gene** on 7 Nov 2005, 8:19 a.m.,*
in response to message #3 by Ángel Martin

Wonderful! Many thanks for the roms and the upcoming QRG's. ;-)

Gene

Re: Angell Martin and SandMath III

*Message #5 Posted by **PeterP** on 9 Nov 2005, 12:20 a.m.,*
in response to message #3 by Ángel Martin

Awesome, tremedously enjoying the SandBox right now, off Meindert's toy. Lookingforward to the QRGs!

Cheers

Peter

Re: Angell Martin and SandMath III

*Message #6 Posted by **Ángel Martin** on 9 Nov 2005, 4:44 a.m.,*
in response to message #5 by PeterP

The QRG for the SandMath is *done*, let me know an e-mal address and will send it your way.

Best, Ángel

Re: Angell Martin and SandMath III

*Message #7 Posted by **Matthias Wehrli** on 9 Nov 2005, 8:04 a.m.,*
in response to message #6 by Ángel Martin

Hi Ángel

You already know my email adress.... Please, can you send the QRG to me as well?

Greetings, Matthias

Re: Angell Martin and SandMath III

*Message #8 Posted by **PeterP** on 9 Nov 2005, 9:49 p.m.,*
in response to message #6 by Ángel Martin

ppl4 NOSPAM world at yahoo dot com

Thanks a lot, awesome!!! Can't wait ;-)

Re: Angell Martin and SandMath III

*Message #9 Posted by **Vieira, Luiz C. (Brazil)** on 10 Nov 2005, 12:13 a.m.,*
in response to message #6 by Ángel Martin

Hi, Angel;

I`m about to finish assembling the MLDL2000 and soon I`ll grab both a NoV32 and a NoVRAM. So, I`ll be loading as many ROM`s as possible. Based on what I (we) saw in your 41Z and what I read in the SandBox manual, the SandMath is something to dare delving into. As I have not been in contact with the ROM itself so far, a QRG will be the best guide, though.

So, if you allow me to:

lcvieiraNOSPAM at quantica dot com dot br

(remove the NOSPAM, please)

Thank you so much.

Luiz (Brazil)

Re: Angell Martin and SandMath III

*Message #10 Posted by **Marcus von Cube, Germany** on 10 Nov 2005, 5:22 p.m.,*
in response to message #6 by Ángel Martin

Ángel,

can you paste the QRG in an article here in the articles forum? This way, everybody has the info. If pasting in an article doesn't work (because of formatting), the curator may allow you to upload the document and create a link somewhere on this site.

Marcus

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MoHPC *The Museum of HP Calculators*

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MLDL - How to convert mod files

*Message #1 Posted by **PeterP** on 5 Nov 2005, 7:49 p.m.*

Hi,

Sorry for the silly question - as probably many of you I have access to .mod files of old HP modules. However the amazing new device making many of us happy and sleepless, the MLDL from Meinder, only uses ROM images. Is there a way to convert the MOD files into ROM files? Thanks!

Peter

Re: MLDL - How to convert mod files

*Message #2 Posted by **Wilson (Bill) Holes** on 5 Nov 2005, 8:31 p.m.,*
in response to message #1 by PeterP

Click on the MOD file utility that comes with the V41 source. Load the appropriate MOD file. Highlight the MOD file. Click on INFO. Exit the MOD file utility and you'll find the .ROM in the same directory as the MOD file. I hope this helps...

Re: MLDL - How to convert mod files

*Message #3 Posted by **PeterP** on 6 Nov 2005, 12:41 a.m.,*
in response to message #2 by Wilson (Bill) Holes

Thanks Bill! The "Extract Rom" did the trick. Now my sleep is definitely gone... Thanks alot!

Cheers

Peter

Re: MLDL - How to convert mod files

*Message #4 Posted by **Meindert Kuipers** on 7 Nov 2005, 2:39 a.m.,*
in response to message #2 by Wilson (Bill) Holes

I will support .MOD files in a later version of the software

Meindert

Re: MLDL - How to convert mod files

*Message #5 Posted by **Matthias Wehrli** on 7 Nov 2005, 5:18 p.m.,*
in response to message #1 by PeterP

Yes, I´ve got it!

If you are as crazy as I am, you have 245 pages (FLASH) full of different images... And I´m still not finished.. I think, I really need a second unit, Meindert.

Re: MLDL - How to convert mod files

*Message #6 Posted by **Meindert Kuipers** on 8 Nov 2005, 4:00 a.m.,*
in response to message #5 by Matthias Wehrli

I really did not think there were more images than would fit in the MLDL2000, but you beat me here. Your 2nd unit is on my list ;)

I really want to know if the modules also work and which modules cause problems, but that may be a bit more work than just downloading ....

Meindert

Re: MLDL - How to convert mod files

*Message #7 Posted by **Matthias Wehrli** on 8 Nov 2005, 6:43 a.m.,*
in response to message #6 by Meindert Kuipers

Hi Meindert

Shure. I guess the top of the "problem-making-module-list" will be ServiceROMs, BankSwitching Modules and Autostart Modules. Unfortuantelly I do not have manuals of many of these modules...

BY the way: My MLDL has double memory, is this correct? If so, I have enough space for the rest of the modules ;)

Yours, Matthias

Re: MLDL - How to convert mod files

*Message #8 Posted by **Meindert Kuipers** on 8 Nov 2005, 7:08 a.m.,*
in response to message #7 by Matthias Wehrli

Service ROM is tested and works, bankswitching needs some more extensive testing, but I do n\know that Advantage works. Autostart would be interesting, but should not really cuase problems. I do know that HEPAX does not work.

So if any on the forum has tested ROM images in the MLDL2000, please let me know!

Your extra memory is all SRAM, so less save from power failures (and not tested ;)

Meindert

Re: MLDL - How to convert mod files

*Message #9 Posted by **Marcus von Cube, Germany** on 8 Nov 2005, 6:45 a.m.,*
in response to message #5 by Matthias Wehrli

Matthias,

crazy you are...

Do you really have 245 different images or did you copy some images to more than one page?

Or do you have different versions of the same module?

Marcus

Re: MLDL - How to convert mod files

*Message #10 Posted by **Matthias Wehrli** on 8 Nov 2005, 10:45 a.m.,*
in response to message #9 by Marcus von Cube, Germany

Hi

Most of the images (not modules!) are different, I think about 235. Shure I added CCD A, CCD B, CCD OS/X and CCD modified as they are all different. Note that each ZEPROM needs 16k = 4 pages, so some modules need a lot of pages (for instance the SMI modules). Maybe there is also a Sandbox-3D 4k and 8k version on my MLDL... I found some EPROMs I finally copied into the MLDL (I was waiting for this for a long time).

Matthias

Re: MLDL - How to convert mod files

*Message #11 Posted by **Vieira, L. C. (Brazil)** on 8 Nov 2005, 2:53 p.m.,*
in response to message #10 by Matthias Wehrli

Hi Matthias, all;

any chance to access these different ROM contents? I'm building my MLDL2000 with connectors instead of direct soldering wires and specific add-ons to hold PCB's inside the card reader shelter, so I believe I'll get it ready till this very weekend. I'm recording each step with pictures and, as soon as it is finished and working, I'm posting the complete sequence.

I hope I have as much ROM images as possible, either in the MLDL memory itself or in a PC I'm building just for HP calculators' related stuff (a Celeron 450MHz, 128MBytesRAM, 20GB HardDisk, all of this already with me) with all possible I/O ports. This way, everything I need will be there and HP41 ROM images are always welcome. I myself have the following actual ROM modules:

Extended IO (dont't know which version)
Financial 1C (there is a 1B, with some different listings)
Navigation (don't remember version right now)

As soon as I have the MLDL2000 working, I'm saving these. Please, let me know if there is a way to access the ROM images you mention above. I intend going ahead trying to develop something, if applicable. Or, if you prefer:

lcvieira@quantica.com.br

Thanks and best regards.

Luiz (Brazil)

Edited: 8 Nov 2005, 2:55 p.m.

Re: MLDL - How to convert mod files

*Message #12 Posted by **Etienne Victoria** on 8 Nov 2005, 6:18 p.m.,*
in response to message #11 by Vieira, L. C. (Brazil)

Hi Luiz, my friend!

Sorry to answer before Matthias but many Rom images are downloadable from TOS!

Am I missing something here?? I confess not having an MLDL but these images seem to me the exact format needed by the MLDL!!

Sorry again to interfer!

I'll delete if inappropriate...of course

All the best!

Etienne

Re: MLDL - How to convert mod files

*Message #13 Posted by **Vieira, Luiz C. (Brazil)** on 8 Nov 2005, 10:17 p.m.,*
in response to message #12 by Etienne Victoria

Hello, Etienne; thank you for your answer!

I have already been at TOS and found at least one of each of the most well known (or early available) ROM's, but Matthias has many versions of the same ROM. I know many of them were revised and updated. I have a FINANCE 1C and once I had the chance to use a FINANCE 1B. The 1C version has part of the listing for a few functions rewriten when compared to the 1B. I printed all of the 1B contents and still have it, but I am worried about the fact that the blue thermal papper is beginning to fade out (it's been more almost two decades since I printed it...).

About ROM and MOD. It seems to me they are different from each other, hence the need to convert, but as I have no operating RAM box so far, I cant tell anything about this.

Thanks again, Etienne. And be well.

Cheers.

Luiz (Brèsil)

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Batteries for 41CV or 33E

*Message #1 Posted by **Stephen Easterling** on 5 Nov 2005, 6:43 p.m.*

I'm looking to add a Spice and a Coconut to my collection. I don't really have any preference as to which model as long as it in excellent - mint condition and works properly. While shopping for these (and BTW, if you have one for sale or trade, let me know), what should I be concerned about regarding batteries? Can I use regular Duracell / Energizer / etc. batteries in them, or do I have to use the rechargable batteries that is supposed to come with the calculator? I don't want to damage the calculator with regular alkaline batteries if I'm supposed to use rechargables. Thanks in advance for your suggestions.

Re: Batteries for 41CV or 33E

*Message #2 Posted by **Les Bell** on 5 Nov 2005, 6:49 p.m.,*
in response to message #1 by Stephen Easterling

Spices were rechargeable, but the 41's came with a battery pack for 4 x N-sized dry cells as standard. The rechargeable battery was an option.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Batteries for 41CV or 33E

*Message #3 Posted by **Stephen Easterling** on 5 Nov 2005, 6:58 p.m.,*
in response to message #2 by Les Bell

So if I buy a 33C, 33E, or 34C I need to make sure I use it only with the rechargable battery pack, right? If they're selling just the calculator and case and I don't want to mess with a battery pack, the I should pass on it, right?

For the 41CV or 41CX, I can always run some Duracel "N" batterie, right? My 28S uses them and I never mind staying on top of the battery situation.

Thanks for helping out!

Re: Batteries for 41CV or 33E

*Message #4 Posted by **Les Bell** on 5 Nov 2005, 10:01 p.m.,*
in response to message #3 by Stephen Easterling

I'm no expert on the Spice series, though I did buy a 32E for my girlfriend years ago. But if you get one with a dead battery pack, it shouldn't be too difficult to replace the batteries with new rechargeables.

The 41's, though, have a choice of N cells or the rechargeable pack, though you'd really only want the latter if you're using the card reader more than occasionally.

Best,

--- Les
[http://www.lesbell.com.au]

Another Look at Alkaline vs. Rechargeable Batteries for HP-41

*Message #5 Posted by **James F. Chumbley** on 8 Nov 2005, 3:59 a.m.,*
in response to message #4 by Les Bell

Gulp, pardon me for intruding, but I would like to comment on the remark about the rechargeable battery pack and the card reader usage.

According to HP's own specifications, the Alkaline batteries have 11 times the capacity of a fully charged rechargeable battery pack. If minimizing the cost of batteries is the object, I suppose that one could make the argument that a rechargeable battery pack would be preferable, but if the reliability of the card write/read function is the most important, as it certainly would be to me, then a person should always opt for installing a brand-new set of Alkaline cells before beginning to write or read a long series of cards with the 82104A reader.

Jim Chumbley

Edited: 8 Nov 2005, 4:01 a.m.

Re: Another Look at Alkaline vs. Rechargeable Batteries for HP-41

*Message #6 Posted by **David Smith** on 8 Nov 2005, 11:40 a.m.,*
in response to message #5 by James F. Chumbley

The alkalines have higher capacity, but the nicads can deliver more peak power. Their discharge curve is more suited to the card reader power requirements than the alkalines. You will probably get more read cycles off of a set of freshly charged nicads than fresh alkalines.

Re: Another Look at Alkaline vs. Rechargeable Batteries for HP-41

*Message #7 Posted by **Garth Wilson** on 8 Nov 2005, 1:26 p.m.,*
in response to message #6 by David Smith

So how much current does the card reader take, anyway? And how many seconds does it take to run a card through? One? According to my old Radio Shack battery guide book, running an ankaline N cell at 300mA (which I expect is considerably more than the card reader takes) for four minutes every hour, eight hours a day, with 16 hours' rest (enough for over 200 cards in those four minutes if I remember about how fast they go through, and if it really took 300mA),it should still last 70 minutes of the card reader motor actually running, or about 4000 card passes. I expect however that the card reader takes less than that amount of current, and that probably even the most dedicated user doesn't do 4000 card passes *in a year*, let alone in the self-discharge time of a rechargeable battery. Since you also can't keep feeding them non-stop for four minutes (or even a tenth of that time), there will be more recovery time between them.

I got the tape drive instead. Generally it was a much better solution, but I didn't like the fact that they made it unable to take regular alkaline batteries so I could leave it logging data remotely and automatically for a whole work day. The NiCads were only good for four hours on a charge if they were in new condition, whereas a set of alkalines could have gone a couple of days.

Re: Batteries for 41CV or 33E

*Message #8 Posted by **Stephen Easterling** on 5 Nov 2005, 10:40 p.m.,*
in response to message #1 by Stephen Easterling

Okay, I've reconsidered this. What if... I just used typical rechargable batteries that I find at Radio Shack, Wal-Mart, etc. in leiu of the original battery pack that was designed for the calculators (including models from the Classics, Topcats, Coconuts, and Spice)? This way I could expand my collection to include some of the older HP families without going nuts of trying to hunt down some hard-to-find battery pack designed to only work in this calcs. I really don't plan to use them for hardcore work but to give them an easy life of just doing the bills and a few logarithms at work (no programs or need for expansions cards). I hear a lot of talk about battery packs for these older units and don't want to put myself in a position where I'm always on the lookout for a special part. I want some degree of convenience and accessibilty when it comes to powering these little machines. Thanks again for the help and direction so I can make good decisions to build my collection.

Re: Batteries for 41CV or 33E

*Message #9 Posted by **Hal** on 6 Nov 2005, 2:21 a.m.,*
in response to message #8 by Stephen Easterling

Hi Steve. You won't be able to find original batteries for any of the Spice, Woodstock, or Classic HP's. The rechargables currently available (at Radio Shack, etc) work just fine though. The original batteries for my 29c were rated at 1.25v, and of course they are long since dead, but the Radio Shack NiMH's I'm using now (which are rated at 1.2v) work just fine. I would shy away from using alkalines, as their voltage rating is 1.5v, and I've measured them at 1.7v, which may be getting a bit high (allthough I did use them for a short period in my 29c, with no apparent ill effects). Good luck expanding your collection. Best regards, Hal

Re: Batteries for 41CV or 33E

*Message #10 Posted by **Stephen Easterling** on 6 Nov 2005, 7:26 a.m.,*
in response to message #9 by Hal

Okay, great! Thanks for the help. I now feel that I can expand my collection of older HPs using the Radio Shack rechargables as long as I keep the voltage at the proper level.

Re: Batteries for 41CV or 33E

*Message #11 Posted by **Randy** on 6 Nov 2005, 8:13 a.m.,*
in response to message #10 by Stephen Easterling

I would not recommend any mass marketed consumer type AA's in a Spice - they're too long and you will most likely break the battery tabs off using them.

You want to purchase any ni-cd or ni-mh cells with flat ends as these are a bit shorter and provide more contact area, they have no pointed tip on the + end as you find with consumer batteries. Any good battery store or Digikey can supply. You also need the welded strap on one end for good contact, the small metal piece in the original Spice pack isn't sufficent.

See Katie's article for numbers: Replacement batteries

Edited: 6 Nov 2005, 8:14 a.m.

Re: Batteries for 41CV or 33E

*Message #12 Posted by **Stephen Easterling** on 6 Nov 2005, 11:55 a.m.,*
in response to message #11 by Randy

Thanks for that great piece of advice. I'm just wanting to do this right. I don't plan to use an LED model professionally. The most action they'll see will be just doing the bills.

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What was the first BASIC programmable CASIO calculator?

*Message #1 Posted by **Gonzalo Fernandez (Spain)** on 5 Nov 2005, 3:59 p.m.*

I know it´s not HP related, but I would like to know what was the first released BASIC programmable CASIO calculator, the PB-100 or the FX-702P?

thanks

Re: What was the first BASIC programmable CASIO calculator?

*Message #2 Posted by **Joao** on 5 Nov 2005, 8:00 p.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

It looks like the FX 702P predates both.

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New eBay Price Gouging HP Seller

*Message #1 Posted by **Howard Owen** on 5 Nov 2005, 11:33 a.m.*

32sii for $399.99 One of four.

Re: New eBay Price Gouging HP Seller

*Message #2 Posted by **Andy** on 5 Nov 2005, 12:11 p.m.,*
in response to message #1 by Howard Owen

"A fool and his money are soon parted"

Re: New eBay Price Gouging HP Seller

*Message #3 Posted by **I, Claudius** on 5 Nov 2005, 12:56 p.m.,*
in response to message #1 by Howard Owen

If HP was wondering if the "Bring Back the HP15C" idea won't bring in some bucks if it makes a truly decent scientific calculator should look at these aftermarket scalper (probably Samson Cables under a different eBay name) prices. HP could charge $100 plus per unit and still sell boatloads.

Edited: 5 Nov 2005, 1:09 p.m.

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Recovering the data from Series80 tapes

*Message #1 Posted by **Vassilis Prevelakis** on 5 Nov 2005, 5:40 a.m.*

The following is a summary of a thread on the classic computer mailing list.

The problem with the old HP 9162-0061 data cartridges is that the magnetic coating peels off from the (transparent) tape causing the machine to stop accessing the tape with an EOT warning. This is actually very good news because it means that the damage is localized (a few mm of tape with scrapped off magnetic coating).

BTW here is a picture of a damaged tape:

http://www.series80.org/Articles/DamagedTape.jpg

Tony Duell suggested that tapes stuck onto themselves and I took apart two old tapes and found the following:

Assuming that the tapes were rewound before storage, there are two stretches of weakened magnetic coating on both tapes I looked at; the first was short while the second longer. These correspond to the length of tape in contact with the drive belt

In

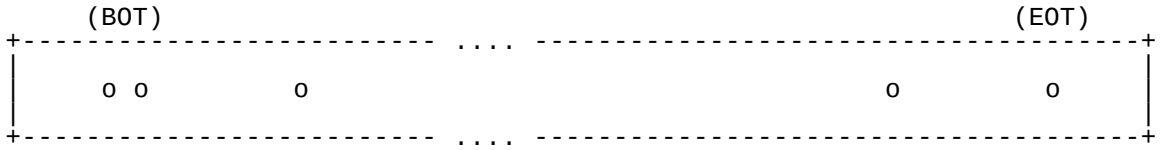
http://www.series80.org/Articles/tape-cartridge-lr.gif

you can see that on the take up reel (left) there is less tape in contact with the drive tensioning belt, while on the right hand reel (which has most of the tape and hence a longer radius) more tape comes in contact with the belt.

Looking closely at the belt, I can see remnants of tape oxide stuck on it (in fact its stuck so well, I could not remove it).

So how come we get an EOT error when using these tapes?

The tape has tiny holes near the beginning and end signifying BOT and EOT.



I assume that the first hole signifies the end of the data region and then if the drive sees one hole its EOT, while if it sees two holes (prob. more than one) its BOT.

So when it sees the blank region, it interprets it as one hole and reports end of tape.

Using a marker to paint (on the back side of the tape) over the region does not work, since the markers I tried allow some light to go through. I stuck a piece of splicing tape and that took care of the hole, but I got a DATA error. I guess the 85 needs some of the info that is missing from the tape.

I have also noticed that the tape does indeed stick onto itself on the right hand reel, but if you unwind it slowly you can get it unstuck without damaging it. I assume that conditioning the tape by warming it up before use may reduce this sticking problem, but I still would not want to fast wind a tape in that condition.

Given the above, I am even more confident about data recovery, as we may be able to use the existing tape mechanism of the 85 to read the data by skipping the regions that appear blank until the tape un-spools and the drive stalls.

Proposal 1

To do this I would need to manually rewind the tape till the BOT sensor, mount it on the tape drive and advance it past the read/write head till I run out of tape (tape unspools from the supply reel).

While this is going on I am recording the output of both heads via the audio in port of my PC sound card (maybe use two separate sound cards to avoid cross talk?).

Data extraction rig:

1) audio connection: what kind of set-up would be required to connect the heads to the audio card. From the schematics I see that there are essentially three connections to each head:

```
Head 0: H0, CT0, and HC
Head 1: H1, CT1, and HC (HC is common to both heads)
```

But I am not sure what these are used for.

2) running the tape at a constant 11ips. There is a circuit that uses the tachometer wheel to control the tape speed, but again I am not sure how to program (?) the tape controller IC (U1) to move the tape. (I may need to disable the BOT/EOT sensors, but that should not be a problem).

I am lucky to have a 9915A as my test bed which allows far easier access to the tape drive mechanism than the HP-85 (and does not have these evil ribbon cables).

Unfortunately I do not have a scope, but I can borrow one for a short period if necessary. I have a logic analyzer.

Proposal 2

Another plan is to get the tape moving at 11 ips and then tap the output of the read/write IC (1820-2418) in the HP-85 tape drive to get the bits from the tape.

This allows the use of existing hardware. But still requires programming the tape controller.

I wish I could understand this infernal assembly language of the 85 so that I could look at the internal routines that access the tape for ideas.

Tony suggested to look at the diagrams of the 9815 and 9825 for clues on the tape drive mechanism and the pre-amp. I have looked at them but I do not have access to a 9815 or 9825.

Do note that the speeds of the various tape drive differ:

```
HP 9825 22ips
HP 9835 22ips
HP 9845 22ips
HP 85   11ips
HP 9815 10ips
```

Any comments, words of advice are always welcome.

**vp

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Viewing the full mantissa on a 41C

*Message #1 Posted by **Marcus von Cube, Germany** on 5 Nov 2005, 4:38 a.m.*

Hello to all!

On most HP RPN calculators there is a function "clear prefix" which duplicates as a means to view the full mantissa of the value in X while held down.

I couldn't find anything similar on my HP 41CV. My fault or an omission by HP?

Re: Viewing the full mantissa on a 41C

*Message #2 Posted by **Vassilis Prevelakis** on 5 Nov 2005, 5:09 a.m.,*
in response to message #1 by Marcus von Cube, Germany

```
Marcus von Cube wrote:
> On most HP RPN calculators there is a function "clear prefix"
> which duplicates as a means to view the full mantissa of the
> value in X while held down.
>
> I couldn't find anything similar on my HP 41CV.
```

I think the 41 was caught in the midst of a transition from the era where a separate command (DSP) was used to specify the precision to the new way of integrating it with the mode command (FIX/SCI/ENG).

E.g. on the HP-67/97 FIX/SCI/ENG do not take an argument, while on the HP-41 and later models they take the number of digits to display.

On the Spice series (introduced in the same timeframe as the 41) the small display (in the sense that they could display fewer digits than previous models because of the larger digits) the use of the MANT command was imperative.

**vp

Re: Viewing the full mantissa on a 41C

*Message #3 Posted by **Thomas Okken** on 5 Nov 2005, 9:22 a.m.,*
in response to message #2 by Vassilis Prevelakis

...or to look at it differently, the MANT command became necessary with the Woodstocks, since unlike the Classics before them, they could not display 10 digits in SCI mode.

But, it wasn't until the Spice series that the MANT command actually appeared -- and that's after the introduction of the 41C.

I don't have a 41 any more, but I seem to remember that, in SCI 9 mode, ARCL would recall the full 10-digit mantissa to the alpha register. If that's true, you could use that to create a pseudo-MANT command.

Re: Viewing the full mantissa on a 41C

*Message #4 Posted by **Andrés Rodríguez (Argentina)** on 5 Nov 2005, 10:31 a.m.,*
in response to message #2 by Vassilis Prevelakis

The decision to implement separate DSP and FIX/SCI/ENG instructions has to do with op-code space preservation. The HP 67 (as the HP 25 and others) used just one byte to encode each instruction, hence there are only 256 op-codes available. With a rather rich set of instructions, you need to be careful in order to avoid running out of possible op-codes. The separate option uses just 13 op-codes for all display formats (FIX, SCI, ENG, DSP 0, DSP 1, ... DSP 9), while the unified style requires 30 op-codes (FIX 0, FIX 1, ... FIX 9; SCI 0, ... SCI 9; ENG 0, ... ENG 9), too costly a sacrifice for the HP 67.

As the HP 25 had a not-so-rich instruction set, it could spend more op-code space without too much concern.

The HP 41 introduced multi-byte instructions, so the restriction was avoided.

Of course, op-codes are the manner in which instructions are stored as program steps.

Re: Viewing the full mantissa on a 41C

*Message #5 Posted by **Etienne Victoria** on 5 Nov 2005, 10:51 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Hallo Marcus,

The PPC developed a very efficient code for the Mantissa function.

I keep it permanently assigned to my SHIFT ENTER key.

This function, named MT, was built in the PPC ROM Module :

```
01 LBL 'MT'
02 CLA
03 STO [
04 ASTO [
05 INT
06 X<>0?
07 APPEND DIAMOND
08 X=0?
09 APPEND
10 CLX
11 ST+ [
12 X<>[
13 RTN
```

APPEND & DIAMOND: Hex characters in string (refer to combined Hex table).

SOURCE: The PPC ROM USERS MANUAL P. 349

Friendly regards from France.

Etienne

Edited: 5 Nov 2005, 11:05 a.m.

Re: Viewing the full mantissa on a 41C

*Message #6 Posted by **Etienne Victoria** on 5 Nov 2005, 11:42 a.m.,*
in response to message #5 by Etienne Victoria

Sorry,

It came to my mind that many people still have an IBM PC compatible and can't get all characters.

Therefore, please find hereunder the "graphical listing" for MT:

http://homepage.mac.com/etienne.victoria/.Pictures/Photo%20Album%20Pictures/2005-11-05%2008.39.46%20-0800/Image-AE70F9204E1A11DA.jpg

[is register M and DIAMOND is hex 00.

Oh yes, and you can LastX the full number after looking at the mantissa!

Thanks.

Etienne

Edited: 5 Nov 2005, 12:59 p.m.

Re: Viewing the full mantissa on a 41C

*Message #7 Posted by **Ángel Martin** on 7 Nov 2005, 4:43 a.m.,*
in response to message #1 by Marcus von Cube, Germany

Hi,

in case this is useful, both the SandBox and the SandMath-III include a VMANT function. M-Code, based on that published in the Ken Emery's book, it shows the mantissa without disturbing X.

Besides, the SandMath-III also has MANT function to replace x with its mantissa.

Best, ÁM

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HP 48g - Screen won't turn on -HELP!!!

*Message #1 Posted by **Caribe T** on 4 Nov 2005, 8:34 p.m.*

Right - I may well deserve what I get here. I opened my 48g and put it back together (I am/was planning to upgrade it...that aint been done yet). However, after putting it back together it no longer turns on when I push the 'on' button. When I put the batteries in, the screen does momentarily flash dark and then it stays off. Did I some how kill it? Have I lost all memory (if it does get lost, would this stop the calculatot turning on)? Can anyone help me find out if I have completely fried it? Thanks, Caribe

Edited: 4 Nov 2005, 9:04 p.m.

Re: HP 48g - Screen won't turn on -HELP!!!

*Message #2 Posted by **James M. Prange (Michigan)** on 4 Nov 2005, 9:46 p.m.,*
in response to message #1 by Caribe T

Well, before trying something like opening the calculator, I'd advise archiving anything that you want to save to your PC. But what's done is done.

Are you sure that you're inserting the batteries with the proper polarity? Are you sure that the batteries are good?

It does sound to me like some sort of hardware problem, but strange things could happen if RAM gets corrupted (such as by being without power for too long).

It could be that the calculator really is on, but isn't displaying anything. The following solutions assume that the calculator is on.

Try a warmstart, that is hold down the ON key, press and release C, release ON.

If that doesn't work, try forcing a warmstart with a paper-clip reset. Remove the upper right (as viewed from the back) rubber foot. You'll see a small hole with the letter R next to it. Insert a straightened paper-clip (or something similar) straight in as far as it will go, and release it.

If that doesn't work, and you're willing to lose everything you had stored on the calculator, try clearing all user memory. Hold down ON, hold down A, press and release F, release A, release ON.

Regards,
James

Re: HP 48g - Screen won't turn on -HELP!!!

*Message #3 Posted by **Caribe T** on 4 Nov 2005, 10:01 p.m.,*
in response to message #2 by James M. Prange (Michigan)

I tried all that you said and still nothing shows up on the screen. I don't mind losing memory - I just want to get it working again. The batteries are good and they are the right polarity. When I reinsert the batteries,

the screen still momentarily flashes on. I am wondering if I damaged the 'on' button when opening it. If there is a possibility that the 'on' button is damaged, anyone have any info on how to fix them? Any other ideas? I think that I may have pushed the 'on' button without any batteries (thus causing memory loss apparently.) Would this cause the calculator not to turn on? I have tried connecting it to the PC via serial and then tried to grab an image of the screen but nothing happens (which is leading me to thing that it isn't turning on).Thanks

Caribe

Edited: 4 Nov 2005, 10:07 p.m.

Re: HP 48g - Screen won't turn on -HELP!!!

*Message #4 Posted by **Caribe T** on 5 Nov 2005, 5:02 a.m.,*
in response to message #1 by Caribe T

I am so rapt at the moment cause I got my wonderful 48g going again! After trying a number of things I just thought that I might as well put the batteries in the opposite way (reverse polarity) and then put them back the correct way (though that I might as well try) - then I heard it beep back to life and it asked if I would like to try and recover the memory. Mate that nearly knocked me off my chair as I was sure it was dead! I don't know what this did electronically to it but what ever it did, it fixed it! Someone out there might be able to explain what happened there. Anyway, maybe this will help someone else some day, who after opening it and putting it back together, seems to have a dead 48g. Thanks James for your help! Caribe

Re: HP 48g - Screen won't turn on -HELP!!!

*Message #5 Posted by **James M. Prange (Michigan)** on 5 Nov 2005, 5:22 a.m.,*
in response to message #4 by Caribe T

Well, I'm glad (and surprised) that that worked.

In general though, inserting the batteries backwards is a very bad idea. One reason is that there's a Zener diode across the batteries, for protection against electro-static discharges. Putting the batteries in reversed is likely to destroy this diode. If it fails "open", the calculator will probably work just fine, but if it fails as a "partial short", you may go through batteries very quickly.

For more on this, see these posts from a hardware designer of the 48 series.

Regards,
James

Edited: 5 Nov 2005, 5:33 a.m.

Re: HP 48g - Screen won't turn on -HELP!!!

*Message #6 Posted by **Caribe T** on 5 Nov 2005, 5:51 a.m.,*
in response to message #5 by James M. Prange (Michigan)

James' advice should be followed rather than what I did. I guess I will find out in a few days or so if the zener has failed as a 'partial short'. The calc seems to be working fine at the moment so I am hoping that the battery reversal didn't cause any damage. What would have been another way to fix the problem that I had? Can the zener diode be replaced if it is no good? (Do you think that the battery reversal would have definitely cause some internal damage or could I have got away with it?).

Caribe

Re: HP 48g - Screen won't turn on -HELP!!!

*Message #7 Posted by **James M. Prange (Michigan)** on 5 Nov 2005, 6:28 a.m.,*
in response to message #6 by Caribe T

Simply shorting across the battery terminals might've done the trick. Or removing the batteries and just letting the calculator sit for a few days, to give the capacitor time to discharge.

I suppose that the Zener could be replaced, but I really don't know exactly where it's located on the circuit board. It may well be a "surface-mounted" component, which would require skill with a soldering iron.

It seems to me that a better design would've been two Zeners in series, "head-to-head", that is, always one forward biased and the other reversed biased. If I recall correctly, these are available as discrete components, with both Zeners in one package, that is. I suppose that the designers weren't planning on people putting in the batteries reversed.

If the Zener fails "open", then probably little harm results, although it might not meed the original ESD requirements.

No, it's not certain that the Zener was damaged at all. Particularly if the reversed batteries were connected for only a few seconds, you may have "gotten away with it". My advice is to wait and see if you still get normal battery life.

Regards,
James

Edited: 5 Nov 2005, 6:36 a.m.

Re: HP 48g - Screen won't turn on -HELP!!!

*Message #8 Posted by **James M. Prange (Michigan)** on 5 Nov 2005, 6:57 a.m.,*
in response to message #7 by James M. Prange (Michigan)

P.S.

Also see http://www.engr.uvic.ca/~aschoorl/faq/48faq-4.html#ss4.4.

Regards,
James

Re: HP 48g - Screen won't turn on -HELP!!!

*Message #9 Posted by **Caribe T** on 5 Nov 2005, 7:17 a.m.,*
in response to message #7 by James M. Prange (Michigan)

You know of some very handy links thats for sure. I don't seem to find them when I do searches. I did part 8 of point 4.4 in the above link (though I certainly would have tried the previous ones beforehand had I know how damaging it could be) - I did only put them in 'VERY BRIEFLY' so I count my self very lucky that my 48g works (even if it possibly is damaged). Thanks again James - you're worth your weight in gold mate!!!

Re: HP 48g - Speaking of Zeners

*Message #10 Posted by **Randy** on 5 Nov 2005, 7:53 a.m.,*
in response to message #9 by Caribe T

If your 48G serial number begins with the letters "ID", it ** will not ** have a zener installed. They were eliminated in late 1995 to early 1996, depending upon the model (G/GX). All S/SX's have them.

The easiest way to wake up a dead 48 when it's out of it's case is to discharge the 1000uf memory back up cap. Putting the batteries in backwards achieves the same thing but it's a bad idea IMO. If it's not open, leaving the batteries out overnight should work as well.

Of course I'm assuming a good 'ole standard paper clip induced warm-start didn't help...

Edited: 5 Nov 2005, 7:58 a.m.

Re: HP 48g - Speaking of Zeners

*Message #11 Posted by **Caribe T** on 5 Nov 2005, 9:14 p.m.,*
in response to message #10 by Randy

I don't have the letters "ID" in the serial number but it was made in the 45th week of 1995 (I must say that it is in great condition for such an old calculator - I had it given to me). So not sure if it would have a zener or not

Re: HP 48g - Speaking of Zeners

*Message #12 Posted by **Randy** on 5 Nov 2005, 9:50 p.m.,*
in response to message #11 by Caribe T

I can't say either as I don't have enough data on date codes in that range :(

What I can tell you is if the unit worked after the reversed polarity batteries and but now eats a set of batteries in a week or less, it has a zener and it has failed as a result of the forward biasing.

Re: HP 48g - Speaking of Zeners

*Message #13 Posted by **bill platt** on 5 Nov 2005, 11:45 p.m.,*
in response to message #10 by Randy

Speaking of Zeners, I miss Norm :-)

Re: HP 48g - Speaking of Zeners

*Message #14 Posted by **db (martinez, ca.)** on 6 Nov 2005, 2:09 a.m.,*
in response to message #13 by bill platt

No kaka Bill. Norm is one of the good ones. I sent him an email a while back but got no answer. Some of the superheros like spiderman, superman, & batman have come back in the form of movies. Maybe we can hope for "Captain Zener Rides Again".

Re: HP 48g - Speaking of Zeners

*Message #15 Posted by **Ed Look** on 6 Nov 2005, 3:28 p.m.,*
in response to message #14 by db (martinez, ca.)

Gee, I hope he's all right.

Re: HP 48g - Speaking of Zeners

*Message #16 Posted by **James M. Prange (Michigan)** on 6 Nov 2005, 11:29 p.m.,*
in response to message #10 by Randy

Do you happen to know whether the 49G and 49g+ have this Zener?

Regards,
James

Re: HP 48g - current flow if Zener fried

*Message #17 Posted by **Caribe T** on 6 Nov 2005, 3:33 p.m.,*
in response to message #7 by James M. Prange (Michigan)

Does any one know what amount of current flow out of the batteries you might get if the zener does have a partial short. (I am not an electrician, but shouldn't I be able to tell how quickly the batteries are draining by comparing the flow that is going through now to what it should be?)Anyone know what is the normal current flow when the 48g is off? Caribe

Re: HP 48g - current flow if Zener fried

*Message #18 Posted by **James M. Prange (Michigan)** on 6 Nov 2005, 11:07 p.m.,*
in response to message #17 by Caribe T

> Quote:
>
> Does any one know what amount of current flow out of the batteries you might get if the zener does have a partial short.

More than normal.

> Quote:
>
> (I am not an electrician, but shouldn't I be able to tell how quickly the batteries are draining by comparing the flow that is going through now to what it should be?)

Certainly, provided that your ammeter is capable of registering such low currents.

> Quote:
>
> Anyone know what is the normal current flow when the 48g is off?

If I recall correctly, a fraction of a milliamp with the calculator off. Try some of the posts in this search. I'd trust information from Dave Arnett a bit farther, as in this other search.

I'd recommend checking the current with the calculator off, but also after leaving it off for at least a half hour. Even better, put it into coma mode by holding down ON, pressing and releasing SPC, then releasing ON. In coma mode, even the system clock is stopped, so it's only drawing enough current to maintain static RAM, that is, the CMOS leakage current.

To wake up from coma mode, simply press ON, and of course the clock will need resetting

if you use it. Coma mode will also clear the warmstart log, which you can view in the 48G (and 49) series by executing WSLOG.

Regards,
James

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Spice battery connection: images

*Message #1 Posted by **Vieira, L.C. (Brazil)** on 4 Nov 2005, 7:26 p.m.*

Hi, all;

about a month ago I was asked about images and information related to connections in Spice models. I once repaired one HP31E and it worked perfectly fine. I replaced the entire flex circuit for a cut of flat cable (used in computers to connect drivers). The pictures in both links illustrate the 'good' and the 'restored'.

Hope this helps those who need. (In fact, I am not sure if I sent these images to the one who asked me for them... Sorry!)

Cheers.

Luiz (Brazil)

Edited: 4 Nov 2005, 7:26 p.m.

Re: Spice battery connection: images

*Message #2 Posted by **Ed Look** on 5 Nov 2005, 12:06 a.m.,*
in response to message #1 by Vieira, L.C. (Brazil)

You guys are one bunch of brave men... ... or insanely rich... ... or have a secret cache of old HPs! ;)

Re: Spice battery connection: images

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 5 Nov 2005, 2:05 a.m.,*
in response to message #2 by Ed Look

...or in the desperate need to bring a calculator back to business. qB^(

I forgot to mention that the one that's been restored had a partially destroyed flex circuit (the one that is good remains good, it is unchanged), and after the 'restoration', it worked perfectly (it was, in fact, 'dead').d8^)

I am not sure, but it seems to me you thought I removed a good flex circuit and place a cut of flat cable. q8^O If I had done such a thing, this would be the last place I'd risk (my head) mentioning the fact... That would be insane, you bet! d8^)

Best regards, Ed.

Luiz (Brazil)

Re: Spice decimal separator: images

*Message #4 Posted by **Etienne Victoria** on 5 Nov 2005, 3:48 a.m.,*

in response to message #3 by Vieira, Luiz C. (Brazil)

Bonjour Luiz, all!

And for the fellows who already opened their calc and want to change the decimal separator, here is the picture of the jumper to cut (Europe) or solder (US). It is the LEFT one on the picture:
http://homepage.mac.com/etienne.victoria/.Pictures/Photo%20Album%20Pictures/2005-10-19%2009.14.27%20-0700/Image-9901152E40BA11DA.jpg

and how to get to it: Decimal separator change

Have a nice day!

Etienne

Problem with Spice display (was: Re: Spice decimal separator: images)

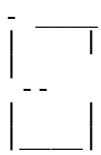
*Message #5 Posted by **Gerson W. Barbosa** on 5 Nov 2005, 11:28 a.m.,*
in response to message #4 by Etienne Victoria

Hello Etienne,

Nice picture! When I opened my 34C to change decimal point to comma, I took some photos too, but none are so clear as yours.

The most difficult thing was separating the case halves. I tried the dental floss trick but it didn't work (perhaps the quality of the dental floss I had at home was not so good). I found a good tip at Hugh Steers's site.

I had to rebuild the battery pack and fix the battery contacts which were broken, but the calculator worked fine until last week, when two segments ('a' and 'g' of the leftmost digit started to faint. Awkwardly only half of these segments remain lit. Now it looks like this:



When I removed the redish lid I noticed signs of battery leakage I hadn't notice before. Is this irreversible? It's very easy to replace the display, the problem is findind a replacement.

Thanks,

Gerson.

P.S.: This should be a separate topic, but since you and Luiz have a good experience with Spices, I thought you might help.

Re: Problem with Spice display (was: Re: Spice decimal separator: images)

*Message #6 Posted by **Etienne Victoria** on 5 Nov 2005, 12:41 p.m.,*
in response to message #5 by Gerson W. Barbosa

Hello Gerson,

If only a **part** of each **segment** does not light, then you should test the display.

Here's what I usually do (Luiz might have a better idea):

1) Take the display out if unsoldered otherwise use your probes.

2) With an ohmeter, check continuity of each display circuit track from pin to end of visible track. If a track is broken, tin it with your iron.

3) With your bench PSU at 1,5V DC (+current limit to 20mA if you can), apply BRIEFLY voltage directly to couples of the display pins.

Powering anode & cathode should (and I hope will) light the corresponding segment for each couple.

Continue till you find an offending segment.

If all segments light this way, then the problem is NOT with the display.

4) If problem is not with the display, repost here for us to go further.

5) If problem is with the display, let's wait for somebody else's idea because I've tried everything including ultrasonic cleaning with no result.

6) If nobody has a better idea, check your mail once again :-)

Best regards from France!

Etienne

PS: Well, I'm getting snobish with my "PSU", a simple 1,5V battery will do ;-)

Edited: 5 Nov 2005, 12:49 p.m.

Re: Problem with Spice display (was: Re: Spice decimal separator: images)

*Message #7 Posted by **Vieira, L.C. (Brazil)** on 5 Nov 2005, 1:15 p.m.,*
in response to message #6 by Etienne Victoria

Hi Etienne, Gerson, guys;

I guess that we can point out other ways, but this one Etienne described seems to be fast, accurate and easy. I`d add that most digital multimeters can briefly lit a LED segment with their own measuring current, when set either to the highest resistence value or to semiconductor (diode symbol). In such circumstances, it is easy to see which terminal goes to each digit, and which terminal is common to each segment (I usually refer to it as `segment matrix` when teaching, as a form of comparison) hence finding the best way to test each segment faster.

About having part of a segment lit: I had problems like this one, too, and I remember that one of them was exactly doe to some sort of dust from battery leakage. I tried to remove with chemical solutions and the display was destroyed for good...d8^(

Sorry not helping too much.

Cheers.

Luiz (Brazil)

Re: Problem with Spice display (was: Re: Spice decimal separator: images)

*Message #8 Posted by **Gerson W. Barbosa** on 5 Nov 2005, 2:33 p.m.,*
in response to message #7 by Vieira, L.C. (Brazil)

Hello Luiz,

Thanks for your concern. If I cannot fix it, I will send it to you (if I receive the other 34C I am waiting for), along with your book for an autograph :-)

Last year I googled for your book (Da HP41 para a HP48) and find only two left: one in Belém and the other ... in a used books store just three blocks from home! This was in fact new, from an old stock and cost only R$ 17.00 (~$7.50). I read half a dozen pages and learned something I didn't know yet about the 48.

Cheers,

Gerson.

Re: Problem with Spice display (was: Re: Spice decimal separator: images)

*Message #9 Posted by **Vieira, L.C. (Brazil)** on 5 Nov 2005, 3:52 p.m.,*
in response to message #8 by Gerson W. Barbosa

Hey, Gerson, thanks! I appreciate your comments about the book.

In fact, my first one, writen in 1994/1995; took me three months writing, finished in January. I know that there are some `typos` and some stuff is missing, but I was so excited with the idea of having it published that I did not care too much. I remember that the revisor asked me if I did not miss something in the sentence:

"Avaliar é executar a ação associada ao objeto avaliado"
(To evaluate is to perform the action related to the object being evaluated)

He asked me "What is the action to be performed?". I thought I'd need some extra time to explain him, but I decided to ask him please to RTFM, in a polite way, of course, prior to discuss the subject... I hope I was not rude, though.

It will be a pleasure to sign your sample. Please, be my guest sending it and I'll add a few words of mine, too. BTW, have you been told about this subject? The English version exists, but has not yet been disclosed. As the Portuguese version is already available to be downloaded through the HP site, Brazil, I think there is no trouble spreading this news around, though.

About the HP34C and its LED display, I'd be more than happy to try to repair it, thanks. I am running out of free time these days, but in my vacation time I think of going ahead with some interrupted activities (good activities) related to HP calculators, electronics and the like.

Wrote too much, sorry folks.

Best regards and thanks again.

Luiz (Brazil)

You've got mail! (NT)

*Message #10 Posted by **Gerson W. Barbosa** on 6 Nov 2005, 11:22 a.m.,*
in response to message #9 by Vieira, L.C. (Brazil)

.

Re: Problem with Spice display (was: Re: Spice decimal separator: images)

*Message #11 Posted by **Gerson W. Barbosa** on 5 Nov 2005, 2:17 p.m.,*
in response to message #6 by Etienne Victoria

Hello Ettiene,

Thanks for your suggestions. I will try them next week as I left the 34C at work (it's always on my working desk!). For testing the display, I will use a digital multimeter with diode tester.

Warm regards from Brazil!

Gerson.

Re: Spice battery connection: images

*Message #12 Posted by **Etienne Victoria** on 5 Nov 2005, 3:54 a.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Hi Luiz again!!

Yes, why not confess :-))

For the Spice I kept for my own use (a 31E), I replaced completely the good flex with a cut of IDE disk flat cable and soldered the display once for all.

Since then, I NEVER had to reopen it for repair.

Kind regards from France!

Etienne

Re: Spice battery connection: images

*Message #13 Posted by **Vieira, L. C. (Brazil)** on 5 Nov 2005, 9:52 a.m.,*
in response to message #12 by Etienne Victoria

Hi Etienne, all;

Thank you for your very welcome additional information, Etienne. It is always good to see complementary information added this way, wiht the very intention to contribute. I appreciate that.

Merci et bonjour por vous aussi, Etienne.

Luiz (Brésil)

Re: Spice battery connection: images

*Message #14 Posted by **Tien** on 5 Nov 2005, 8:18 a.m.,*
in response to message #1 by Vieira, L.C. (Brazil)

Hi All,

Could someone explain in details how to open up the top and the bottom shells of a Spice? I have tried to open it up but the 2 shells are so tightly held together that I was afraid to break or damage something.

Thanks, Tien

Re: Spice battery connection: images

*Message #15 Posted by **Etienne Victoria** on 5 Nov 2005, 10:09 a.m.,*
in response to message #14 by Tien

Hi Tien,

Of course: Spice repair

Courtesy Tony Duell & Voidware.

Etienne

Edited: 5 Nov 2005, 10:09 a.m.

Re: Spice battery connection: images

*Message #16 Posted by **Tien** on 5 Nov 2005, 6:16 p.m.,*
in response to message #15 by Etienne Victoria

Merci beaucoup!!

Thank you very much!!

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9815 standard library tapes?

*Message #1 Posted by **John Ioannidis** on 4 Nov 2005, 4:09 p.m.*

The tapes that came with my 9815 are degraded. Can someone make me copies, or upload them in some form that I could then download?

THanks

/ji

Re: 9815 standard library tapes?

*Message #2 Posted by **Katie** on 4 Nov 2005, 8:07 p.m.,*
in response to message #1 by John Ioannidis

I've tried to make a copy of the "General Utility & Test Routines" tape (09815-10004) before without success. There seem to be some protected programs on that tape that can not be copied -- at least I can't figure out how to do that. If you can tell me how to make a copy of it please do and I'll send one to you.

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MLDL2000: something to talk about.

*Message #1 Posted by **Vieira, L.C. (Brazil)** on 4 Nov 2005, 3:52 p.m.*

Hi, all;

after a successful operation, a Meindert's MLDL2000 unit has been delivered today at my Po.Box. I openned it and found 'gold':

http://www.logeng.com.br/images/pic001_mldl_s.jpg http://www.logeng.com.br/images/pic002_mldl_s.jpg
http://www.logeng.com.br/images/pic003_mldl_s.jpg http://www.logeng.com.br/images/pic004_mldl_s.jpg

I'm delving into the documentation and I tell you all that I'm going to fulfill at least two of my oldest dreams as a professional: to know some of the HP41 ROM resources and to learn how to program in MCODE (and to create some of these...). I know, I know, it is ' ancient' technology but, c'mon, it is almost 30 Y.O. technology and we are still using it for our daily activities. The HP41 is already part of the history and thanks to these marvelous, updated development tools (thanks Meindert, Diego, Klug and others), we can go ahead finding some new stuff we can do with it.

Cheers.

Luiz (Brazil)

Edited: 4 Nov 2005, 3:54 p.m.

Re: MLDL2000: something to talk about.

*Message #2 Posted by **Matthias Wehrli** on 4 Nov 2005, 4:15 p.m.,*
in response to message #1 by Vieira, L.C. (Brazil)

Hi

As I told you a week ago I got my MLDL2000 last week. Up to now, I have about 150 images in it. All I can tell you is that this machine is the new spirit for the whole HP-41 scene. The programming is fast, esay and save. There is no risk of loosing your system when the internal backup battery is empty as it is a *real* problem in the ramboxes of W&W or ERAMCO. (Ok, the Profiset is a alternative, but who has a profiset? ;)

The only thing that I miss is a MCODE programm that makes images of a real module that is plugged in a defined port. I have a lot real modules we do not have an image of it.... Maybe someone can programm this "short" command for us/me.

In my mind I have something like this:

1. Give the machine a port (NOT AN HEX ADDRESS!), for instrance "8" 2. XEQ [ALPHA] CLONE [ALPHA] 3. The maching asks you, where to save the image (SRAM number of the MLDL), for instance "10". 4. This should copy the page 8 of the real module directly into the SRAM of the MLDL´s SRAM, number 10.

To prefer would be a command that does not requires to locate/define the memory of the MLDL first (That´s what the "MOVE" command of the ML-ROM needs).

Someone can follow my thoughts?

Matthias

Re: MLDL2000: something to talk about.

*Message #3 Posted by **Marcus von Cube, Germany** on 4 Nov 2005, 6:17 p.m.,*
in response to message #2 by Matthias Wehrli

Matthias,

you can use the ML ROM MOVE command, if your MLDL setup contains a writable RAM page. The MLDL manual (and the original setup) describes the steps as one of the testing scenarios.

For a program which is more flexible (working the way you describe), it will be neccessary to enable one Page as an I/O page (page 4 comes into play here). Then an MCODE program can write to any MLDL RAM address. This is a bit tricky (see the MLDL specification) but can be done. When the module is in MLDL RAM, it can be saved to disk via USB.

I haven't written a single line of MCODE yet, so I'm not the guy to ask.

Re: MLDL2000: something to talk about.

*Message #4 Posted by **Meindert Kuipers** on 7 Nov 2005, 2:44 a.m.,*
in response to message #3 by Marcus von Cube, Germany

This is possible, but as of yet untested and requires mcode programming indeed. It is probably easier to implement this using the I/O features and dump it straight to USB. This requires both mcode (but easier) and software on the PC as well.

Meindert

Re: MLDL2000: something to talk about.

*Message #5 Posted by **Matthias Wehrli** on 7 Nov 2005, 1:02 p.m.,*
in response to message #4 by Meindert Kuipers

I´ve got it! Finally I can make images of many modules... :) Thanks Meindert.

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Self-modifying programs for HP-41

*Message #1 Posted by **Geir Isene** on 4 Nov 2005, 1:49 p.m.*

One of my first real programs on a calculator was a self-modifying program for the TI-59. Even its ancestor, the SR-52 had this capability of self-programming.

I now need the same feature on my HP-41. I am looking at creating a small Petri Net (see http://en.wikipedia.org/wiki/Petri_nets) engine for the 41. Due to speed constraints on the 41 and because I would like to conduct Monte Carlo runs of the Petri Nets, I need the calculator to be able to devise a program from certain user inputs and then run the program a number of times in succession, then give the statistical outputs.

Any suggestions?

Re: Self-modifying programs for HP-41

*Message #2 Posted by **Vieira, L.C. (Brazil)** on 4 Nov 2005, 3:40 p.m.,*
in response to message #1 by Geir Isene

Hi, Geir;

not a solution for your case, I guess, but the AECROM (a custom ROM) has a program generator that builds programs from expressions writen in the ALPHA register. The program asks for the names of the variables that must match the names in the user expression ('formula'), so it creates the PROMPT's, and the resulting value is also labeled accordingly.

Hope this gives you some guidance.

Cheers.

Luiz (Brazil)

Off Topic

*Message #3 Posted by **Gileno** on 4 Nov 2005, 4:51 p.m.,*
in response to message #2 by Vieira, L.C. (Brazil)

Luiz, would you have lex files in the format 9114B?

Re: Off Topic

*Message #4 Posted by **Howard Owen** on 4 Nov 2005, 4:57 p.m.,*
in response to message #3 by Gileno

What OS are you using on your PC?

Re: Off Topic

*Message #5 Posted by **gileno** on 4 Nov 2005, 5:39 p.m.,*
in response to message #4 by Howard Owen

```
Windows 98Se
Do I format using 256 or 1024 bytes?
Thank's
```

Edited: 4 Nov 2005, 5:40 p.m.

Re: Off Topic

*Message #6 Posted by **Howard Owen** on 4 Nov 2005, 11:27 p.m.,*
in response to message #5 by gileno

The 9114B writes 256 byte sectors. PC hardware is capable of doing the same. It works under DOS and Linux on my ancient Compaq, and under Linux on a less ancient low end Dell server. But some combinations of floppy controller/system software seem to have trouble with the format. I do know that your chances of success are increased if you format the disk on the 9114 before trying to write to it from DOS. Also, covering the quad density hole is critical. The PC will try to read and write at that density if you don't, and that will fail to produce disks readable on the 9114 every time.

Re: Off Topic

*Message #7 Posted by **Garth Wilson** on 5 Nov 2005, 1:58 a.m.,*
in response to message #6 by Howard Owen

In my not-so-recent experience, what was written by the high-density drives was not readable by the only-double-density drives. It makes sense, if you think about the narrower head of the high-density drive recording over just the middle of any given track played by the double-density drive, leaving old data at the edges of the track, data which would conflict with the new material. Maybe it would work if you started with a disc that either had never been recorded on or had been erased with a bulk eraser. Someone who knows more about disc drives' insides might have some comments or corrections to offer, but this was my experience at my last place of work when the high-density floppies were just coming in and we had both densities for awhile in the late 1980's.

Re: Off Topic

*Message #8 Posted by **Howard Owen** on 5 Nov 2005, 2:57 a.m.,*
in response to message #7 by Garth Wilson

Except it actually works for me. Not only can I write a DS/DD image on a DS/HD drive, and onto either DS/HD or DS/DD media, I can write SS/DD media as well. It works on one of my systems and not another, as I mentioned, so it may be that differences in the width of the data written are in play. But it could as easily be that the non-working drive has been cursed by the floppy fairy, as far as I can tell. That is, I have no idea why it works in one case and not in another. All I can do is report my results.

Re: Off Topic

*Message #9 Posted by **Howard Owen** on 4 Nov 2005, 5:15 p.m.,*
in response to message #3 by Gileno

If you have Windows or DOS, do the following:

1. Format a disk in your 9114B.
2. If you are using standard PC DS/HD floppy disks, tape over the density select hole. (The one opposite the write protect tab.) before moving the disk over to your PC.
3. Download LIFutil from the museum ftp server.
4. Use it to write DOS files to your 9114B-formatted floppy disc.
5. Done!

This works on one of my PCs (an old Compaq Pentium) and not on another (a Thinkpad A22P) so your mileage may vary. If it doesn't work on your machine, try a friend's.

Re: Off Topic

*Message #10 Posted by **Vieira, L.C. (Brazil)** on 4 Nov 2005, 6:13 p.m.,*
in response to message #3 by Gileno

Hi, Gileno; are you well?

I have an 9114B, one HP71B with IL module, one HP75D and the HPIL for the HP41, but I mainly use the 9114B to store data and programs (in native language) for each of them. I have not worked with LEX files yet, sorry. I'd like to help.

As I see, others have already followed you up.

Success!

Luiz (Brasil)

Re: Self-modifying programs for HP-41

*Message #11 Posted by **Raymond Del Tondo** on 4 Nov 2005, 7:04 p.m.,*
in response to message #1 by Geir Isene

Hi,

for easy and powerful input/output features,
use the CCD ROM.
For easy and powerful user program memory manipulation,
also use the CCD ROM.

As Luiz noted, the AECROM has the unique feature of a program generator,
so maybe that could help, too.

However, if there's a way to avoid self-modifying programs,
I'd go that way.
There are always ways to use parameters as 'modifiers',
without hacking the code itself.
Wouldn't that be a challenge to write your program that way?

In the early HP-48 days, there were some French self-modifying programs,
which caused nothing but trouble to the system integrity,
likely to make the system unstable.

OMHO;-)

Raymond

Synthetic programming (was: Self-modifying programs for HP-41)

*Message #12 Posted by **Vieira, L.C. (Brazil)** on 4 Nov 2005, 10:47 p.m.,*
in response to message #11 by Raymond Del Tondo

Hey Raymond, guys;

I remember quite well that, by using synthetic manipulations, the size of the HP41 could be changed without altering memory contents, i.e., lowest numbered registers with NNN contents would have its contents considered as program instructions after reducing SIZE accordingly. I remember reading Wickes` Synthetic Programming on the HP41 where he mentioned something like `Imagine programs creating programs.`

Although tricky and mind boggler, this can be done. I myself tried a few. It works, no doubts about, but I think that the necessary manipulations may not be worth doing.

Cheers.

Luiz (Brazil)

Re: Self-modifying programs for HP-41

*Message #13 Posted by **Geir Isene** on 5 Nov 2005, 5:48 a.m.,*
in response to message #11 by Raymond Del Tondo

> Quote:
>
> There are always ways to use parameters as 'modifiers', without hacking the code itself. Wouldn't that be a challenge to write your program that way?

I know, this is the way I would usually program in Ruby or Forth. But for the 41, the speed would make this undoable.

I will get the CCD (with the PPC and David's assembler) module from Don soon, and I will look into how I can make a program generator for the 41. The result will be posted, but don't hold your breath :)

Self-modifying programs [a bit OT]

*Message #14 Posted by **Karl Schneider** on 6 Nov 2005, 6:04 p.m.,*
in response to message #1 by Geir Isene

The concept of self-modifying code arose in the 1980's, when I was a programmer on mainframes running Fortran software. We considered the idea frightening, from a standpoint of maintainability...

-- KS

Re: Self-modifying programs [a bit more OT]

*Message #15 Posted by **Marcus von Cube, Germany** on 7 Nov 2005, 2:56 a.m.,*
in response to message #14 by Karl Schneider

Guess were I saw a self modifying piece of Software the first time?

I found it in the BASIC ROM of my Tandy TRS-80 clone from Taiwan. The code implements two I/O commands (INP/OUTP). The Z80 processor has indirect I/O addressing but the BASIC was written for the

8080 which lacks such an operation. So the solution was to write the code sequence to RAM, modify the address byte and call the modified code.

Did I mention who authored the code? It was Microsoft in its early days. It was possibly written by Bill Gates and/or Paul Allen in person...

Re: Self-modifying programs [a bit more OT]

*Message #16 Posted by **Frank Wales** on 8 Nov 2005, 11:29 a.m.,*
in response to message #15 by Marcus von Cube, Germany

Unless I misunderstand the original problem, I don't consider it to be a self-modifying program, but rather a program generator, which is a significantly less hazardous programming technique. (With a self-modifying program, the program alters its own code *as it is running*, and you end up with a different program from the one you started with. There are actually very few legitimate reasons to do this.)

It sounds, instead, as if what is wanted here is a program that can write another program, based on some user input, and then run that generated program repeatedly under controlled conditions. Without knowing more about why this approach is considered the only reasonable one for performance reasons, my approach to the problem as stated would be to write the Petri net engine first, which would also force me to design the corresponding graph data representation in registers. Then I'd re-write the core of the engine in machine code, while leaving the user interface in user code (which, of course, requires you to have some additional hardware for executing your own machine code, which you might not have).

(But really, if performance was going to be that poor, I'd seriously consider switching platforms, if only to a 41 emulator on a PDA or something.)

> Quote:
>
> So the solution was to write the code sequence to RAM, modify the address byte and call the modified code.

This is pretty similar to a technique I (and probably many others) use to implement graceful degradation of Javascript-dependent functionality in web pages. The version of the page that works without Javascript is sent to the browser, but includes a call to a Javascript function that alters appropriate nodes in the web page's in-memory representation to change it into the corresponding Javascript-enhanced version. If Javascript is not available in the browser for any reason, the function call gets ignored and the user sees the non-JS version; if Javascript is available, the user only sees the Javascript-enhanced version. (This also allows more fine-grained feature switching, based on things like platform, screen size, rendering engine and other fiddling details. In general, though, trying to be too smart about this leads to madness at both ends of the network.)

The only real differences with the MS BASIC technique are that the RAM I'm using is in the memory space of the browser on another computer, possibly on another continent, and the instruction sets I'm toggling between are vastly more elaborate and flakey than the old Intel/Zilog operations.

Re: Self-modifying programs [a bit more OT]

*Message #17 Posted by **Geir Isene** on 9 Nov 2005, 8:28 p.m.,*
in response to message #16 by Frank Wales

You are indeed correct. I am not looking to create a _self_modifying_ program for this task, but

rather a program generator from user input.

Exploring av viable self modifying program may be a future challenge...

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Loading Excel data onto HP 49g+

*Message #1 Posted by **steve** on 4 Nov 2005, 1:02 p.m.*

Hi I'm looking at writing a simple survey program for the HP 49g+. I need some guidance on the best way to load up this data from Excel on a PC and how it can be setup so that it can be recalled by point number to be manipulated. Upload will be to the backup file port two in order to keep the original data unchanged.

The data is a list of point numbers and levels.

Any tips or links to tutorials that deal with type of data manipulation would be greatly appreciated.

Thanks Steve

Re: Loading Excel data onto HP 49g+

*Message #2 Posted by **John** on 4 Nov 2005, 1:12 p.m.,*
in response to message #1 by steve

Your best bet for this type of question is not here on the museum, but in the comp.sys.hp48 newsgroup.

You can get to it by going to www.groups.google.com

There might be someone there who could help.

Re: Loading Excel data onto HP 49g+

*Message #3 Posted by **Vieira, L.C. (Brazil)** on 4 Nov 2005, 6:51 p.m.,*
in response to message #1 by steve

Hi, Steve;

have you arelady searched www.hpcalc.org ? There are many interesting programs and related stuff for all RPL calculators (HP28, HP48 and HP49). It's worth having a look there.

I tried the Advanced Search for the HP49 with Surveying as search argument and found:

http://www.hpcalc.org/hp49/science/civil/topog.zip

I also tried Data collecting as searching argument and found:

http://www.hpcalc.org/hp49/utils/interface/facil51.zip

The last one is a general data mannager with an easy menu interface (hence the name Menú Fácil, in Spanish).

I hope this helps.

Luiz (Brazil)

(In fact, I agree with John about the place to search for help, but as we have been reading so many off-topic messages here, then anything related to HP calculators is welcome...)

Re: Loading Excel data onto HP 49g+

*Message #4 Posted by **steve** on 4 Nov 2005, 7:23 p.m.,*
in response to message #3 by Vieira, L.C. (Brazil)

Thanks for the advice.

Steve

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HP-67/97 Service Manual Sought

*Message #1 Posted by **Mike DiGirolamo** on 4 Nov 2005, 11:32 a.m.*

Dear Colleagues,

Has anyone ever seen a SERVICE MANUAL for a HP-67 and/or a HP-97? Is there anyone who has a spare that they're not using? Maybe even something on CD? Anyone know where I can go looking for one, 'cept on "the bay"..?

All comments appreciated.

Regards,

Mike DiGirolamo, W4XN

Re: HP-67/97 Service Manual Sought

*Message #2 Posted by **Tony Duell** on 4 Nov 2005, 4:07 p.m.,*
in response to message #1 by Mike DiGirolamo

Two things that might be of help

The HP97 service manual (official) is on the CD-ROMs available from this site.

An unofficial hand-drawn schematic for the HP67 is on the HPCC Schematics CD-ROM. Go to http://www.hpcc.org/ and follow the obvious links.

Re: HP-67/97 Service Manual Sought

*Message #3 Posted by **Mike DiGirolamo** on 4 Nov 2005, 7:13 p.m.,*
in response to message #2 by Tony Duell

Hi Tom,

Thanks for answering my post about the Service Manual.

I just ordered the DVD for the entire site.. thank you for the recommendation!

Regards,

Mike, W4XN

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Website update

*Message #1 Posted by **Matthias Wehrli** on 4 Nov 2005, 11:31 a.m.*

Just my quarterly notice. I updated my website:

- New pictures in different parts - New HP-41 module list - New pictures of my second hobby: archery - Updated sale & trade list

Just go to: http://www.hp-collection.org

Yours, Matthias

Re: Website update

*Message #2 Posted by **Namir** on 4 Nov 2005, 11:37 a.m.,*
in response to message #1 by Matthias Wehrli

Does anyone have info on the hP71B HP 82489A AMPI Statistics Pac?? I bought one in an eBay auction, but I don't have any documentation. Your help is GREATLY appreciated!

Re: Website update

*Message #3 Posted by **Namir** on 4 Nov 2005, 11:39 a.m.,*
in response to message #1 by Matthias Wehrli

Thanks for the update!

I recently bought an HP71B Curve Fit Pac and a Math Pac. It seams I missed out on these pacs when they came out originially. I had an HP71B but did not use it much. It's wonderful to discover cool pacs like the one I mentioned. The Math Pac has matrix commands that extend BASIC and are similar to the HP-85A Matrix ROM.

I am glad that the museum DVD has documentations for the 71B Pacs that I mentioned above. Really fun stuff. HP was way ahead of its time back then!!!

Namir

Edited: 4 Nov 2005, 11:40 a.m.

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AC Adapter for old HP Calculators

*Message #1 Posted by **Bruno** on 4 Nov 2005, 10:53 a.m.*

Hello all,

anybody has got an idea of how to assemble (or if there is something I can purchase in a normal electric store) an AC Adapter for an HP 67 ?

Perhaps a normal AC Adapter with the right output voltage and Amperage will do, but what about the contacts, the ones in the HP 67 are not the normal ones every AC Adaptor has?

Regards, Bruno

Re: AC Adapter for old HP Calculators

*Message #2 Posted by **John Ioannidis** on 4 Nov 2005, 11:01 a.m.,*
in response to message #1 by Bruno

No, there isn't.

Assuming you don't want to buy the real thing on ebay, your best option is to rebuild (if necessary) your battery pac and keep charging it on an external charger. Another option is to get a *regulated* 3.6V power supply capable of sourcing at least 1A and connecting that to the battery contacts (inside the battery compartment, NOT the AC adaptor socket.

Remember that you MUST NOT run the card reader on AC adaptor power only; you need a charged battery in the calculator for that.

Re: AC Adapter for old HP Calculators

*Message #3 Posted by **Bruno** on 4 Nov 2005, 11:08 a.m.,*
in response to message #2 by John Ioannidis

Hi there and thanks for the answer.

I have a battery pac I've bough so Im can try the procedure you described, but isn't there the risk of overcharging it ?

Re: AC Adapter for old HP Calculators

*Message #4 Posted by **bernhard** on 4 Nov 2005, 1:53 p.m.,*
in response to message #3 by Bruno

If you want to build your own charger, the schematics can be found on the MoHPC DVD to be ordered from this website. The three contacts you need to connect to the calculator might be salvaged from connectors you find in the junkyard (or ordered new). Outer diameter of the male part is 2.0 mm. It is not impossible to find a suitable female connector assembly. Cut it open and get the individual contact

elements. Combined with a small printed circuit board they fit perfectly to any Classic HP. Beware to double check the voltage / current / polarity. You may damage your calculator if you make mistakes.

regards, Bernhard

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HP 39g+ problems

*Message #1 Posted by **Matthew** on 4 Nov 2005, 5:13 a.m.*

I've come across a bit of a problem with my 39g+. In a nutshell, it's acting odd. Whenever the 'on' button is pressed, the calculator freezes entirely, and it acts as if the right arrow key is being held down constantly. Any help would be greatly appreciated, mock-TEE starts monday, so things are looking quite bleak.

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Bubba, or someone copying Bubba?

*Message #1 Posted by **blurdybloop** on 4 Nov 2005, 3:13 a.m.*

Take a look at these two cobulin HP-16c auctions: http://cgi.ebay.com/HP-16C-Computer-Scientist-Calculator-w-Manual_W0QQitemZ5824639569QQcategoryZ58039QQssPageNameZWDVWQQrdZ1QQcmdZViewItem and http://cgi.ebay.com/HP-16C-Computer-Scientist-Calculator-w-Manual_W0QQitemZ5824948449QQcategoryZ58042QQssPageNameZWDVWQQrdZ1QQcmdZViewItem .

Now, take a look at this one: http://cgi.ebay.com/HP-16C-Computer-Scientist-Calculator-w-Manual_W0QQitemZ5825806919QQcategoryZ58039QQssPageNameZWDVWQQrdZ1QQcmdZViewItem from stooge57.

Is he just copying the bubba's broilerplate? Or....

[OT] Who cares?

*Message #2 Posted by **.** on 4 Nov 2005, 4:00 a.m.,*
in response to message #1 by blurdybloop

I don't understand your obsession with this guy. Why are you so interested in him?

.

Edited: 4 Nov 2005, 4:00 a.m.

Re: [OT] Who cares?

*Message #3 Posted by **blurdybloop** on 4 Nov 2005, 4:49 p.m.,*
in response to message #2 by .

The answer to the question of "who cares" is "every newbie who was warned by reading about the bubba in this forum." Newbies do come here for information. Being newbies they rely upon those who have greater experience.

Just a few days ago another newbie reported that the messages in this forum warned him.

Think of how you would feel if you join a community, subsequently get ripped off; and then you find out that the rip-off artist is well-known but you never heard because "everybody is tired of hearing about him"?

Re: [OT] Who cares? Keep It Up

*Message #4 Posted by **I, Claudius** on 5 Nov 2005, 1:06 p.m.,*
in response to message #3 by blurdybloop

Keep up the good work. His response below reveals his attitude. While trying to insult, he shot himself in the foot. He's his own worst enemy, who would buy from someone who considers his customers

"dumb?"

Re: [OT] Who cares?

*Message #5 Posted by **Les Bell** on 5 Nov 2005, 5:37 p.m.,*
in response to message #2 by .

We've all heard tales of unethical second-hand goods dealers, who snap up bargains at garage sales, deceased estates, etc. Rather than share the good fortune of widows and pensioners, they rip them off.

In the past, their activities have been hidden from view. For once, we get a chance to see a bottom-feeder at work, and it holds a certain fascination.

Best,

--- Les
[[http://www.lesbell.com.au]]

Re: Bubba, or someone copying Bubba?

*Message #6 Posted by **Coburlin** on 4 Nov 2005, 7:38 a.m.,*
in response to message #1 by blurdybloop

Thank you so much for the free publicity!

You engineers are amazing... Living in a dream world, mmmmh ? Never heard of free market, huge incomes, dumb customers, or high margins?

Filtering out CoBubba!!!

*Message #7 Posted by **Namir** on 4 Nov 2005, 11:34 a.m.,*
in response to message #6 by Coburlin

Using Advanced Search feature on eBay you can filter out Cobubba (and who else you want exlcuded) and let yourself focus on more worthy auctions from sellers who respect themselves AND their customers. I am not willing to spend a single penny with anyone who is a total jerk and a loser.

Re: Bubba, or someone copying Bubba?

*Message #8 Posted by **blurdybloop** on 4 Nov 2005, 5:11 p.m.,*
in response to message #6 by Coburlin

Just a bit of friendly advice: bad things have a way of happening to people who prey on others, and especially to those who allow hubris to cloud their judgement.

Re: Bubba, or someone copying Bubba?

*Message #9 Posted by **Andy** on 5 Nov 2005, 12:18 p.m.,*
in response to message #6 by Coburlin

"You engineers are amazing...." You offensive SONOFABITCH!! Watch WHO you direct your comments to.

Senior Aerospace Engineer. One who designs components to save your sorry ass and allow you the freedom to act as you do!!!

Re: Bubba, or someone copying Bubba?

*Message #10 Posted by **Hal** on 5 Nov 2005, 2:53 p.m.,*
in response to message #6 by Coburlin

> Quote:
>
> Never heard of free market, huge incomes, dumb customers, or high margins?

Well, there you have it...this guy has just defined himself as an opportunistic shyster (not that there was ever any doubt).

> Quote:
>
> You engineers are amazing... Living in a dream world, mmmmh ?

Actually, the engineers are the ones living in the real world, making real world things work, working with the real world laws of physics, etc.
It's the touchy feely degree in Liberal Interpretive Social-Political Ideology that makes me roll my eyes.

Re: Bubba, or someone copying Bubba?

*Message #11 Posted by **Howard Owen** on 5 Nov 2005, 4:19 p.m.,*
in response to message #6 by Coburlin

I haven't done an archive search, so I'm not positive if anyone has brought up the obvious question of whether our "Coburlin" is actually the guy selling all that expensive hardware on eBay. What evidence would you accept to prove that was the case? Personally a line like "Yes, you MoHPC weenies, I really do walk among you" appended to one of the eBay Coburlin's auctions would convince me.

The alternative could be that one of our regulars is having lots of fun pulling some of our chains periodically. The implication of regular posting on the part of "Coburlin" is that he reads the forum regularly, Do you think that the genuine slime-bucket degrader of all that is holy about HP calculators would hang out around here?

Just a thought.

Re: Bubba, or someone copying Bubba?

*Message #12 Posted by **Les Bell** on 5 Nov 2005, 5:40 p.m.,*
in response to message #11 by Howard Owen

> Quote:
>
> Do you think that the genuine slime-bucket degrader of all that is holy about HP calculators would hang out around here?

Yes, he would. He needs information about the goods he buys and sells, and this is the prime source of it.

Best,

--- Les
[[http://www.lesbell.com.au]]

Re: Bubba, or someone copying Bubba?

*Message #13 Posted by **blurdybloop** on 6 Nov 2005, 1:03 a.m.,*
in response to message #12 by Les Bell

> Quote:
>
> Yes, he would. He needs information about the goods he buys and sells, and this is the prime source of it.

I agree. He reads every posting here.

He truly believes that he is doing nothing wrong; and instead that everybody else is naive for adhering to such bizarre notions as "ethics" and "human decency."

Better Use of Free Time!!

*Message #14 Posted by **Namir** on 4 Nov 2005, 11:42 a.m.,*
in response to message #1 by blurdybloop

If you have that much free time, I can ask you to search for information on the Internet about algorithms, source code listings, and so on!!!

Let's put our free time into better use!

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Paper for 9815

*Message #1 Posted by **John Ioannidis** on 3 Nov 2005, 9:58 p.m.*

I recently went in search of paper for my newly-resurrected 9815 printer. I've settled on Staples part number 472872, "9 thermal rolls for gas pump receipt and credit/debit card printers", which seems to work fine and produce nice, crisp output. Here is a pointer:

http://www.staples.com/webapp/wcs/stores/servlet/StaplesProductDisplay?storeId=10001&catalogId=10051&langId=-1&productId=98504&cmArea=SEARCH

There is something profoundly gratifying about suddenly not caring if I waste paper!

/ji

Re: Paper for 9815

*Message #2 Posted by **tomcee** on 4 Nov 2005, 5:01 p.m.,*
in response to message #1 by John Ioannidis

Very interesting. Thanks for the information. My interest is for the HP82240a/b infrared printers. I've noticed the paper in mine (the HP stuff that came with it, I believe) is just under 2.25 inches wide.

I do recall 'back in the day' that HP specified to use only HP thermal paper. As I recall, it did seem to have a distinctly smoother feeling surface than other brands. I've wondered how critical this really is.

R, TomCee

Re: Paper for 9815

*Message #3 Posted by **TomCee** on 8 Nov 2005, 9:38 p.m.,*
in response to message #1 by John Ioannidis

John:

I've also found that at Staples, they have larger, much less expensive (about half the price!) rolls (Item # 226290 - three rolls of 165feet each). They are likely too large to fit in your printer (they certainly do not fit in my 82240), but the paper seems to work fine. Perhaps a clever method of re-spooling is in order. A bit of a pain, but saves some dollars.

Regards, TomCee

Re: Paper for 9815

*Message #4 Posted by **David Smith** on 9 Nov 2005, 11:02 a.m.,*
in response to message #3 by TomCee

Real cheapskates buy two ply toilet paper and then split the plys and respool it... Life is too short to save

50 cents respooling printer paper.

Re: Paper for 9815

*Message #5 Posted by **James M. Prange (Michigan)** on 10 Nov 2005, 5:54 a.m.,*
in response to message #4 by David Smith

True (unless one has more spare time than money), but once I couldn't find the normal length printer paper, and found it easy enough to respool half of each of the "double-length" spools onto an empty core.

Regards,
James

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Help Lex Files :-(:-(

*Message #1 Posted by **Gileno** on 3 Nov 2005, 9:26 p.m.*

I have several lexfiles (71B) in a diskette (DOS). How do I send them for HP71B using the 82164A HP-IL/RS-232C Interface? The system is already configured and ready to transmit or to receive. Thank's

if you fail once, ...

*Message #2 Posted by **Vassilis Prevelakis** on 4 Nov 2005, 6:45 p.m.,*
in response to message #1 by Gileno

I have already told you how to tranfer your lex files from your DOS/Windows machine to your 71B.

OK you do not like the solution because it probably requires you to do some work, but do you intend to **keep on posting the same question** for ever and ever?

Old calculators are a hobby, you are **supposed** to spend time on your hobby. How are you going to derive any pleasure from your hobby if you have other people do all the work for your.

Its like having a gardening hobby and then asking your neighbor to do your plants.

I know very little about electronics, and I need to ask for advice every now and then, but I still try to do as much as I can on my own.

Take for example the PSU of my 9915B. Tony Duell helped me enormously to repair it, but at the end of the day I learned a lot about how the 9915 PSU works. If he merely told me "replace capacitor C29" I would have fixed it faster, but I would not have learned much.

So take the time to work on your hobby and you will find it enjoyable.

**vp

Re: if you fail once, ...

*Message #3 Posted by **gileno** on 4 Nov 2005, 7:41 p.m.,*
in response to message #2 by Vassilis Prevelakis

The one that I asked is very difficult that nobody helped me. I tried of everything and I didn't get. Thank you even so.

Not a straightforward process, ...

*Message #4 Posted by **Etienne Victoria** on 5 Nov 2005, 5:30 a.m.,*
in response to message #3 by gileno

Bonjour Gileno,

1) Before trying to transmit binary, you must at least succeed in transferring ASCII (maybe you did already) : Windows Hyperterminal on the PC side and the HP program XFER will do on the Hp-71B side.

2) Provided you wired correctly your serial cables, don't forget to setup Hardware handshaking on both sides: Tony Duell gives the adequate wiring & Hp-71B program SETRS in his Lifutil distribution.

3) With an hexadecimal editor, check that the binary file you want to send has the 32 bytes LIF header. The Hp-71B COPY command will NOT work without it.

4) Then proceed as said by JF Garnier with the copy command and get prepared for hours of "try & fail" before you get the result.

Good luck.

Etienne

Edited: 5 Nov 2005, 5:39 a.m.

Re: Help Lex Files :-))

*Message #5 Posted by **J-F Garnier** on 5 Nov 2005, 4:43 a.m.,*
in response to message #1 by Gileno

Hi Gileno,

There is no definitive answer, it depends on what you mean by "several lexfiles (71B) in a diskette (DOS)". IF the LEX files include the right LIF header, and IF your RS232 link is correctly configured for raw binary transfer, then the basic method is:
- PC side: send the LEX file to RS232 with a communication tool
- HP-71B side: COPY :HP82164A

If this doesn't work, you will have to investigate more, as Vassilis said:-)

Let us know if it helps...

J-F

Re: Help Lex Files :-))

*Message #6 Posted by **gileno** on 5 Nov 2005, 7:45 a.m.,*
in response to message #5 by J-F Garnier

- PC side: send the LEX file to RS232 with a communication tool.

Which protocol? Ascii?

Would you already have some FTP with the ready lex to be sent?

Thank you

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Looking for a friend

*Message #1 Posted by **Rodrigo Otavio Gondro** on 3 Nov 2005, 2:03 p.m.*

I'm looking for a friend I met here, at HP Museum. I loosed his e-mail adress and fone number. His name is Edward Zakowski. If you know him, please send an e-mail with his adress.

Thanks, Rodrigo Otávio.

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Roll call from CURRENT student HP users:

*Message #1 Posted by **ECL** on 3 Nov 2005, 2:46 a.m.*

If you are CURRENTLY a student of engineering (mechanical, civil, aerospace, structures) would you please share which HP you use?

You don't need to state which school, but it would be interesting to see what countries we are all studying in.

As a side note, I'm beginning to feel that if we should be capable of passing the NCEES (EIT/PE) w/ a 33s, why would we need anything more for our engineering courses?

I'll go first:

Country: USA

Degree: B.S.M.E.

Primary calc: HP 33s (32sii died)

Secondary: HP 48g

Thanks! ECL

Re: Roll call from CURRENT student HP users:

*Message #2 Posted by **I, Claudius** on 3 Nov 2005, 4:56 a.m.,*
in response to message #1 by ECL

"...if we should be capable of passing the NCEES (EIT/PE) w/ a 33s, why would we need anything more for our engineering courses?"

The NCEES has somehow become a law unto itself. Fortunately, it is not necessary to pass their tests with their arbitrary calculator rules to become employed.

As far using a mere 33s for engineering courses, that in itself is so ludicrous I question your motives and your identidy. I suspect you're a shill for the NCEES trying to further their agenda.

Re: Roll call from CURRENT student HP users:

*Message #3 Posted by **Mark Lynch** on 3 Nov 2005, 11:21 a.m.,*
in response to message #2 by I, Claudius

I don't know. I remember using a slide rule with greaqt success.

Re: Roll call from CURRENT student HP users:

*Message #4 Posted by **Fred Lusk** on 3 Nov 2005, 11:30 a.m.,*

in response to message #3 by Mark Lynch

I agree. I went through four years of civil engineering at Fresno State with an HP-55, an HP-34C (senior year only), and a Sama & Etani circular slide rule. I graduated in 1980, and by the time I graduated I seemed to be only student left who knew how to operate a slide rule.

Re: Roll call from CURRENT student HP users:

*Message #5 Posted by **brian healy** on 3 Nov 2005, 12:42 p.m.,*
in response to message #2 by I, Claudius

I think the NCEES policy is wrong. However, I got through engineering school, got my PE, and currently practice just fine with an HP 11c first, then an HP 32sII. The 33s also is up to the task for me, although it is a far cry from the HP's of old. But that's a different topic.

students and calcs

*Message #6 Posted by **bill platt** on 3 Nov 2005, 11:35 a.m.,*
in response to message #1 by ECL

I can't speak for undergrad (did that in the 80's) but I did do grad engineering just a few years ago, and I can say with certainty that it would have been totally unecessary to have had a "graphing" or "big fancy 48" calculator. The 32sii was just fine--and more powerful than anyone else had.

Grad school just does not put a premium on "number-crunching in a calculator". It puts a premium on thinking. And the big number-crunching that you do do is most definitely on a computer, unless you are mad as a hatter.

Edited: 3 Nov 2005, 11:36 a.m.

Re: Roll call from CURRENT student HP users:

*Message #7 Posted by **Norris** on 3 Nov 2005, 12:00 p.m.,*
in response to message #1 by ECL

Quote:

As a side note, I'm beginning to feel that if we should be capable of passing the NCEES (EIT/PE) w/ a 33s, why would we need anything more for our engineering courses?

I'm not a student, but I will comment as a PE candidate. The short answer to your question: NCEES exam problems aren't necessarily like the problems that you will encounter in your engineering coursework (or for that matter, like the problems that you will encounter in the real world). You shouldn't necessarily assume that the same calculator is ideal for all types of problems.

NCEES exam problems are, in theory, solvable in just 2 minutes (EIT am), 4 minutes (EIT pm) or 6 minutes (PE am/pm). So NCEES exam problems typically do not involve particularly complicated calculations: in most cases, they test your ability to recognize the appropriate equation, rather than your ability to perform the calculation itself. So you don't necessarily need a great calculator to pass NCEES exams. For proof, note that most current NCEES-approved calcs are cheap (<$20) algebraic non-programmable models, such as the HP-9S, Casio FX-115MS, TI-30X II, and TI-36X. Most people who take NCEES exams use such calculators.

Your professors, on the other hand, may very well assign you more complex problems -- problems that could take more than 2 to 6 minutes, and which could involve tricky number-crunching or complex unit conversions. These sorts of problems often arise in the Real World as well. You may find it advantageous to have a more

advanced calculator, such as a 48 or 49, in such situations, although in practice most people now use computers instead.

Edited: 3 Nov 2005, 12:01 p.m.

Re: Roll call from CURRENT student HP users:

*Message #8 Posted by **Ben Salinas** on 3 Nov 2005, 12:20 p.m.,*
in response to message #1 by ECL

Country: USA Calculator: 49g+ (until I get a 33s or 32sii or equivalent to replace the one my sister lost) Degree: ME or ECE (I've yet to declare) -ben

Re: Roll call from CURRENT student HP users:

*Message #9 Posted by **Andy** on 3 Nov 2005, 12:37 p.m.,*
in response to message #1 by ECL

BSME. In the 70's Pickett Circular slide rude, HP21 replaced by 10C, 11C and a current 15C seldom used. Mostly use PC

Re: Roll call from CURRENT student HP users:

*Message #10 Posted by **Crawl** on 3 Nov 2005, 1:23 p.m.,*
in response to message #1 by ECL

It seems like a lot of people here went through Engineering.

For any physics graduate students, I would recommend a 49G+ without a moment's hestitation. It will literally save you hours in tedious algebra on every classical electrodynamics problem. I actually did do those problems by hand, and generally a problem would have half a page of physics to get to ball rolling, then about 4 pages (condensed from several times that from what I worked on scrap paper) of algebra that really had nothing to do with physics.

When I took that class, the teacher began by recommending we buy a book of integral tables. The 49G+ mostly makes books like that obsolete.

And the constants library and units are nice, too.

Re: Roll call from CURRENT student HP users:

*Message #11 Posted by **Stephen Easterling** on 3 Nov 2005, 2:57 p.m.,*
in response to message #10 by Crawl

I got my B.S. in Physics (Math minor) and M.S. in Radiological Medical Physics. From the 9th grade through grad school and 9 years of professional use my "main" calculator was a Casio scientific. (I also used a Casio FX7000G in high school for a few problems, but didn't really need it.) However, when I started college as an undergrad, I got a HP28S and used it extensively, but I was still not allowed to use it on exams, so I used it mainly for homework. I had to do all of my math by hand (all calc classes, statistics, linear algebra, ODE, PDE). I wasn't allowed to use a computer until I took partial differential equations and had to solve systems of PDE using Mathematica. My textbook, in fact, was a course on PDE using Mathematica. (One problem took me ten pages doing it by hand!) After I completed much of my math coursework, I heard that my university was starting to use the TI calcs for many of their math classes. I thought that was not a great idea because they were substituting long-hand calcs for the calculator-based problem-solving capability. IMO, this should be left to the student to work out on their own in their dorm

room late at night while burning the midnight oil. BTW, I also had Excel, SigmaPlot, etc. to do other graphing when necessary (plus my Casio FX7000G,... programming this calc was a nightmare!).

After grad school, I used both my smaller, lighter Casio scientific and my bulky 28S, but used the 28S only for running basic programs to make my life easier. Now, I've recently rekindled my love affair with the HPs and established a small collection of about 20-21 different models. I love finding the strengths of each and rotating them in/out of home and professional use. I like the larger calcs only the being able to display more information at once, but enjoy the compact feel of my Voyager or any RPN Pioneers when it comes to actual use. The difference between my 48SX/GX/49G+ and any Voyager/Pioneer is like comparing my big Chevy Silverado diesel truck to my little peppy Chey S10 pickup. One is quicker and easier to get around in for mundane chores, but the other is best to be in when undertaking a really long trip or difficult workload.

If I were back in college again, I'd pick up a 33S and 49G+ and learn to use and program them both really well. Sure the older models are great, but the newer ones are better if don't mind the way they look.

Sorry if I rambled on too long. I felt I needed to get in a few words to represent the physicists out there.

Re: Roll call from CURRENT student HP users:

*Message #12 Posted by **Richard Garner** on 3 Nov 2005, 2:49 p.m.,*
in response to message #1 by ECL

I graduated college with an Associates in Engineering Sciences in 1985. Funding prevented me from going any further on an engineering degree. I work as a Drafter/CAD/GIS Operator for the City of Texarkana Ar. During my first year of college I used a Commodore SR9190R. When I saw I needed programmability I moved to a TI59, because I could get it locally. Then I mail ordered an 41CX to finish up college on. In my last year I bought a 15C to use as backup for the 41CX. I currently use a 42S as my day to day calc. I do own a 48GX, but the only thing I use it for is unit conversions. It makes quick work of converting links, chains, rods or furlongs into decimal feet for CAD/GIS work. For quick and dirty programing, nothing can beat the RPN programing of the 41CX or 42S. For me RPL is too cumbersome to be useful on the fly for programing. It may be more structured, but more structured does not equal easier to use.

Re: Roll call from CURRENT student HP users:

*Message #13 Posted by **Paul Marin** on 3 Nov 2005, 7:13 p.m.,*
in response to message #1 by ECL

Country: Australia Associate Diploma deffered due to family commitments. Current calc: 33S & 33E (an old favorite used on those late nights where the LEDs let my eyes rest) Secondary calc is my 28C which I treasure after trading away my 15Cfor a 48G (geez what was I thinking) Also have the above mentioned misbehaving 48G which chooses to work when it feels like it. (But thats another story)

Thanks

Paul

Re: Roll call from CURRENT student HP users:

*Message #14 Posted by **bernhard** on 4 Nov 2005, 2:02 p.m.,*
in response to message #13 by Paul Marin

Even as a principal engineer at a large semiconductor outfit I never needed more features on a calculator than a HP35 has to offer. Actually, I used a HP15C and after it died, a HP11C because the HP35 does not have the engineering display mode - which is very useful. All the tougher problems are solved on

workstations anyway, using tools like Matlab and Spice. But for quick calculations for the more common daily work, where you need a few squareroots and ln and exp, nothing is more efficient than such a simple scientific calculator.

regards, Bernhard

Re: Roll call from CURRENT student HP users:

*Message #15 Posted by **Sean** on 4 Nov 2005, 4:13 p.m.,*
in response to message #1 by ECL

Country: USA

Degree: BSCS '97, BSEE, BS CompE

Primary calc: HP 49g+

Secondary: HP 41CX, although I can't get it to start up anymore. It makes a weird whistling sound. I haven't convinced myself to open it up yet.

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Pre-loaded EQN in new 33s

*Message #1 Posted by **ECL** on 3 Nov 2005, 2:35 a.m.*

Last Friday I purchased a new (CNA 52707099) 33s. I obtained it from the university bookstore. The package was intact and very fresh (no tell-tale signs of return), yet the EQN listing contained the equation for the volume of a solid cylinder.

Has anyone else noticed this? Its the third new one that I've opened so far, and its the only one to have this.

ECL

Re: Pre-loaded EQN in new 33s

*Message #2 Posted by **Norris** on 3 Nov 2005, 11:28 a.m.,*
in response to message #1 by ECL

The equation in question is used as an example on p. 6-1 of the 33S manual, so that is presumably why it is preloaded. I believe others have reported seeing it as well. Can't remember whether my 33S had it pre-loaded or not.

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Good bargain in Ebay

*Message #1 Posted by **Gonzalo Fernandez (Spain)** on 2 Nov 2005, 7:14 p.m.*

See the ebay item 8713899991, sold for only $1, I remember this item reached in Ebay a price of more than $150 not much time ago! (incredible but true)

Re: Good bargain in Ebay

*Message #2 Posted by **Howard Owen** on 2 Nov 2005, 7:24 p.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

Hoo boy. 8)

Re: Good bargain in Ebay

*Message #3 Posted by **sjthomas** on 2 Nov 2005, 7:58 p.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

> Quote:
>
> I remember this item reached in Ebay a price of more than $150 not much time ago! (incredible but true)

Considering it was purchased by coburlin, $150 will seem like a bargain when it gets re-listed! :-)

ps -- i've got two I'll sell for $150 each!!

PRICES

*Message #4 Posted by **bill platt** on 2 Nov 2005, 8:27 p.m.,*
in response to message #3 by sjthomas

So, maybe I should sell my 48GX: http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&category=50577&item=5815972205

But sometimes there are pretty good deals, too?:

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&category=58042&item=5806459398

Edited: 2 Nov 2005, 8:28 p.m.

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OT: Casio and Product Liability

*Message #1 Posted by **Howard Owen** on 2 Nov 2005, 7:14 p.m.*

I just got a Casio fx-7000GA graphing calculator. Normally that wouldn't be grist for this particular mill, except for something that caught my eye on the first page of the machine's manual:

```
Note that the manufacturer assumes no responsibility
for any injury or loss incurred while using this manual.
```

So if I read the manual while driving and have an accident, I can't sue them. If I go blind reading the manual in poor light, they won't pay for my glasses. If I read the manual over and over obsessively and lose my job as a result, they won't employ me.

It's a tough world out there for readers. 8)

Re: OT: Casio and Product Liability

*Message #2 Posted by **Namir** on 2 Nov 2005, 7:44 p.m.,*
in response to message #1 by Howard Owen

Howard,

> Quote:
>
> So if I read the manual while driving and have an accident, I can't sue them. If I go blind reading the manual in poor light, they won't pay for my glasses. If I read the manual over and over obsessively and lose my job as a result, they won't employ me.

You have a point. But some folks can get into an accoident without reading a manual, go blind just like that, and get obssessive just for the pure joy of it. I think Casio is innocent!!!

<very wide smile>

Re: OT: Casio and Product Liability

*Message #3 Posted by **Stephen Easterling** on 3 Nov 2005, 6:21 p.m.,*
in response to message #1 by Howard Owen

I got a Casio FX-7000G (new) back in the late 80's in high school. I still have it and manual in mint condition. I used it to do the bills for about 9 years before I retired it and now use something from my HP collection. The 7000G was hard to program but I did find it especially great at statistics and linear regressions. It was pretty good at graphing, too. I think you can buy one now (used, of course) for about $5-10 on Ebay.

Re: OT: Casio and Product Liability

*Message #4 Posted by **Howard Owen** on 3 Nov 2005, 7:43 p.m.,*
in response to message #3 by Stephen Easterling

I paid $20.00 for mine on eBay.

Re: OT: Casio and Product Liability

*Message #5 Posted by **David Smith** on 4 Nov 2005, 11:05 a.m.,*
in response to message #1 by Howard Owen

Actually, posting such a warning can actually increase your liability. It shows that you knew the item was dangerous, yet chose to sell it anyway. Much like posting a "Beware of Dog" sign shows that you knew you had a dangerous animal.

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49G+-Tracing the work

*Message #1 Posted by **StephenM.** on 2 Nov 2005, 4:10 p.m.*

I read somewhere that you can retrace a problemto see how to work that problem, kind of like a learning thing. How can I do that?

Re: 49G+-Tracing the work

*Message #2 Posted by **John** on 2 Nov 2005, 5:26 p.m.,*
in response to message #1 by StephenM.

The first step is probably to formulate questions concisely and accurately.

Re: 49G+-Tracing the work

*Message #3 Posted by **GE** on 3 Nov 2005, 5:02 a.m.,*
in response to message #2 by John

He is probably talking about the step-by-step feature of the 49. No clue on how to use that *wonderful* machine, however...

Re: 49G+-Tracing the work

*Message #4 Posted by **StepheM** on 3 Nov 2005, 12:57 p.m.,*
in response to message #2 by John

Sorry to be so ignorant John. I guess we can't all have the intelligence you must have. I'll take my business elsewhere.

Re: 49G+-Tracing the work

*Message #5 Posted by **John** on 3 Nov 2005, 1:45 p.m.,*
in response to message #4 by StepheM

At least that was clear.

Seriously, if you want help, spending a little bit of time to clearly frame a question is incredibly important.

Unless you do that, any other places you ask that question will still not know for sure what you are asking.

Re: 49G+-Tracing the work

*Message #6 Posted by **Tim Wessman** on 3 Nov 2005, 2:34 p.m.,*
in response to message #4 by StepheM

Actually, this page is more dedicated to discussing older calculators from more than 10 years ago. Many people on this page don't own any newer calculators.

For help with newer models, it is usally more appropriate to ask on comp.sys.hp48. Use google groups to read/post.

http://groups.google.com/group/comp.sys.hp48

As for your first question, the 49 has step-by-step solving for certain types of problems. These often are not that helpful. Derivatives are actually very helpful (I actually learned derivatives in 9th grade by just playing with the calculator and trying to figure out what it was doing) To turn this on, go into the modes screen, and push CAS, in the next menu, there is a check box for step-by-step.

TW

Re: 49G+-Tracing the work

*Message #7 Posted by **Ed Look** on 3 Nov 2005, 11:36 p.m.,*
in response to message #6 by Tim Wessman

If it's anything like the 48G series machines, you can write a program, and step through it step by step to see exactly how it behaves as a debugging method. If that's what it is, then it is a nice feature and does its job quite well.

Re: 49G+-Tracing the work

*Message #8 Posted by **NA** on 7 Nov 2005, 10:12 p.m.,*
in response to message #6 by Tim Wessman

ooo.. ooo.. I have a 49G!

Re: 49G+-Tracing the work

*Message #9 Posted by **James F. Chumbley** on 5 Nov 2005, 3:53 a.m.,*
in response to message #4 by StepheM

I don't blame you. If a guy spits in your face when you ask a civil question, most people would rightly take offense, as you have. I would just say that most of the rest of us here aren't like that, and you might want to give us all another try before you leave. I'm sorry about what happened.

Jim Chumbley

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49G+ Programs

*Message #1 Posted by **StephenM** on 2 Nov 2005, 4:08 p.m.*

I just recently purchased a hp 49G+ calculator. I downloaded some programs from the net. How do I run them from my calculator. I can see them in my file manager, but I don't know how to run them. Thanks.

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HP-41 MCode question

*Message #1 Posted by **Jeff D** on 2 Nov 2005, 1:17 p.m.*

I have written the following sequece in MCode
1A0 A=B=C=0
355 ?NC XQ
050 ->14D5
0B8 READ 2(Y)
0AE A<>C ALL
0F8 READ 3(X)
30E ?A<C ALL
017 JC B09A +02
0AE A<>C ALL
070 N=C ALL
10E A=C ALL
135 ?NC XQ
060 ->184D
0E8 WRIT 3(X)
My intention is to find the largest value between the A and C registers and square the value then write it back to the user X register. Unfortunately, when I use a fractional number with no integer value, the program does not produce the correct value.
Any thoughts would be appreciated.
Thanks,
Jeff

Re: HP-41 MCode question

*Message #2 Posted by **Frank Wales** on 2 Nov 2005, 4:20 p.m.,*
in response to message #1 by Jeff D

(Well, it's been about half a billion seconds since I did any 41 machine code programming, but I think I see the problem...)

You need to perform a floating-point comparison between the two values; the ?A<C ALL is doing a 56-bit binary comparison between the normalized forms of the X and Y register values that you pulled into A and C, which won't work for the vast majority of possible values. (Remember, the X and Y registers can also contain alpha values, and could even include non-normalized values.) The Nut CPU basically hasn't a clue about floating-point operations -- the OS does all that. You need to call an appropriate subroutine in the 41 OS that performs something like the guts of the X<Y? user code instruction, and deal with its return value appropriately. I certainly don't know what that would be off the top of my head, but I suspect someone else might.

Hope that helps.

Re: HP-41 MCode question

*Message #3 Posted by **ECL** on 4 Nov 2005, 10:44 p.m.,*
in response to message #2 by Frank Wales

Frank,

So about 15 years?

:) ECL

Re: HP-41 MCode question

*Message #4 Posted by **Frank Wales** on 7 Nov 2005, 7:00 p.m.,*
in response to message #3 by ECL

Yeah, about that -- I think I last wrote 41 machine code around about 1989 (and probably machine code of any kind around 1994). I just haven't had a reason to get that close to a machine since (and these days, the platforms I'm programming for are things like browsers, VMs and databases, where the 'machine' is abstracted away from the metal).

Re: HP-41 MCode question

*Message #5 Posted by **Jeff D** on 9 Nov 2005, 7:15 p.m.,*
in response to message #2 by Frank Wales

Thanks for the suggestions. I have tried to use the X<Y? with a X<>Y afterwords. This only yields "NO" whether the larger number is in the X or the Y registers. I understand that when executing these mcode routines from the keyboard will cause only "YES" or "NO" to be displayed, so I ran the routing from a user code program. This eliminated the "YES" or "NO" and left the numbers but still did not execute the X<>Y. I also tried the XX<Y? and still get similar results. My goal is to sort the higher number to a known register. The numbers will be integers with fractional portions.
Any suggestions would be great.
Thanks,
Jeff

Re: HP-41 MCode question

*Message #6 Posted by **Doug** on 13 Nov 2005, 3:40 a.m.,*
in response to message #5 by Jeff D

To compare the size of two floating point numbers; subtract the two and check the sign of the result.

Best

Re: HP-41 MCode question

*Message #7 Posted by **Doug Wilder** on 3 Nov 2005, 12:05 a.m.,*
in response to message #1 by Jeff D

The way the mainframe tackles comparison is to subtract the two FPN's and then test the sign nibble. 1421 does an N=A-N with result also in C. 14D8: check C for Alpha Data Error. 14D5: check both A and C, ends with arguments reversed.

Best Regards

Re: HP-41 MCode question

*Message #8 Posted by **James F. Chumbley** on 5 Nov 2005, 4:24 a.m.,*
in response to message #1 by Jeff D

Can someone please tell me of any references that provide guidance and instruction on this topic? I've begun trying to learn the techniques of synthetic programming, but the references seem to be scattered, unfortunately. I have Jarett, and Wickes, and the PPC Journal on CD already. Are there any other major (or minor) references I should hunt for?

Thanks a lot, Jim Chumbley

Re: HP-41 MCode question

*Message #9 Posted by **Ángel Martin** on 8 Nov 2005, 6:15 a.m.,*
in response to message #8 by James F. Chumbley

Definitely get a copy of Ken Emery's "HP-41 MCODE for Beginners". Not sure if it's available on any CD-ROM or DVD set though!

Best, ÁM

Re: HP-41 MCode question

*Message #10 Posted by **Meindert Kuipers** on 8 Nov 2005, 7:11 a.m.,*
in response to message #9 by Ángel Martin

Other musts for MCODE programmers: - David Assembler ROM (or image) with Labels and manual - HP41 NOMAS listing

These are all on the DVD of TOS

Meindert

Re: HP-41 MCode question

*Message #11 Posted by **James F. Chumbley** on 10 Nov 2005, 2:24 a.m.,*
in response to message #10 by Meindert Kuipers

Meindert,

I don't understand the reference to the DVD by "TOS." Could you please tell me who "TOS" is?

Thanks, Jim Chumbley

Re: HP-41 MCode question

*Message #12 Posted by **Massimo Gnerucci (Italy)** on 10 Nov 2005, 8:12 a.m.,*
in response to message #11 by James F. Chumbley

Once and for all (and without breaking any rules... I hope):

Google this and click the obvious.

Greetings,
Massimo

Re: HP-41 MCode question

*Message #13 Posted by **Jeff O.** on 10 Nov 2005, 8:24 a.m.,*
in response to message #11 by James F. Chumbley

If you are interested in the background, check here.

Re: HP-41 MCode question

*Message #14 Posted by **Massimo Gnerucci (Italy)** on 10 Nov 2005, 8:36 a.m.,*
in response to message #13 by Jeff O.

Thanks Jeff, but I already know it very well.
I respect Dave's point of view (and I shall, too, since we are all his guests); but I think that a hint to newcomers or clueless people must be given since we are flooded by messages about TOS from time to time.
Rather than replay all the subsequent thread (and bandwidth waste) about why things are the way they are, wouldn't it be simpler to give them what they want? Indirectly maybe...

After all Warren's site is still alive and kickin' and easily found by search engines - if you know what to look for.

Greetings,
Massimo

Re: HP-41 MCode question

*Message #15 Posted by **Jeff O.** on 10 Nov 2005, 1:01 p.m.,*
in response to message #14 by Massimo Gnerucci (Italy)

Massimo,
My intention was to provide Mr. James F. Chumbley with additional information. Sorry for any confusion.
Best Regards.

Re: HP-41 MCode question

*Message #16 Posted by **Massimo Gnerucci (Italy)** on 10 Nov 2005, 1:33 p.m.,*
in response to message #15 by Jeff O.

Jeff,
please excuse my stepping on the pedestal... :-)

Massimo

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Xpander Connectivity Kit

*Message #1 Posted by **Wilhelm Loidl** on 2 Nov 2005, 7:32 a.m.*

Hello!

Just get my own Xpander!

Nice item, but no Connectivity Cable available ;(

Can someone tell me the correct jack (I assume: 3.5 mm stereo jack like in an mp3-player) and the correct lines between this jack and the 9-pin serial-jack?

Thank you very much!

Wilhelm Loidl

Re: Xpander Connectivity Kit

*Message #2 Posted by **Karl-Ludwig Butte** on 4 Nov 2005, 3:14 a.m.,*
in response to message #1 by Wilhelm Loidl

Hello Wilhelm,

I haven't used my Xpander Connectivity Kit, yet. But to help you I examined the original HP cable, which accompanied my Xpander, with an Ohm-meter. To my surprise it seems defect: Only the most outer layer of the stereo jack is connected to pin 5 of the DB9 connector. Pin 5 is "Signal Ground", so the other 2 segments must be "Receive Data" (Pin 2 of DB9) and "Transmit Data" (Pin 3 of DB9). I'm going to find out which signal is connected to which segment in the near future (yes, time is a big problem). You can try the same or wait until I got the result. I saw your same question at www.xpander.org so I'm going to put the answer there, too.

Hope this helps

Regards

Karl

Re: Xpander Connectivity Kit

*Message #3 Posted by **Wilhelm Loidl** on 4 Nov 2005, 3:42 a.m.,*
in response to message #2 by Karl-Ludwig Butte

Hello Karl!

Thank you for the feedback!

I don't think, your cable is defect - maybe there is inside an optocoupler (hope, you understand my english

interpretation ;)

In the next days, I'll try to connect the Xpander with an modifyed hp-49 serial-cable.

Thank you again

Wilhelm Loidl

Re: Xpander Connectivity Kit

*Message #4 Posted by **Wilhelm Loidl** on 5 Nov 2005, 9:26 a.m.,*
in response to message #3 by Wilhelm Loidl

Hello!

No luck with an hp-49 cable.

No luck with an old Garmin RS232 (with optocoupler) cable.

I testet all possible pin-configurations (Pin 2,3 and 5 on the 9-pin-jack), made before every try an hardware-reset on the Xpander and changed the COM1/COM2 connection with the modifyed cables.

The Connectivity-Software was running on a Windows XP-PC (maybe this is a problem?);

The automatic search withe the original Software for an handshake with the Xpander did nothing find...

Every help is very welcome!

Wilhelm Loidl

Re: Xpander Connectivity Kit

*Message #5 Posted by **Arnaud Amiel** on 5 Nov 2005, 2:53 p.m.,*
in response to message #4 by Wilhelm Loidl

My Xpander connectivity kit works under Windows XP without problem. I am going to have a look with my voltmeter

Here we are: 9 way female D type connector To stereo 3.5mm jack

```
Pin 5 to sleeve (Shield)
Pin 3 to sleeve 5kOhm


A glitch between Pin 4 and ring
```

I guess this doesn't really help but the serial connector is longer than usual so I guess it contains some form of electronics

Arnaud

The connector at xpander.org

http://xpander.org/albums/Xpander-Pics/im001269.jpg

Edited: 5 Nov 2005, 3:58 p.m.

Re: Xpander Connectivity Kit

*Message #6 Posted by **Karl-Ludwig Butte** on 6 Nov 2005, 11:59 a.m.,*
in response to message #4 by Wilhelm Loidl

Hello Wilhelm,

as promised I tested my cable with the Connectivity Kit. It seems, your right, it works perfectly. In the manual I found a notice that no other cable should be used 'cause it is designed especially for the Xpander. Alas, there's no way to open the DB9 jack to look inside. Sorry, that I don't have better news for you. If you'd like to discuss the Xpander in more detail you can write me at LKL_Butte@web.de.

Regards

Karl

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Fixing an hp 16c keyboard

*Message #1 Posted by **Christophe** on 2 Nov 2005, 4:09 a.m.*

I have a nice hp 16c, but the A and B keys a very low compared to the other keys. Does somebody knows if it is possible to fix it with a hp 12c keyboard (hp 12c is far less cheaper than a 16c) ? Thanks. Christophe.

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HP41CV Memory is not expandable?

*Message #1 Posted by **Tizedes Csaba [Hungary]** on 2 Nov 2005, 2:22 a.m.*

Hello,

last weekend was very joyful about calcs: my friend at his workplace find some HP41 accessories for me. I tried to expand my 41CV's memory with two HP82106A Memory Module in port 1 and port 2, but it is not worked. When I try to use other packs (Time Module, Stat I at port 3 and port 4) those are worked perfectly... What was wrong? Any idea acceptable! (I'm very beginner about 41 family...)

Thank you! Csaba

Re: HP41CV Memory is not expandable?

*Message #2 Posted by **Etienne Victoria** on 2 Nov 2005, 2:51 a.m.,*
in response to message #1 by Tizedes Csaba [Hungary]

Hello Csaba,

1) With your Hp-41CV, you already have the full possible amount of conventional RAM (ie 319 registers). The other modules you mention are ROM/System modules which map to a different address space.

The 82106 modules cannot be used with the CV and were solely designed to bring a normal Hp-41C up to the capacity of your Hp-41CV.

Your only choices are now either sell them to an Hp-41C owner or donate/trade them with Diego Diaz at Clonix, who uses the shells to manufacture super Rom/Ram modules.

2) That being said, you may extend your Hp-41CV memory by using the Extended Functions/Memory module that will provide you with memory you can save/load your programs from/to.

3) Or better, when you get used and appreciate your 41, have a look to Diego's modules at the link above or Meindert's solution at: MLDL 2000

These 2 solutions are the best I know to extend your Hp-41 possibilities in a flexible and reliable way.

Cheers from France!

Etienne

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Desert island calc?

*Message #1 Posted by **Thomas Okken** on 1 Nov 2005, 4:37 p.m.*

Inspired by the recent thread about calculator collections, I have a question for all you forum addicts:

Which one is your single most favorite calculator model?

I suppose I could say that, for me, it would be the HP-42S... But then again, on a desert island, I'll probably not need that much power, and so I'll give the nod to the HP-67, solid and elegant in every way. Truly a classic!

Re: Desert island calc?

*Message #2 Posted by **Namir** on 1 Nov 2005, 4:45 p.m.,*
in response to message #1 by Thomas Okken

My desert island calculator will be the HP41CX. If I am allowed TWO calculators, the second will be the HP42s.

Namir

PS: Shouldn't you be working on a new update for the Free42??? (said with tongue and cheek)

New Free42 version (was Re: Desert island calc?)

*Message #3 Posted by **Thomas Okken** on 2 Nov 2005, 6:43 p.m.,*
in response to message #2 by Namir

> Quote:
>
> PS: Shouldn't you be working on a new update for the Free42??? (said with tongue and cheek)

I just bought a new laptop -- the old one was getting flaky and besides a 233 MHz Pentium MMX with 144 MB RAM doesn't cut it any more with most of the recent software development tools. The reason I mention this is because I needed something that will run Microsoft's PocketPC development tools -- work on the PocketPC port of Free42 is now officially under way. Watch this space for an announcement of a PayPal donation account where Free42 fans can help me by paying for my new laptop. :-)

Re: New Free42 version (was Re: Desert island calc?)

*Message #4 Posted by **Namir** on 2 Nov 2005, 7:47 p.m.,*
in response to message #3 by Thomas Okken

Thomas,

Wonderful! The PayPal donnation is well overdue. You have put in mega hours in this project. I think your labor of love needs some cold hard cash as a "thank you"! I will certainly click that PayPal donnation button.

Namir

Edited: 2 Nov 2005, 7:48 p.m.

desert

*Message #5 Posted by **bill platt** on 1 Nov 2005, 5:07 p.m.,*
in response to message #1 by Thomas Okken

Well, the 67 and the 41c are poor choices, because they will run out of power.

I'll go for a 15c. I won't even need to bring a spare set of batteries :-)

Besides, being stuck on a desert island will finally give me the time to figure out how to use all that matrix and complex number stuff to best advantage. What else would I use my calculator for--counting coconuts? 1 coconut <ENTER> 1 cocnut + ... :^)

Edited: 1 Nov 2005, 5:09 p.m.

Re: Desert island calc?

*Message #6 Posted by **Les Bell** on 1 Nov 2005, 5:37 p.m.,*
in response to message #1 by Thomas Okken

Funny - I was thinking about exactly this last night. I just received a copy of "Feynman's Tips on Physics" (the missing lectures from the Feynman Lectures on Physics, plus some problems and additional material), and was intrigued by Michael A. Gottlieb's story of how he took six months out, in rural Costa Rica, to read (and understand) The Lectures.

I'd love to do the same thing. I have the books - it's the six months that's the problem.

But if I got those six months, I'd take my 41CX - I've already used it while reading the books. If it could be *any* calc, then I might consider a 42S, in hopes of better battery life and in view of there being next to no need for peripherals and expansion.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Desert island calc?

*Message #7 Posted by **Walter B** on 1 Nov 2005, 6:17 p.m.,*
in response to message #1 by Thomas Okken

The 67 really is a poor choice, because the sand will destroy your card reader. :-(

I'll choose the 42s, too - but if I may take a 2nd, I'll also take the 15c (it just lists key codes, where the 42s lists commands, and <450 program steps are not too much for plenty of time on an island, but else it's a very nice calc). With the manuals, of course, otherwise I won't have a chance to understand the real stuff.

With the sand, the waves, the coconuts, the sun and the stars above, there will be plenty of applications (and sufficient space to write formulae in the sand). :-)

Formulae in the sand (was Re: Desert island calc?)

*Message #8 Posted by **Thomas Okken** on 2 Nov 2005, 6:50 p.m.,*
in response to message #7 by Walter B

> Quote:
>
> With the sand, the waves, the coconuts, the sun and the stars above, there will be plenty of applications (and sufficient space to write formulae in the sand). :-)

Funny you should say that! It was a time when I was vacationing in the tropics that I found myself pondering the fact that the difference between the length of a summer's day and a winter's day depends on your latitude; I worked out the math but having no calculator at hand I couldn't actually compute any numbers or plot any graphs. This was when I decided I really should never be without an HP-42S, and that's how the Free42 project got started....

Re: Desert island calc?

*Message #9 Posted by **Howard Owen** on 1 Nov 2005, 7:46 p.m.,*
in response to message #1 by Thomas Okken

I'm going to cut against the traditionalist vein here, but before I do, I'm going to impose a condition on my desert island. If I can't have an island with a treadmill run generator connected to a bank of 12 volt batteries, then I'm **not** going. You can't make me. Forget food and water, I must have electricity.

Given that, I'd take my Zaurus CL860 PDA running pdaXrom with Pocket Debian GNU/Linux, and run Nonpareil on it. That will give me many of the Classics, the Voyagers and the HP41. I'll take DOSEMU as well, so I can run JF's EMU41 and EMU71 simulators under simulated DOS. I will bring along the source code to X48 (and to EMU48) and fix the former so it actually works. That will keep me busy for a while. But if I run out of things to do, I'll also bring a couple of 68K simulators and look into a 9816 simulator.

Edited: 1 Nov 2005, 7:48 p.m.

Re: Desert island calc?

*Message #10 Posted by **Stephen Easterling** on 1 Nov 2005, 9:39 p.m.,*
in response to message #1 by Thomas Okken

12C due to low battery consumption and to make date calcs easier to remind myself how long I've been on that island.

If I had an unlimited supply of batteries, a 49G+ with tetris and the bible downloaded. I could get great tetris and have years of reading material!

Re: Desert island calc?

*Message #11 Posted by **Karl Schneider** on 2 Nov 2005, 12:22 a.m.,*
in response to message #10 by Stephen Easterling

Stephen's repsonse:

> Quote:
>
> 12C due to low battery consumption and to make date calcs easier to remind myself how long I've been on that island.

> If I had an unlimited supply of batteries, a 49G+ with tetris and the bible downloaded. I could get great tetris and have years of reading material!
>
> ---

Good answer! A 41CX with Navigation Pac would also be a good choice with an unlimited supply of N cells. It might help you get *off* the island...

-- KS

Re: Desert island calc?

*Message #12 Posted by **Tim Wessman** on 2 Nov 2005, 12:19 a.m.,*
in response to message #1 by Thomas Okken

You know, reading this thread has me thinking. If we are concerned about which calculator to have on a desert island. . . we are farther gone than what the "normal people" ever have considered.

=) =) =)

Long live our calculators! May our keyboards continue to work oh blessed God of the Calculator! May our LCDs stay bright and free! May our battery terminals not corrode until you come with vengeance to cleanse the world of the wicked and save your chosen few!!! (the ones that use RPN of course. . . ;-)

Tim Wessman

Re: Desert island calc?

*Message #13 Posted by **I, Claudius** on 2 Nov 2005, 7:26 a.m.,*
in response to message #12 by Tim Wessman

First rational response to an inane hypothetical situation.

I remember a calculus professor, who, in banning all calculators, rationalized it by saying "What if you found yourself on a desert island and had to calculate something?" I jumped through his hoop, but have never forgotten how utterly ridiculous the idea was. If one's situation has deteriorated to desert isle status, you're probably going to be more concerned with basic survival, not calculating anything.

So, the moral is, always take two of your favorite machine, whatever it is, wherever you go. And yes, pour a large libation to the calculator God, so you will always have the service of your faithful machine

Re: Desert island calc?

*Message #14 Posted by **HrastProgrammer** on 2 Nov 2005, 1:22 a.m.,*
in response to message #1 by Thomas Okken

HP-48GX

Re: Desert island calc?

*Message #15 Posted by **Antoine M. Couëtte** on 2 Nov 2005, 4:16 a.m.,*
in response to message #14 by HrastProgrammer

Same as Hrastprogrammer : HP48GX , BUT with his wonderful HP41X-Y-Z emulator. Thanks again Hrastprogrammer for your extraordinary HP41 Emulator running on HP48GX , HP49G and HP49 G+

Antoine

Re: Desert island calc?

*Message #16 Posted by **HrastProgrammer** on 2 Nov 2005, 8:08 a.m.,*
in response to message #15 by Antoine M. Couëtte

Thanks again

You are welcome :-)

Re: Desert island calc?

*Message #17 Posted by **Geir Isene** on 2 Nov 2005, 2:43 a.m.,*
in response to message #1 by Thomas Okken

There's nothing like picking coconuts an hour before sunrise...

So it has to be the 41CX. The calc has to have alarms.

Re: Desert island calc?

*Message #18 Posted by **Etienne Victoria** on 2 Nov 2005, 4:49 a.m.,*
in response to message #17 by Geir Isene

Yes, but to pick coconuts an hour BEFORE the sun rises, you'll need....ahem...light.

So, it HAS to be an Hp-80 with it's beautiful LED display showing 8.88888888 to light your way into the dark!!!

...and you can compute the number of days, you've stayed in the island... ...if you short the battery pack, you may even be able to produce heat and fire :-)) to cook your meals...

Etienne

Re: Desert island calc?

*Message #19 Posted by **Geir Isene** on 2 Nov 2005, 5:25 a.m.,*
in response to message #18 by Etienne Victoria

But HELLO! The alarms! What about the alarms? An HP-80 with a time module. Yes, that would be quite something.

Re: Desert island calc?

*Message #20 Posted by **Etienne Victoria** on 2 Nov 2005, 5:50 a.m.,*
in response to message #19 by Geir Isene

Ok, I surrender...but with an Hp-80...I seldom need to sleep :-)

BTW, your UAC program is a marvel.

Etienne

Re: Desert island calc?

*Message #21 Posted by **Geir Isene** on 2 Nov 2005, 9:54 a.m.,*

in response to message #20 by Etienne Victoria

:)

New version soon comming up. New features include:

Autosnooze Set alarms for each day throughout the week

and some minor stuff.

Re: Desert island calc?

*Message #22 Posted by **Wayne Brown** on 2 Nov 2005, 12:56 p.m.,*
in response to message #18 by Etienne Victoria

But with my Port-X-Light attached to my 41CX I can have a nice, bright light, with several choices of colors. :-)

Re: Desert island calc?

*Message #23 Posted by **Mike T.** on 2 Nov 2005, 5:37 a.m.,*
in response to message #1 by Thomas Okken

I'd have to have some way of recharging the batteries, but my all time favourite is the HP33C (SPICE) - it just felt right, not too complex or too simple, though 49 programming steps were a challenge sometimes.
My second choice would be the HP67...

Mike T.

PS. I really did use my HP33C as a torch to read by under my bedcovers at boarding school - torches were banned...

Re: Desert island calc?

*Message #24 Posted by **Valentin Albillo** on 2 Nov 2005, 6:19 a.m.,*
in response to message #1 by Thomas Okken

Hi, Thomas:

If I can have either electricity or AAA batteries aplenty then I'd take with me a whole HP-71B.

If power's not available, then the HP-15C is the perfect choice, as its batteries will run for 10 years or more.

I think, given adequate care, both would survive in such an environment for a long time. Matter of fact, I did carry an HP-11C with me to a 1-year stay in nearly desertic conditions (heat, dust, etc) and 25 years later it's still mint.

Not that I'd expect to stay that long on a 'desert island' ...

Best regards from V.

Re: Desert island calc?

*Message #25 Posted by **Paul Brogger** on 2 Nov 2005, 11:23 a.m.,*
in response to message #1 by Thomas Okken

Pack my bags:

```
HP-42s (with the 32k upgrade) & some spare batteries.

My "camper" Swiss Army knife.

A mask, fins, snorkel, spear gun, and 400 gallons of shark repellent.

A box of pencils and a half-ton of sketch paper.

My Ovation S771 and a few dozen sets of strings.

A wide-brimmed hat, some durable shades, and 90 quarts of SPF-45.
```

S.S. Minnow? I'm on it!

Re: Desert island calc?

*Message #26 Posted by **Andy** on 2 Nov 2005, 3:42 p.m.,*
in response to message #1 by Thomas Okken

A HP15C modified to run on Solar power if stranded on desert island for 20 years with no electricity.

Re: Desert island calc?

*Message #27 Posted by **db (martinez, ca.)** on 2 Nov 2005, 11:40 p.m.,*
in response to message #1 by Thomas Okken

I had to make that choice in December '96. The desert island was Ecuador, which is neither an island or desert (it more closely resembles a toilet). I chose my 41cx with the math chip, surveyors co op module, and two extended memories.
The difficult decision was "which ten albums?"

Re: Desert island calc?

*Message #28 Posted by **Ron Ross** on 3 Nov 2005, 2:28 p.m.,*
in response to message #1 by Thomas Okken

With no time to think about it or no reference material, I would probably grab an Hp48GX with two memory cards loaded up (or I might even consider a plain 49G as its libraries 1 & 2 are much more reliable). Battery life may be a premium and extra AAA's would also be on my list. Having these is like having a calculator and a couple of reference manuals.

I may opt for a 42s if I had access to other reference material as I actually like the form factor and traveling abilities better.

I chose the Hp49G for its durability as solid number crunching might not be all that practical. Now, if I was at the South pole with weeks and months of spare time and lots of supplies without regard/access to external distractions, I would choose a 42s.

The more I think about it, the more certain I would take the FHB (Frozen Hamster Butt) Blue Hp49G (I chuckle every time I recall that famous color). Sand wouldn't be as destructive to its keyboard as to the typical Hp keyboards and it might actually hold up better to the elements on an island. Of course the Acrilic lens may scratch beyond readability (time for the ice skate method to repair like Tom Hanks used B^O.)

Re: Desert island calc?

*Message #29 Posted by **chic thomson** on 4 Nov 2005, 11:18 a.m.,*
in response to message #1 by Thomas Okken

Been there! Done that! whilst working for a survey company in the early eighties I spent six weeks on a couple of the monte-bello islands off the north of western australia. took my 41CV, which i'm still using, and a copy of hofstaders Godel Escher Bach book. It was marvellous, I only wish I could get a gig like that today!

Re: Desert island calc?

*Message #30 Posted by **James F. Chumbley** on 5 Nov 2005, 4:29 a.m.,*
in response to message #1 by Thomas Okken

Hmmm, let's see. Does the island have a store that sells a lot of "n cell" batteries for my HP-41CX, or should I pick a solar-powered throw-away junker from China?

Jim Chumbley

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HP Prototypes

*Message #1 Posted by **Matthias Wehrli** on 1 Nov 2005, 4:22 p.m.*

I think here in the forum there are many people knowing something about prototypes. We´ve seen a lot of items: HP-45A, HP-3x Spice Serie, HP-38G, HP-48G Serie, HP-49G, HP-71B, HP-75C/D, HP-94E and some more... but! Have you ever heared about / seen a HP-41 Prototype?

Re: HP Prototypes

*Message #2 Posted by **Walter B** on 1 Nov 2005, 6:21 p.m.,*
in response to message #1 by Matthias Wehrli

AFAIK, some months ago there was a blue HP41 offered at eBay. Not sure that was a prototype, but at least it was a very special sample of this type.

Re: HP Prototypes

*Message #3 Posted by **Frank Boehm** on 2 Nov 2005, 8:07 a.m.,*
in response to message #1 by Matthias Wehrli

currently I own a 45 / 3xE (don't know model right now) / 48G / 95LX / Expander prototype

The mentioned "blue cased" HP41 was custom built by a former HP employee, probably using HPs original molds. Not sure if this qualifies as a prototype - nice nevertheless :)

Re: HP Prototypes

*Message #4 Posted by **Matthias Wehrli** on 2 Nov 2005, 9:34 a.m.,*
in response to message #3 by Frank Boehm

The blue HP-41 was a very special unit, although it´s not a proto, I´m shure. I have seen the unit sometimes after the auction... very nice ;)

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Ebay Seller Gripe!

*Message #1 Posted by **Ron Ross** on 1 Nov 2005, 2:42 p.m.*

I don't have and will not get a Paypal account. I pay by M.O. or cash (I used to pay quite often with Cash, but got burned recently, so MO is my payment of choice). Still, I don't trust Paypal and when an auction says Paypal only, I sadly walk away. I notice that more and more sellers only accept Paypal only. I used to try to contact them, but with Buy it now (Paypal required), I find this not worth the effort to circumvent this trend.

But I am venting on this forum in case any future sellers may want my patronage. (I admit, this is not an overwhelming arguement).

Paypal

*Message #2 Posted by **bill platt** on 1 Nov 2005, 3:06 p.m.,*
in response to message #1 by Ron Ross

Paypal/Ebay is the M$ of e-commerce. You either find a way to deal with it, or become a marginalized member of the alternative universe--in other words a Linux desktop user :^)

Re: Paypal

*Message #3 Posted by **Wayne Brown** on 2 Nov 2005, 12:59 p.m.,*
in response to message #2 by bill platt

But I use both PayPal *and* Linux. :-)

Re: Ebay Seller Gripe!

*Message #4 Posted by **I, Claudius** on 1 Nov 2005, 3:17 p.m.,*
in response to message #1 by Ron Ross

The more people that reject PayPal the better things will get. Check out www.paypalsucks.com

Re: Ebay Seller Gripe!

*Message #5 Posted by **Chris Woodhouse** on 1 Nov 2005, 3:27 p.m.,*
in response to message #1 by Ron Ross

I really can't see what the problem with paypal is. I have used it for many years now, it's fast and easy. I don't have to go to a bank or somewhere else and pay for a money order. I can see why some people don't like ebay though. It is hard to find a good deal on there but they do exist, and if you get screwed by a seller it is unlikely they will do much of anything about it. But paypal just sends money, I've never had any problems with my money getting to the seller and I have got money from a few buyers of some odds and ends I have sold with out any problems. What's the beef?

Chris W

What's the beef?

*Message #6 Posted by **John** on 2 Nov 2005, 5:27 p.m.,*
in response to message #5 by Chris Woodhouse

Read what's at the website posted above and you should see what some of the problems are.

Re: Ebay Seller Gripe!

*Message #7 Posted by **Ron Ross** on 3 Nov 2005, 8:40 a.m.,*
in response to message #5 by Chris Woodhouse

I have no problem with the seller accepting PAYPAL as long as they also allow other options. But many auctions are PAYPAL ONLY. That is my gripe.

Re: Ebay Seller Gripe!

*Message #8 Posted by **Just Another Mike** on 1 Nov 2005, 4:34 p.m.,*
in response to message #1 by Ron Ross

I will only pay with my Bank's Certified Check (BCC). I've never used credit cards, so I will never use PayPal. If I get cheated, and I have (EBAY did nothing), my bank has retrieve my monies from the bank where the BCC was deposited/cashed and filed a fraud complaint.

Re: Ebay Seller Gripe!

*Message #9 Posted by **Stephen Easterling** on 1 Nov 2005, 9:45 p.m.,*
in response to message #1 by Ron Ross

I feel the same as you, Ron. What I do is contact the seller and tell them that I choose not to use PayPal and if I can pay with a US Postal money order. Remind them (in a tactful way) that you, as the buyer, represent a large number of collectors / buyers that don't use Paypal and convince the seller that they'll make more money on the sale if they open it up to money orders, too. If it's an international sale, then you wasting your time. Remember, as the buyer, you can put yourself in the driver's seat. The seller needs the buyer to turn the bucks. More potential buyers, more bucks! If the seller wants convenience, then they sacrifice those bucks! In a kind way, this is the message I convey to those sellers and I'm usually successful.

Re: Ebay Seller Gripe!

*Message #10 Posted by **Howard Owen** on 1 Nov 2005, 10:22 p.m.,*
in response to message #1 by Ron Ross

PayPal is free for buyers, but sellers get charged a percentage of the transaction. So an eBay seller ought to be delighted to take your Postal Money Order. It's cheaper for the seller, and it comes without any buyer protection at all. A personal check ought to be fine too, as long as it's stipulated that it has to clear before shipping.

eBay tries to steer sellers into using PayPal in a variety of ways. Alongside the choices to reject bids by buyers with negative feedback scores, there's a checkbox to reject those that don't have a PayPal account. The implication is that a seller shouldn't trust a buyer without PayPal, of course. Pure self-serving nonsense.

Pressure from eBay notwithstanding, a seller shouldn't arbitrarily limit the ways in which a customer transmits money to the seller. Not only is it a silly idea to put roadblocks in the way of behavior sellers tend to favor, it's a basic issue of customer service.

Re: Ebay Seller Gripe!

*Message #11 Posted by **GE** on 2 Nov 2005, 3:34 a.m.,*
in response to message #10 by Howard Owen

Regarding roadblocks in the way of completely honest buyers, you forgot the major one : many sellers limit their auctions to US-only bidders.
I have talked to many sellers and most agree to deal with "foreign" countries (of course THEY are in the foreign country !!), but it is a pain.
Same arguments as you : more buyers, no real drawback. If you receive the money OK, well, you receive the money, right ??
Nothing to kill for, of course. Funny to see less sought-after items go for a couple of $$ only...

Re: Ebay Seller Gripe!

*Message #12 Posted by **James M. Prange (Michigan)** on 2 Nov 2005, 4:11 a.m.,*
in response to message #11 by GE

I supppose that it's a matter of not being sure of how to handle such things as customs forms, non-domestic shipping, currency conversions and payments, and language differences.

To be sure, restricting the market to US-only buyers may well eliminate a significant part of the potential market, but I suppose that many sellers regard the US market as being "good enough".

Regards.
James

Re: Ebay Seller Gripe!

*Message #13 Posted by **GE** on 3 Nov 2005, 8:47 a.m.,*
in response to message #12 by James M. Prange (Michigan)

Actually there is no problem with non-domestic shipping, you just write an address which happens to have different words on it. As for currency conversions, the seller always get paid in US$, so what ? As for language differences, I believe I am currently writing in English, so again what the hell ?
As for the US market being good enough, I routinely saw items I would pay $30 for, go for $4. That sounds still too much for someone willing to enforce such a silly policy... Also note that items considered common in the US can be rare in other countries. Those who tried to purchase Swedish or Bulgarian machines know that.
Just my point of view, this is a free world (maybe).

Re: Ebay Seller Gripe!

*Message #14 Posted by **Tom Steiner** on 3 Nov 2005, 9:13 a.m.,*
in response to message #13 by GE

The real problem with international transactions is lack of protection for the SELLER! If somebody uses a stolen credit card to PAYPAL some money to the seller, and that transaction is disputed a couple of weeks later, the seller is out the money *and* the goods. Within the US, Paypal offers seller protection, so that if a seller can prove shipment (delivery confirmation, etc.) then he/she is protected against chargebacks.

With respect to shipping outside the US, it's very simple if you use the US Postal Service. But don't try to use FedEx or UPS - they will bury you with forms (commercial invoice, etc.).

Re: Ebay Seller Gripe!

*Message #15 Posted by **James M. Prange (Michigan)** on 2 Nov 2005, 3:59 a.m.,*
in response to message #1 by Ron Ross

I can easily see why a seller wouldn't want to use PayPal, but as a buyer, it seems to me better than the alternative ways of pre-paying for an item that I hope to receive as described. When paying for an item, what's the problem with using PayPal? Of course, there is some risk, but that's also true whenever I use a credit card or personal check, online or not.

Still, restricting the payment method to only PayPal seems counter-productive to me.

Regards,
James

Re: Ebay Seller Gripe!

*Message #16 Posted by **Stephen Easterling** on 2 Nov 2005, 7:53 a.m.,*
in response to message #15 by James M. Prange (Michigan)

The main reason I hear regarding why sellers only use PayPal is that they hate the hassels of having to go to the bank to cash / deposit a check or money order and keep track of what needs to clear. Some sellers that handle a lot of transactions claim they don't need the business of just a few folk wishing to pay with money orders, etc. (or at least this is what their actions are saying). Frequently, they make up for it by opening the auctions to international buyers so they can pay with PayPal (electronically). Shipping internationally is not a pain at all. Making payment internationally CAN BE a pain if you don't do it electronically and if you can't get an international postal money order for that country. I see both sides of the coin. But when I'm the "buyer" and the seller won't accept a postal money order for a calculator I really want, I just try good, clean communication with them and hope they accomodate my payment method. As I mentioned before, most of the time they do because they don't want to exclude someone that might drive their bids up and make a good sale. You see this on collectible but you don't see this on, e.g., imitation purses, colognes, clothing materials, and other fake stuff you come across on Ebay, as well as the other goods that are open to an extremely large market of buyers (like cameras, computer-related parts, etc.). For a collectible, the seller is looking to clear as much as they can, and when they realize the need of more bidders, they usually allow MO payments. (Sorry my response is so long!)

Re: Ebay Seller Gripe!

*Message #17 Posted by **Chan Tran** on 2 Nov 2005, 12:27 p.m.,*
in response to message #16 by Stephen Easterling

The problem with paypal as a buyer is that you can be out of money for much more than your bid amount. Someone could hack your account and get the money. If you lose the money order you lose only the amount in the money order. You're not exposed to any identiy theft either by paying by money order.

Re: Ebay Seller Gripe!

*Message #18 Posted by **unspellable** on 2 Nov 2005, 4:37 p.m.,*
in response to message #17 by Chan Tran

I have to go with Chan Tran on this one. Especially after I caught AT&T double dipping in my checking account. That caused a lot of grief with checks bouncing and what not, and AT&T's "customer service" took over a year to get it ironed out. I must have spent twenty hours on the phone to them plus a number of letters, the first of which they promptly lost.

Paypay wants access to your checking account so that if you reverse the credit card charge they can suck it out of your checking account. Not withstanding you may have reversed the credit card charge for good and sufficient reasons. There is no other reason they would want access to your checking account and no other merchant I pay by credit card demands access to my checking account. Paypal allows you to spend the first $1000 without access to your checking account as the hook. If they want my 1001st dollar they can get it the same way they got the first 1000.

BTW: AT&T is NOT my long distance carrier these days.

Re: Ebay Seller Gripe!

*Message #19 Posted by **James M. Prange (Michigan)** on 2 Nov 2005, 7:12 p.m.,*
in response to message #17 by Chan Tran

Yes, there is a risk that someone could hack my PayPal account. There's also a risk that someone could hack my bank account, credit card account, or various retirement accounts, whether I access them online or not.

Yes, a postal money order is safe. But even "international" postal money orders aren't accepted by all countries. Also, it means a trip to the post office to purchase it, an extra fee, the cost of mailing it, and of course a few extra days for it to go through the mail.

Regards,
James

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[OT] Problem with Sperry calculator

*Message #1 Posted by **alfredop** on 1 Nov 2005, 1:20 p.m.*

Hi,

first let me apologize for the off-topic, but maybe someone can give me an hint to solve a little problem on a Sperry Rand Remington 661 calculator that I have. It works well, but sometimes the numbers displayed are confused by the fact that a wrong segment turn on, it is less luminous than the others and it affects all the digits. I tried to dismount the unit and to clean it, but the problem was not solved.

Bye Alfredo

Re: [OT] Problem with Sperry calculator

*Message #2 Posted by **Frank Boehm (Germany)** on 1 Nov 2005, 4:15 p.m.,*
in response to message #1 by alfredop

Do you have fresh batteries installed? That beast is quite power-hungry (I have 0.85W noted). Might as well be the display driver IC T3144 - that one is impossible to find as a part (unless you take apart another early Casio or Sperry). Could be a defective part in the power section as well - again, it's probably cheaper to buy a new one on ebay, since that one is pretty complex too.

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Free HP 15C Emulator

*Message #1 Posted by **Bang Bui** on 1 Nov 2005, 8:48 a.m.*

Hi all, Does any know of a free (or cheap shareware) emulator for HP 15C to run on Windows XP? There are lots for Pocket PC but I want it for XP. Thanks

Re: Free HP 15C Emulator

*Message #2 Posted by **Arnaud Amiel** on 1 Nov 2005, 8:53 a.m.,*
in response to message #1 by Bang Bui

Try nonpareil but it will give you more than you asked.

Arnaud

Re: Free HP 15C Emulator

*Message #3 Posted by **Torsten** on 2 Nov 2005, 5:22 a.m.,*
in response to message #1 by Bang Bui

You can try my HP-15C Simulator written in Tcl/Tk. It comes as Windows and Linux executable. Source code should run on any OS supported by Tcl/Tk. Just send me an email.

Torsten

Re: Free HP 15C Emulator

*Message #4 Posted by **Dave Bernazzani** on 2 Nov 2005, 8:48 a.m.,*
in response to message #1 by Bang Bui

Not quite an emulator... but you might have a look at Excalibur 32-bit. This "from-the-ground-up" RPN calculator has a simple layout and small memory footprint and does most everything the 15C does and then some. The 15C was one of four calculators that were the primary inspirations for Excalibur. Though it doesn't attempt to duplicate the look (other than classic Voyager series landscape layout) or exact keystroke sequences, it does capture the elegant feel of a well-made RPN instrument.

It was originally designed for Windows 9X, since it uses standard win32 API calls it will run fine under XP - though I'm working on v2.00 now (with enhanced programming features) that has better XP support. There is no cost to use the program. A search on "Excalibur RPN" will find it for you.

For something much closer to the 15C look-and-feel, I'd also second the recommendation for nonpareil, though the Windows side is still considered in an "alpha" stage.

Re: Excalibur 32-bit

*Message #5 Posted by **Eamonn** on 2 Nov 2005, 7:15 p.m.,*
in response to message #4 by Dave Bernazzani

Dave,

I have been using Excalibur as my Windows calculator for a couple of years now and I would like to thank you for putting together such a great piece of software and making it freely available. I have forwarded it to several colleagues who also use it daily. I use it primarily because of the RPN entry, but also because of all the functionality it provides - scientific, statistics, financial, comp. sci., etc, all seamlessly integrated together.

I have tried several excellent HP sim/emulators (semulators?) on Windows, including Nonpareil, Free 42s, V41, etc. While these are also great products, I find myself using Excalibur on a daily basis. Not sure why - I think it's a user interface issue. I guess I prefer to use the actual physical calculators that these *mulations are based upon, while Excalibur seems easier to use on the Windows desktop.

I also like the fact that Excalibur is programmable, although I haven't written as many programs for it as I have for the programmable handhelds. Since I use Excalibur on a PC, I usually resort to other tools for programming on that platform. I find that programming the handhelds themselves is much more useful since I can use the programs away from the PC.

Thanks again for such a useful tool - I highly recommend it to others.

Eamonn.

Re: Excalibur 32-bit

*Message #6 Posted by **Dave Bernazzani** on 2 Nov 2005, 9:06 p.m.,*
in response to message #5 by Eamonn

Thanks for the kind words Eamonn. Excalibur has been one of the longest running "hobby-projects" I've ever worked on. More than a decade now... When I started the project, I was in school and couldn't afford a good RPN calculator from HP. I drooled over the various models that were out at the time. I was even more interested in classic models which were (even then) somewhat expensive. I wanted a 16C so badly for my programming work! But I wrote Excalibur after using a 16C at work and later a 15C which was borrowed to help me through some exams. At some point after graduation I managed to scrape together enough cash to get a 32SII which I was extremely pleased with (of course it's still up and running almost 10 years later).

Even though I wrote Excalibur to be full featured, I still love handheld calculators and prefer them to computer-based calculator programs. There is something satisfying about holding a well crafted handheld calculating machine. But it's convenient to have one on your desktop - or across multiple desktops so that you always have something familiar and useful to bring up quickly. I've worked hard to give Excalibur it's own comfortable feel - simple but feature packed.

If anyone is interested in trying the latest beta with new functions, better XP support and enhanced programming features, feel free to contact me and I'll forward you a copy (the program continues to be extremely small - about 160kb in compressed form).

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HP20s End of Production

*Message #1 Posted by **Walter B** on 1 Nov 2005, 4:26 a.m.*

Certainly someone in this forum knows the end date of HP20s production. Do you also know when the colour scheme was changed from blue/yellow to the HP48g low contrast colours? We had a similar discussion about the HP32sII earlier.

Thanks in advance for your response!

Re: HP20s End of Production

*Message #2 Posted by **Walter B** on 3 Nov 2005, 5:09 a.m.,*
in response to message #1 by Walter B

Sorry, I find no answer neither in hpmuseum.org (HP20s is too new for this site) nor in hpcollection.org (there is just a question mark). But AFAIK these calcs are not produced anymore. So I **assume** they ended together with HP32sii and the change of colors was made together with HP32sii, too. Who **knows** ?

Re: HP20s End of Production

*Message #3 Posted by **Norris** on 4 Nov 2005, 6:54 p.m.,*
in response to message #2 by Walter B

The color change for the 32SII is thought to have occurred in 1999, and the 20S may have changed at that time as well. See the following thread:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=76225

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HP48G - Popping rivets to open

*Message #1 Posted by **Caribe T** on 31 Oct 2005, 4:36 p.m.*

Hi there, Does anyone have any detailed information about opening the 48g by popping the rivets? 'H.D.'(?) made mention in a forum (back in Semptember) that he/she did it and that they were going to post some information for anyone interested.....not sure if they did or not. Apparently be opening it this way, there is no to very minimal damage done to the calculator. Thanks, Caribe

Edited: 31 Oct 2005, 5:39 p.m.

Re: HP48G - Popping rivets to open

*Message #2 Posted by **H.D.** on 1 Nov 2005, 12:36 a.m.,*
in response to message #1 by Caribe T

It's documented on hpcalc.org (HP48 Openining section). If you need extra help, I don't mind answering questions (I've done it several times with no problems).

Re: HP48G - Popping rivets to open

*Message #3 Posted by **Caribe T** on 1 Nov 2005, 11:37 p.m.,*
in response to message #2 by H.D.

Cheers thanks for that!!! Is this the same way that you opened yours? No problems breaking the rivets or casing?

Re: HP48G - Popping rivets to open

*Message #4 Posted by **H.D.** on 7 Nov 2005, 11:10 p.m.,*
in response to message #3 by Caribe T

The rivets aren't broken per se. You are simply prying them apart. And yes, I've opened several of mine this way. I forgot to leave my email in the last post, but this one contains my email should you have further difficulties opening it.

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HP collections

*Message #1 Posted by **Will** on 31 Oct 2005, 2:08 p.m.*

Hi..i just was asking myself about the mean numbers of units held by collectors....how many of them do you currently own?

I first...

28s 17BII all voyagers (except 10c) 48G 48GX

that´s all...

collections

*Message #2 Posted by **bill platt** on 31 Oct 2005, 2:11 p.m.,*
in response to message #1 by Will

about 17 hp's and a few others

update more like 21

```
1       11C
2       12C
2       15C
0       16C
3       20S
0       21s
0       22s
1       32s
1       32sii
1       10b
0       14b
0       19b
1       17bii
1       27s
0       28S
0       41CV "blanknut"
1       41CV
0       41CX
1       45
0       48S
0       48SX
0       48G
0       48G+
2       48GX
1       49G
0       49G+
1       33s
2       30s
also:
2       128 kB expansions 48gx
1       2048 kB expansions 48gx
```

One of the 15c's is on loan.

Edited: 31 Oct 2005, 3:30 p.m.

Re: HP collections

*Message #3 Posted by **Massimo Gnerucci (Italy)** on 31 Oct 2005, 2:14 p.m.,*
in response to message #1 by Will

About 200 HPs and, more or less, 30 from other brands.

HOly Cow! :) (nt)

*Message #4 Posted by **bill platt** on 31 Oct 2005, 2:37 p.m.,*
in response to message #3 by Massimo Gnerucci (Italy)

x

Re: HP collections

*Message #5 Posted by **Les Bell** on 31 Oct 2005, 4:39 p.m.,*
in response to message #3 by Massimo Gnerucci (Italy)

Just remember, Massimo - a man with two watches is never quite sure what time it is.

;)

Best,

--- Les
[http://www.lesbell.com.au]

Re: HP collections

*Message #6 Posted by **Thomas Okken** on 31 Oct 2005, 6:42 p.m.,*
in response to message #3 by Massimo Gnerucci (Italy)

> Quote:
>
> About 200 HPs and, more or less, 30 from other brands.

I have a 25, 67, 15C, 42S, and 48G.
Only five, but that means I can love each one a great deal more. :-D

(I used to have a 10C, 16C, 28S, and 41CX (with card reader and printer) as well, but I gave them away after a while. I guess I wasn't ready for the whole display case business. Didn't have room for it, either!)

Re: HP Calc. Promo

*Message #7 Posted by **bill platt** on 1 Nov 2005, 12:21 p.m.,*
in response to message #6 by Thomas Okken

> Quote:
>
> Only five, but that means I can love each one a great deal more. :-D

Yes, I agree. Both of my 12c's are unpowered (I don't find them useful for anything). My 10b is never used in a year. One 30s is unpowered.

70% of my time is between the 32sii, 11c, 33s 10% of my time between 27s and 15c 10% between 32s, 30s, 17bii, 49g, 20s 10% to one of the 48gx. The rest are in need of some work or a re neglected entirely, though I have at times chosen to "rotate" the 17bii, or the 32s, or the 15c, or even the 30s, into daily

service for a change of pace.

The 49g is primarily a travelling alarm clock! (It wakes me up with "ode to joy")

Re: HP collections

*Message #8 Posted by **Howard Owen** on 31 Oct 2005, 3:09 p.m.,*
in response to message #1 by Will

My current count is 38 HP machines:

```
1       11C
1       12C
1       15C
1       16C
1       20S
1       28S
1       41CV "blanknut"
3       41CV
2       41CX
1       45
1       48S
1       48SX
1       48G
1       48G+
1       48GX
1       49G
1       49G+
1       67
4       71B
3       75C
1       75D
1       85A
1       85B
1       87XM
1       95LX
3       97
1      200LX
1     9816S
```

Most of the duplicates were acquired in pursuit of one or another peripheral or other add-on.

Edited: 31 Oct 2005, 3:11 p.m.

thanks

*Message #9 Posted by **bill platt** on 31 Oct 2005, 3:36 p.m.,*
in response to message #8 by Howard Owen

Howard

thanks for posting the list. I borrowed it and edited it for my list. I hope you don't mind :^)

Re: thanks

*Message #10 Posted by **Howard Owen** on 31 Oct 2005, 3:42 p.m.,*
in response to message #9 by bill platt

You're quite welcome!

I just added a 32Sii to my collection between my last post and this. 8)

Re: HP collections

*Message #11 Posted by **Etienne Victoria** on 31 Oct 2005, 3:51 p.m.,*
in response to message #1 by Will

Hi Will,

HP 10A 10C 11C 12C 15C 16C 19C 21A 22A 25A 25C 27A 29C 31E (I sold the other Spices) 35 V2 35 V3 35 V4 41C 41CV 41CV 41CX 41CX opt001 Blanknut 45 55 65 67 70 80 81 86B 97 970 (Ok, I'm cheating, it's a DMM) 9815S 9825T

TI TI 5025 SR-50 SR-50A SR-51 SR-51A SR-51 II SR-52 SR-56 TI-57 II TI-58 TI-MBA TI Business Analyst TI Programmer BA-55 TI-66

All Rockwells

All Casio Mini & Pocket mini

All Casio SL

Kind regards from France!

Etienne

Re: HP collections

*Message #12 Posted by **donald wallace** on 31 Oct 2005, 4:40 p.m.,*
in response to message #11 by Etienne Victoria

Some people might find this interesting. It explains where I am coming from:

1 41CV with maths, circuits, purchased new Feb 1981 for comms engineering student/prof. use. Xfunctions and time module acquired 1984.

(Modified: clock doubled in 82. Repaired a number of times including for "N" nicad gas leak in 86 and keyboard mech. failure in 94. Main use is in electronics (active filters, timing, gain-bandwidth calcs), acoustics (speaker cabinet resonance/standing wavelength calcs) or mechanical (gearbox /diff what ifs, torque, carb. flow rate calcs etc.) Some simple project mngmnt.

1 41C bought (d.o.a.) on Ebay from Louisianna USA (ex coal/petrochemical co.) for testbed use. Badly contaminated. Stripped except LCD and repaired to "as new" for use. 1980 machine.

My collection

*Message #13 Posted by **Ronald** on 31 Oct 2005, 4:36 p.m.,*
in response to message #1 by Will

HI Will

I have at this moment 69 HP calc's:

10A 10B 10B2 10C 11C 12C 12C with Enron label 12C platinum 14B 14B 50 years anniversery 15C 16C 17B 17B2 17B2+ 18C 19B 19B2 19C 20S 21 21S 22 22S 25A 25 25C 27 27S 28C 28S 29C 31E 32E 32S 32S 50 anniversery 33C 34C 37C 38C 38E 35 V1 35 V2 35 V3 35 V4 38G 39G 41C low buttons 41C High buttons 41CV 41CV opt001 blanknut 41CX 42S 45 46 48G 55 65 67 70 71B 80 V1 80 V2 80 personalised to Sales manager with a transparant back and charger 91 92 97 97 with IO interface

Gr

Ronald

Re: My collection

*Message #14 Posted by **Etienne Victoria** on 1 Nov 2005, 12:58 p.m.,*
in response to message #13 by Ronald

Hi Ronald!

Waow, you succeeded in getting a 37C !!! Must be quite rare :-))

Etienne

Re: My collection

*Message #15 Posted by **Ronald** on 1 Nov 2005, 4:39 p.m.,*
in response to message #14 by Etienne Victoria

Hi Etienne,

Fully correct, A little to quick copy and paste, offcourse a 37E.

Gr.

Ronald

Re: HP collections

*Message #16 Posted by **Andy** on 31 Oct 2005, 5:07 p.m.,*
in response to message #1 by Will

1 10C 3 11C 3 15C 1 20S Alg 1 32SII Original 1 32SII with Alum bezel

Sold off all LED units, 41s.

Re: HP collections

*Message #17 Posted by **Bram** on 31 Oct 2005, 5:42 p.m.,*
in response to message #1 by Will

in chrono order

```
21
29C
20S
32SII brown
32SII silver
30S
48G
11C
12C
28S
```

that's all

Re: HP collections

*Message #18 Posted by **Walter B** on 31 Oct 2005, 6:33 p.m.,*
in response to message #1 by Will

My shelf shows HP35(2), 45, 65, 21, 25C(2), 19C, 67, 97(actually on my desk), 32e, 33e(a wreck), 34c, 41c, 41cv, 11c, 15c, 16c, 71b, 28s, 27s, 32s, 42s, 20s, 21s(2), 32sii, 48s, 48sx, 48g(2), 48gx plus a TI SR-51, because this type was my first calc ever after the era of slide rules.

Re: HP collections

*Message #19 Posted by **Gerson W. Barbosa** on 31 Oct 2005, 7:39 p.m.,*
in response to message #1 by Will

```
2 11C's
2 15C's
1 32SII
1 34C
1 35
1 42S
1 48GX
1 49G
```

Since I use 'em all on a regular basis (with the exception of the 35 and the spare units), should this set be considered a collection?

Edited to update:

1 48S 1 200LX

Edited: 3 Nov 2005, 4:06 p.m.

Re: HP collections

*Message #20 Posted by **Gordon Dyer** on 31 Oct 2005, 7:48 p.m.,*
in response to message #1 by Will

Here is my list, duplicate entries are separate machines (sorry if the formatting isn't good it's pasted out of a spreadsheet):

Make Model Addimult Sumax-E Allied Slide Rule Braun ET 100 Braun ET 66 Budenburg Guage Co. Circ.Slide Rule Burroughs C3260 Casio CFX-9850G Casio DC-800GY Casio fx-450 Casio fx-82 solar Casio fx-85MS Casio fx-85WA Casio CM-604 mini CBM 774D CBM 776M CBM C108 CBM SR7919 CBM SR7919 Citizen SLD-715B Colex 811A Commodore 796M Commodore 796M Commodore F4902 Commodore GL-976M Commodore GL-997RF Commodore LC5K3 Commodore LC5K3 Commodore P50 Commodore SR4912 Commodore SR7919 Commodore SR7949 Commodore SR8120 Commodore SR9190R Compucorp 342 Compucorp 324G Decimal Currency calc Detson E501 Elektronika MK-52 Elektronika MK-61 Fearns Circ.Slide Rule Hewlett-Packard Vect.Imp. S-R Hewlett-Packard HP-6S Hewlett-Packard HP-10B Hewlett-Packard HP-10B Hewlett-Packard HP-10BII Hewlett-Packard HP-11C Hewlett-Packard HP-12C Hewlett-Packard HP-12C Hewlett-Packard HP-12C Hewlett-Packard HP-14B 50th Hewlett-Packard HP-16C Hewlett-Packard HP-17BII Hewlett-Packard HP-18C Hewlett-Packard HP-20S Hewlett-Packard HP-21S Hewlett-Packard HP-21S Hewlett-Packard HP-22S Hewlett-Packard HP-25 Hewlett-Packard HP-28S Hewlett-Packard HP-30S Hewlett-Packard HP-32SII Hewlett-Packard HP-35 v2 Hewlett-Packard HP-38C Hewlett-Packard HP-41CV Hewlett-Packard HP-41CX Hewlett-Packard HP-42S Hewlett-Packard HP-45 Hewlett-Packard HP-48G Hewlett-Packard HP-71B Hewlett-Packard HP-71B Hewlett-Packard HP-71B Hewlett-Packard HP-71B Hewlett-Packard HP-71B Hewlett-Packard HP-97 Hewlett-Packard Jornada 548 Hewlett-Packard HP-82240B Imperial 90S Key Line Concise 28N Lotus Flower Abacus Needham TrigEasy Novus 850 Olympia CD 100 Prinztronic M500 Psion 3c Psion 3mx PYE P-640 Rapid Data Systems Rapidman 800 Rockwell 18R Santron 20S Sanyo ICC-802D Sanyo ICC-1122 Sperry-Remington 661D Summit Ko8 Texas Instruments TI-1025 Texas Instruments TI-1250 Texas Instruments TI-2500 Texas Instruments TI-2500B Texas Instruments TI-3500 Unisonic 811 Universal 999 WHS Albert2

Re: HP collections

*Message #21 Posted by **Gordon Dyer** on 31 Oct 2005, 8:10 p.m.,*
in response to message #20 by Gordon Dyer

Sorry about the lack of any formatting in the last post. I am trying again as I can't edit it:

Make Model
Addimult Sumax-E
Allied Slide Rule
Braun ET 100
Braun ET 66
Budenburg Guage Co. Circ.Slide Rule
Burroughs C3260
Casio CFX-9850G
Casio DC-800GY
Casio fx-450
Casio fx-82 solar
Casio fx-85MS
Casio fx-85WA
Casio CM-604 mini
CBM 774D
CBM 776M
CBM C108
CBM SR7919
CBM SR7919
Citizen SLD-715B
Colex 811A
Commodore 796M
Commodore 796M
Commodore F4902
Commodore GL-976M
Commodore GL-997RF
Commodore LC5K3
Commodore LC5K3
Commodore P50
Commodore SR4912
Commodore SR7919
Commodore SR7949
Commodore SR8120
Commodore SR9190R
Compucorp 342
Compucorp 324G
Decimal Currency calc
Detson E501
Elektronika MK-52
Elektronika MK-61
Fearns Circ.Slide Rule
Hewlett-Packard Vect.Imp. S-R
Hewlett-Packard HP-6S
Hewlett-Packard HP-10B
Hewlett-Packard HP-10B
Hewlett-Packard HP-10BII
Hewlett-Packard HP-11C
Hewlett-Packard HP-12C
Hewlett-Packard HP-12C
Hewlett-Packard HP-12C
Hewlett-Packard HP-14B 50th
Hewlett-Packard HP-16C
Hewlett-Packard HP-17BII
Hewlett-Packard HP-18C
Hewlett-Packard HP-20S

Hewlett-Packard HP-21S
Hewlett-Packard HP-21S
Hewlett-Packard HP-22S
Hewlett-Packard HP-25
Hewlett-Packard HP-28S
Hewlett-Packard HP-30S
Hewlett-Packard HP-32SII
Hewlett-Packard HP-35 v2
Hewlett-Packard HP-35 v2
Hewlett-Packard HP-38C
Hewlett-Packard HP-41CV
Hewlett-Packard HP-41CX
Hewlett-Packard HP-42S
Hewlett-Packard HP-45
Hewlett-Packard HP-48G
Hewlett-Packard HP-71B
Hewlett-Packard HP-71B
Hewlett-Packard HP-71B
Hewlett-Packard HP-71B
Hewlett-Packard HP-71B
Hewlett-Packard HP-97
Hewlett-Packard Jornada 548
Hewlett-Packard HP-82240B
Imperial 90S
Key Line Concise 28N
Lotus Flower Abacus
Needham TrigEasy
Novus 850
Olympia CD 100
Prinztronic M500
Psion 3c
Psion 3mx
PYE P-640
Rapid Data Systems Rapidman 800
Rockwell 18R
Santron 20S
Sanyo ICC-802D
Sanyo ICC-1122
Sperry-Remington 661D
Summit Ko8
Texas Instruments TI-1025
Texas Instruments TI-1250
Texas Instruments TI-2500
Texas Instruments TI-2500B
Texas Instruments TI-3500
Unisonic 811
Universal 999
WHS Albert2
Godfrey & Simmonds four-Figure Log Tables 1965

Re: HP collections

*Message #22 Posted by **Tomas Fischer** on 31 Oct 2005, 10:39 p.m.,*
in response to message #1 by Will

Only few HP and others.

11C
12C (USA)
12C (China)
12C Platinum (Original)
12C Platinum (New - (), undo, backspace)
2 x 15C (use one daily)
16C
2 x 71B (2x 32KB Ram, 2225B ThinkJet)
Jornada 728

TI
TI-65
TI-66
TI-67
TI-74 BASICALC (8kb, 32kb RAM, Modules: Statistics, Mathematics, Finance, Chemical Eng., PC-324 Printer)
TI-95 PROCALC (8kb RAM, Modules: Statistics, Chemical Eng., PC-324 Printer)

PSION
3a
5mx
netBook
netBook Pro

Re: HP collections

*Message #23 Posted by **db (martinez, ca.)** on 31 Oct 2005, 10:58 p.m.,*
in response to message #1 by Will

45 different hp units, 5 bought for work, 3 given to me by retiring surveyors, a 33s given to me by hp at the '04 confrence in San Jose, most of the rest found at the flea.

& these- http://www.msdsite.com/forums/upload.php?upload=view&uid=482

Anyone have a non-hp rpn that i don't have who wants to trade?

Edited: 31 Oct 2005, 11:01 p.m.

Re: HP collections

*Message #24 Posted by **HrastProgrammer** on 1 Nov 2005, 12:20 a.m.,*
in response to message #1 by Will

(3x) HP-48GX (each with 128K & 2048K RAM cards)
(1x) HP-48G (expanded internally to 768K)
(1x) HP-48G+
(1x) HP-49G
(1x) HP-49G+
(1x) HP-41C (with QUAD/HPIL/DEVIL/EXTIO/AUTODUP/GAMES modules)
(1x) HP-6S
(1x) TI-57
(1x) TI-59
(1x) Sharp PC-1251
(1x) Sharp PC-1403

I also have HP-11C, HP-12C, HP-15C, HP-16C, HP-41C/CV/CX, HP-42S and HP-71B (together with almost all available modules and expanded to the maximum amount possible) installed in the virtual form on my three HP-48GXs and HP-49G :-)

Edited: 1 Nov 2005, 4:31 a.m.

Re: HP collections

*Message #25 Posted by **Arnaud Amiel** on 1 Nov 2005, 4:27 a.m.,*
in response to message #1 by Will

Looking in my drawer at work I see:

```
1x 35 (+1 on my desk)
2x 45 (why 2? Oh, they are different!)
1x 55
1x 41CV
1x 10C
1x 12C
1x 15c
1x 28s
1x 48gx
1x 49g
1x 32sii
1x 20s
1x 21s
1x 6s
```

There is also a 49g+ in my backpack (and one of the early keyboard at home) and a 33s in my laptop bag. I remember having just fixed a 97 at home and I also have an Xpander at home that I don't really use as it is not so practical. I believe I have a couple more at home that need attending to. This will keep me busy during the long winter nights. And of course I have nonpareil on my PC and still haven't sent a postcard, shame on me...

Arnaud negotiating for a 33e

(So that is about 20)

Edited: 1 Nov 2005, 4:28 a.m.

Re: HP collections

*Message #26 Posted by **Matthias Wehrli** on 1 Nov 2005, 10:30 a.m.,*
in response to message #25 by Arnaud Amiel

I have a lot of HP calculators...

Re: HP collections

*Message #27 Posted by **PeterP** on 1 Nov 2005, 9:43 p.m.,*
in response to message #26 by Matthias Wehrli

C'mon! why so shy? I just scrolled through the whole post to see your list!

And where are all the other Grand Daddy's? Tony? Diego? Raymond?

Cheers

Peter

Re: HP collections

*Message #28 Posted by **Matthias Wehrli** on 2 Nov 2005, 9:31 a.m.,*

in response to message #27 by PeterP

Hi Peter

As you know, my favorites are accessories, so if I would cout all my calculators and all their accessories in my collection I would perhaps get a balance of 20% to 80%. I´ve specialized myself in accessories, as I have the different models (ok, some specials too).

As I know Raymond very well, I know he will not publish his collection in the internet and I share his point of view very well.

Diego? I wouldn´t say he is a big collector, more a hardware developper and a shining flower in the big autumn field. He gives us the motivation for keeping our goodies.

Re: HP collections

*Message #29 Posted by **Stephen Easterling** on 1 Nov 2005, 7:54 a.m.,*
in response to message #1 by Will

Voyagers: 11C, 12C (USA), 12C (China), 15C

Pioneers: ALL

Others: 28S, 48SX, 48G+, 48GX, 33S, 49G+

Recently sold: 12C Platinum (original), 48G, black-faced (low contrast) Pioneers and other duplicates

Looking to buy: 10C, 16C, 41CX or 41CV

Edited: 1 Nov 2005, 7:55 a.m.

Re: HP collections

*Message #30 Posted by **brian healy** on 1 Nov 2005, 9:22 a.m.,*
in response to message #1 by Will

my collection pales when compared to the others. I have assembled my fleet of HP's not so much to collect them but to use them. (1) 11c (4) 32sii (one of them is the silver bezel) (3) 33s (bought 2, one sent by HP as a replacement)

Would like to add 15c, another 11c, a 41 series, a 42s, and possibly a 48 series.

My "flagship" is my 32sII from Singapore that has the keys with the molded-in characters. Built in '93, and still going strong. My 11c was my first HP that I bought in college, and while maybe the least capable, I prefer its design.

Re: HP collections

*Message #31 Posted by **Arnaud Amiel** on 1 Nov 2005, 10:49 a.m.,*
in response to message #30 by brian healy

I am too young to have started with an 11c (5 of my hp calcs are older than me) but however much I like the format of the voyager series, I find them annoyingly slow. Mind you, now that I do most of my work (and play) on the 49g+ I find most of the calculators annoyingly slow. At least the LED calcs are exciting when running programs, not a boring running flashing on the screen.

Arnaud

Re: HP collections

*Message #32 Posted by **Thomas Okken** on 1 Nov 2005, 4:32 p.m.,*
in response to message #31 by Arnaud Amiel

> Quote:
>
> [...] however much I like the format of the voyager series, I find them annoyingly slow.

Yes, they are slow -- HP tried very hard to make them fuel efficient; in the end maybe they tried a bit harder than necessary.
In my college days, when I bought the 10C and 16C, the college bookstore would accelerate voyagers for $30 or thereabouts (they even took over the factory warranty -- pretty sweet deal). There are instructions on the HP Museum site on how to do it yourself, too.
At twice original speed, my 10C felt responsive enough -- still not as fast as the 41CX, but at least not as annoying as the unmodified model.

College Bookstore

*Message #33 Posted by **bill platt** on 1 Nov 2005, 5:12 p.m.,*
in response to message #32 by Thomas Okken

Wow--some bookstore!

Where was it? MIT? Ecole Polytechnique? (just using stereotypes...)

Re: College Bookstore

*Message #34 Posted by **Thomas Okken** on 2 Nov 2005, 6:27 p.m.,*
in response to message #33 by bill platt

Delft University of Technology, in the Netherlands.
The book-and-computer store in question is Prins, technically not owned by the university but affiliated.

Disclaimer: I am not affiliated blah blah blah...

Re: HP collections

*Message #35 Posted by **R Lion (Spain)** on 1 Nov 2005, 12:00 p.m.,*
in response to message #1 by Will

2 48GX (one with 128 and 512 cards, other with 128 and 1024 cards)
1 42S
1 41CV (with Adventage module)
1 15C
1 32SII
1 33S (prototype with no serial number)
1 20S

also Casio fx-4000P and fx-6300G

Re: HP collections

*Message #36 Posted by **Ron Ross** on 1 Nov 2005, 1:14 p.m.,*
in response to message #1 by Will

It is easier for me to list what I DON"T HAVE.

Newest models:

Hp9g Hp9s Hp48Gii Hp17Bii+ Hp12cp Hp40GS

later Hp LCD models

Hp16c Hp41CX

Older LED's I do not have (my collection is actually quite weak in Hp LED models, though I do have most of the Ti line):

Hp55 Hp65 Hp67 Hp19c Hp27 Hp29c Hp31e Hp34c

I also don't have the following business models, but I don't make to much effort to get them either (but I wouldn't walk away from a cheap one either)

Hp80 Hp70 Hp10 Hp22

So while I am missing quite a few, it is much easier to list the ones I don't have than to count the ones I do have. I also have multiple samples of many of the ones I do have. I do occasionally horse trade, but would feel guilty if I sold any outright (I horde plain and simple), especially at some of the prices they do go for.

Re: HP collections

*Message #37 Posted by **alfredop** on 1 Nov 2005, 1:26 p.m.,*
in response to message #1 by Will

These are my HP calculators: HP-95LX (not a calculator maybe) HP-48GX HP-48SX (keyboard not working properly) HP-42S x 2 (one repaired, but with a column of pixel not working) HP-41C HP-28E HP-20 HP-19BII HP-12C x 2

Alfredo

Re: HP collections

*Message #38 Posted by **Jim Creybohm** on 1 Nov 2005, 4:11 p.m.,*
in response to message #1 by Will

Well, lets see, in chronological order:

HP-25 HP-67 HP-41CX Fullnut HP-41CX halfnut w/ printer, numerous pacs, and card reader HP-10C (sold) HP-48GX

I have never been a big fan of the Voyagers, so I did not really enjoy the 10C. I know the form factor made it popular, but after using a 41 I can't go back to non-alpha prompts.

Most of my time is spent between my beloved 41's, and the 48GX. Gee, its too bad when you have to alternate between the best of a couple of eras!

Things to be added might include;

HP-42 HP-32S

And if HP continues along its present path, one or two TIs!

Re: HP collections

*Message #39 Posted by **Fred Lusk (CA)** on 1 Nov 2005, 10:09 p.m.,*
in response to message #1 by Will

In order of acquisition, my modest collection consists of:

HP-35 (1974…got this from my dad for $100 when he got an HP-45…used it my junior year of high school)
HP-55 (1975…my first new calc, purchased mail-order for $295 from a camera store in NY City…used it my senior of high school and first three years of college…my dad and brother have the only other two I ever saw in use)
HP-34C (1979…bought this at Fresno State for $150 (?) at the start of my senior year of college and used it through my first two years of working as a civil engineer)
HP-41CX (1984…sold my CV+Time+XFun to raise the money ($225?) for this…bought it from Lewis & Lewis in Ventura, CA…I have a modest collection of modules, a card reader, and the 82143 printer…in many ways this is still my favorite)
HP-42S (1987…$105 at the Fresno State bookstore…bought it when I sent my HP-41CX back for repair after removing a speed-up kit and cracking a screw stud…this is still my primary calculator)
HP-48G (bought display unit for $25 from Office Max…on permanent loan to my son)
HP-48G+ (bought new unit for $35 from Office Max when they stopped carrying it…this is my #2 calc)
HP-32Sii (bought for $65 from Office Max when HP announced end of production)
HP-10B (won this a couple of years ago in a contest…a calc dealer in the UK had come across some NIB old stock)

Also, a few years ago my dad gave me his HP-41C. With an HP-28 and HP-48SX, he wasn't using it anymore.

Fred

Re: HP collections

*Message #40 Posted by **Miki Mihajlovic** on 1 Nov 2005, 10:34 p.m.,*
in response to message #1 by Will

Not an extensive collection but here it is:

1 10C
1 11C
0 12C (I refuse to own a bean couter's calculator)
2 15C
1 16C
1 35
1 45
1 55
1 65
1 67
1 41CV (my first HP from early 80's)
1 41CX fullnut
1 41CX halfnut

13

plus Curta Type I and Curta Type II

Edited: 1 Nov 2005, 10:37 p.m.

Curta calculators

*Message #41 Posted by **Karl Schneider** on 2 Nov 2005, 1:01 a.m.,*
in response to message #40 by Miki Mihajlovic

The Curtas, though the least capable, might be the most valuable:

Recent eBay Curta auction

A fine article about the Curta ran in Scientific American early this year. Production was discontinued in 1972, when inexpensive "four banger" electronic calculators because available.

I'd say that a Curta is to an good electronic calculator as a fine chronometer is to a quartz-crystal chronograph. Both the Curta and the chronometer are masterpieces of mechanical engineering. However, a quality QC watch keeps time even better, and is much more versatile and economical. Only as piece of status-symbol jewelry (and perhaps in exceptional environments and circumstances) could a mechanical chronometer be considered truly "better".

-- KS

Re: Curta calculators

*Message #42 Posted by **Howard Owen** on 2 Nov 2005, 1:30 a.m.,*
in response to message #41 by Karl Schneider

Ah, but the QC watch is mass-produced, so they end up being a "dime a dozen" almost literally. The fine swiss movement in the expensive chronometer is a marvel not only of mechanical engineering, but of manual tweaking and stroking by a master craftsman. Such care doesn't come cheap, and more to the point, is limited. So the supply of the fine swiss movement in the expensive chronometer is limited. Supply and demand take over, and the superior time measuring device is valued less in currency terms than the less accurate device. I know which one I'd rather have with me when seconds really matter, though.

The Curta machines are in limited supply, and are marvelous and ingenious devices. They have also been the objects of collector interest for much longer than our calculators. This probably means that a larger percentage of the available macines are already in collections, compared to the numbers for our hobby interests. Smaller supply and a longer established collector market help explain the high prices.

But I'm pretty sure there never was a Curta watch. 8)

Edited: 2 Nov 2005, 1:32 a.m.

Re: Curta calculators

*Message #43 Posted by **Gerson W. Barbosa** on 3 Nov 2005, 4:02 p.m.,*
in response to message #41 by Karl Schneider

Two years ago, a surveyor whom I had previously written two surveying programs for free for his CASIO PB-700 offered me a Curta Type II absolutely mint, with case and original manual in Portuguese for about ...$20.00! I told him that was not my preferred kind of calculator, I even told him collectors would pay him more... I even made some additions and subtractions on it, a true mechanical pocket calculator!

Gerson.

Re: HP collections

*Message #44 Posted by **Don Williams** on 1 Nov 2005, 11:51 p.m.,*
in response to message #1 by Will

Warning! This is how sick you can get if you don't exercise control soon.

Manf	Model	Serial Number
HP	HP 10	1802S12635
HP	HP 19C	1801A01276
HP	HP 19C	1905S10531
HP	HP 21	1809B77988
HP	HP 21	1605A03387
HP	HP 22	1510A01271
HP	HP 25	1509A29928
HP	HP 25	1602A00385
HP	HP 25	1510A32545
HP	HP 25C	1610A02831
HP	HP 29C	1801A01276
HP	HP 31 E	2005S30898
HP	HP 31 E	1933S31058
HP	HP 32 E	2116S37662
HP	HP 33 C	2135S32552
HP	HP 33 E	1926A32478
HP	HP 33 E	1918A77508
HP	HP 34C	no num
HP	HP 35	1346A 27901
HP	HP 35	1302A 81207
HP	HP 37 E	2219S30802
HP	HP 38 C	2245S31622
HP	HP 38 E	1919A91129
HP	HP 45	1350A 30984
HP	HP 46	1314A00983
HP	HP 46	1314A03836
HP	HP 55	1504A03151
HP	HP 65	1333A20903
HP	HP 67	140357
HP	HP 67	1812A00628
HP	HP 80	1247A 53920
HP	HP 91	1704S70110
HP	HP 92	1708A01453
HP	HP 97	1804A01292
HP	HP 97 A	1904S90738
HP	HP 49 G+	
HP	HP 49 G	ID93604509
HP	HP 48 G II	
HP	HP 48 G+	1094305784
HP	HP 48 G	3523S05719
HP	HP 48 G	3425S11397
HP	HP 48 G	3426S02284
HP	HP 48 SX	3237S02059
HP	HP 48 S	3305S04603
HP	HP 48 S	3225S03368
HP	HP 42S	3047S07714
HP	HP 41 CX BN	2808S20731
HP	HP 41 CX	2629S20149
HP	HP 41 CX	2443S43893
HP	HP 41 CX	2646S21910
HP	HP 41 CV	2219S45020
HP	HP 41 CV	2607S21336
HP	82104A	2037S45060
HP	HP 41 CV	2215S42911
HP	HP 41 C	2003A01562
HP	HP 40G	CN02302635
HP	HP 39 G	CN02007821
HP	HP 39 G	CN02005809
HP	HP 39 G+	
HP	HP 38 G	3529S10548
HP	HP 38 G	3525S03430
HP	HP 33S	
HP	HP 32 S II	1D11000352
HP	HP 32 S II	ID73612032
HP	HP 32 S II	ID92505347
HP	HP 32 S	3007S02601
HP	HP 30 S	CN 0014
HP	HP 28 S	3010A38022
HP	HP 28 C	2707A05452
HP	HP 28 C	2724A02178
HP	HP 27S	2813A03739
HP	HP 22 S	2821A05273
HP	HP 21 S	3131S00476
HP	HP 20 S	ID84810754
HP	HP 20 S	3603M04136
HP	HP 19 B II	3004A03891
HP	HP 19 B II	2826A29438
HP	HP 19 B II	3348S02529
HP	HP 18 C	2638A35044
HP	HP 18 C	2643A03535
HP	HP 17BII	3551M05198

```
HP      HP 17 B 2812A05036
HP      HP 17 B 2916S31160
HP      HP 16 C 2343A05782
HP      HP 15 C 2709A03027
HP      HP 14B  2902A31879
HP      HP 14B  2910A13775
HP      HP 12 C 2227A07128
HP      HP 12 C  MY83904467
HP      HP 12 C 2650B50917
HP      HP 12 C MY81807711
HP      HP 12 C  MY83003613
HP      HP 11 C 2315A00239
HP      HP 11 C 2626A57293
HP      HP 10 C  2247A04050
HP      HP 10 C SN removed
HP      HP 10 B ID94009435
HP      HP 10 B  3421S80368
HP      HP 10 B  Unkn Pkgd
HP      HP 10 B II       CN10300362
HP      HP 9G
HP      HP 9S
HP      HP 6 S  CN10006
HP      HP 6 S  CN100001
HP      HP 6 S
HP      HP 6 S Solar
HP      HP Expander
HP      82240A  2727S10938
HP      82240A  2714S10470
HP      82240A  2818S11262
HP      82143A  1938A98972
HP      82162A  2231S87995
HP      82161A  2152A00555
HP      HP 82153A       Wand
HP      92910A  Wand
HP      HP 82420A       4K Mem / 71 B
HP      Card Reader     2037S45060
HP      HP 82169A       2627A04164
HP      HP 82169A       2922A02279
HP      Circuits I
HP      X Func
HP      HPIL Dev
HP      HP 71 B 2643A00029
HP      HP 75 D 2627A12928
HP      82718A  2622A61728
HP      92267B  xxx
HP      HP 75C
HP      HP 94E  2633J00972
HP      HP 1000 CX      SG61403170
HP      HP 120LX        SG62800589
HP      HP 200 LX       SG53900102
HP      HP 300LX        SG72301063
HP      HP 320LX
HP      HP 95 LX        ABA3147A02862
HP      HP 95 LX         ABA3133A03069
HP      OmniGo 100      SG60400030
HP      OmniGo 120      SG62800589
Little Prof     LT USA437L
Speak& Math     USA137A
SR 10   340348
SR 40   033502 ATA3978
SR 50   173150
SR 50   113808
TI 1001 ATA3681
TI 1500 1500 513242
TI 1750 #127     924393
TI 1766 II      I 1288
TI 25 Stat      N-0196
TI 25X Solar    in pkg
TI 2500 Datamath        2500-328587
TI 30   0012229 ATA0179
TI 30   2871582 ATA0879
TI 30 Stat       RCI 25 92
TI 30X   RCI 23 04 93
TI 30X IIS       G-0401A
TI 30Xa  N0298
TI 30Xa  ATA 0879
TI 30Xa  N-0298
TI 34    I-0493
TI 35    9752206 ATA 0583
TI 36X Solar    RC1030594
TI 36X Solar    RC1030594
TI 50   1114715 LTA4778
TI 5025 3629407
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TI 5033 SV      T-0795B
TI 5038 I 0689
TI 5100 2196757
TI 5230 1456073
TI 55   2170515 ATA1280
TI 55   127338 ATA2178
TI 55   0866679 LTA1278
TI 55 II        LTA 2484
TI 55 II        1925856-LTA1184
TI 57   1074794 ATA4081
TI 58   9143579 ATA2778
TI 58 & 59 Master Lib
TI 58 C 7375351 ATA1480
TI 59   2141236 ATA3878
TI 74   0008430
TI 82   32406894
TI 82   48117123
TI 82   32635796
TI 82   961365
TI 82   54492377 1-0497R
TI 83    46227332 1-0999N
TI 83 + 1187016714-0300A
TI 83 + 11820167141-300A
TI 83 +  225800412S-0302C
TI 83 +  1202027134 I-0500A
TI 85   955668
TI 85   610413
TI 85    41060432 CBL1=04961
TI 86   02404691 1-0697B
TI 86    19217797 1=1198K
TI BA 35        LT A 3485 USA
TI BA-35        1510028
TI BA-35        NONE
TI BA-35
TI BAII Plus     RCI 49 91
TI BAII Plus     S-0302A
TI BAII Plus     0011777  S-0200
TI BAII Plus     $3,840.00
TI Bus. Analyst - I     1078343
TI Business Analyst II  1478750 ATA1182
TI Collegiate   NONE
TI Collegiate   1-1188
TI Datachron    53214
TI Financial Invest. Analyst    071 79136
TI MBA  3477769ATA1682
TI MBA   7647313 LTA 1878
TI PC 324       0036503
TI Programmer   14196
TI SR 40        6496093
TI Student Bus. Consultant      8243768-A1A2583
TI Student Bus. Consultant      8243768-A1A2583
TI T-1220        A 837886
Bowmar  901B    none
Canon   TP-8    none
Casio   FX-300W
Casio   FX-750P
Casio   fx-155MS
Casio   fx-7000G`
Casio   fx-7400G
Casio   fx-115d
Casio   fx-250HC
Casio   PV-S400 plus
Casio   fx-7400G+
Casio   HR-150LA
Casio   HR-10
Commodore       US*1     G29855
Commodore       Minute Man 2     R325818
Knight  K-37     none
Radio Shack     EC 495  12294
Radio Shack      EC 4024         6A8
Radio Shack     EC 4033  6A5
Rockwell        61R     152444
Rockwell        9TR     132979
Rockwell        9TR     264927
Rockwell        24K II  137125096
Rockwell        63R     255979
Rockwell        44RD    113257046
Sharp   EL-470  86095213
Sharp   EL-506A 93014
Sharp   EL 512
Sharp   EL 546 G
Sharp   EL 620  1101297V
Sharp   EL-505
```

```
Sharp   EL-505
Toshiba         LC-843WA        108277
Cannon  P20DX   90404605
Cannon  TP-8    none
LeWorld 250     Orig Pkg
Panasonic       601
Miida   MC830K
Panasonic       HHC
Printer Cassette Interface              21026272
Radio Shack     TRS-80  19011992
Sharp   CE 126P 4704152X
Sharp   CE 125P
Sharp   PC 1250A
Sharp   PC 1500
Sharp   CE 150
Sharp   EL 5500 II
Tandy   PC-4
Casio   SF 5980
Casio   Cassiopedia
Palm Pilot      Palm III        106V1BT763HH
Radio Shack     EC 332
Royal   RG135nx
TI      PS3960i  0036503 C-1196A
```

Edited: 1 Nov 2005, 11:56 p.m.

Re: HP collections

*Message #45 Posted by **Christoph Klug** on 2 Nov 2005, 2:33 a.m.,*
in response to message #44 by Don Williams

Dear HP handheldcomputer enthusiasts :-)

my own collection is limited to the HP41CX modell. I have some of them including the HP41CY. Furthermore exist some W&W and Eramco RAM-Box systems, Hepax, Zeprom, Clonix, NoVRAM and a collection of the standard plug in modules and Double-X-Memory.

There also exist a collection of HP-IL equipmemt which is compatible to the HP41, including IL-Plotter, IL-Digitalmultimeter, IL-Datalogger and CMT-RAM-Disk.

Main interest are hardware interface applications with HP41 system -most of you know the nice modular I/O-Board and the powerfully IL2000 interface system. For example with the IL2000 system I create an audio measurement system. For any of this systems are manuals and parts available.

The greatest and heaviest hardware device I designed for the HP41 is an HP-IL controlled labor measurement system (power supply + generator + counter + voltmeter).

A key-function for today HP41 applications is PC interfacing, I use the fantastic EMU41 emulator software in combination with the rebuild version of the HP-IL/PC interface card, which is available from me.

Last not least I have a nice collection of HP41 books and manuals, here I only miss the English paper version of the CCD-Module manual :-(

Best wishes - Christoph Klug

Re: HP collections

*Message #46 Posted by **GE** on 2 Nov 2005, 4:52 a.m.,*
in response to message #45 by Christoph Klug

Most collectors seem to be non HP exclusive (my case too), as there were about 80 different HP calculators made and probably 5000+ from other brands, that is quite understandable. This is probably why there are few or no HP zealots (as opposed to fans) here.

I have about 30 models made by HP, I like more LED types but they are harder to get. On the other hand, later LCD models are not really collectable (past the 41), with exceptions like the 71B.
Another trend is that if I have the 'higher-end' model, I don't need the more limited one, like HP34C compared to HP33C (in that particular case, an HP31E would still be desirable due to rarity of course). The same is true for HP48GX : no need for G, S, G+, etc.
I wonder if it is a sign that you are a 'newcomer' to collecting if you have the complete list of recent models but little on the LED side ? I know I bought most second hand, but some new if they were available at the time I was already biten by "the bug" (and wealthy enough...).
Some have carefully updated databases (that's part of the joy of collecting for sure), I rather rely on 'visual memory' to know if I already have an item.
My current use of HP models is a 6S as a scratch-pad for very low-level calculations I do at work, the 48GX for more involved leisure math, or the 71B for programming (the 48 being write-only IMHO).
Recently I dusted off my 42S, but being stored without batteries it was missing my essential toolbox, and typing all again was too big a task, so I just played a bit.

Re: HP collections

*Message #47 Posted by **Jim Rudnick** on 6 Nov 2005, 9:31 p.m.,*
in response to message #45 by Christoph Klug

Hello Chris, You seem to have extinsive knowledge on the HP-IL interface. I have a 2671G thermal printer with HP-IB. The manual has an entire section devoted to HP-IK interfacing but no mention of a model option. Any Ideas here why a section in the manual?

Re: i found out a Brand New 48GX lost at book store

*Message #48 Posted by **will** on 8 Nov 2005, 5:57 a.m.,*
in response to message #44 by Don Williams

Just amazing...

Re: HP collections

*Message #49 Posted by **James M. Prange (Michigan)** on 2 Nov 2005, 3:36 a.m.,*
in response to message #1 by Will

Ah well, my "collection" is rather limited. I guess that I'm not really very interested in "collecting" just for the sake of collecting, but rather I want "useful" things, and have sentimental feelings for things that I once found very useful, but have been superceded by "better" models.

HP models:

```
12C
16C
28C
28S
48SX
48GX
49G
49g+
82240A printers
82240B printers
Various accessories, such as cards, cords, and adapters for the 48 and 49 series.
```

For the HPs, I'm undecided whether the 48SX or the 48GX is most useful. I think that the 49g+ is even more fun to play around with than the 49G.

I'd love to have a 15C, which may well be the all-around most useful "shirt-pocket-sized" calculator ever made, but my budget is very limited.

Sharp: EL-5520 handheld calculator/BASIC computer, and accessories such as the printer/cassette interface, a genuine Sharp cassette recorder, and level shifters for RS-232 communications. I doubt that I'll ever really "use" them again, but they were marvelous when I got them.

Radio Shack model EC-4004 (rebadged Casio?) keystroke programmable scientific (circa 1990), and Lloyd's model E608 "4-banger" plus square root and percentage keys (circa 1980). The surprising thing about these two is that they're still working with the original batteries.

I just discovered a spare CR 2025 cell for the Radio Shack tucked into the case. I purchased this well over a decade ago, just in case the battery went dead during an ASQC exam.

Various "El Cheapo" models.

I think that I have an electro-mechanical adding machine somewhere in this big old house, or maybe I lent it to my brother. I suppose that I should look for it, one of these days.

Regards,
James

Edited: 2 Nov 2005, 8:21 a.m.

My HP collection (*with pictures!*)

*Message #50 Posted by **Valentin Albillo** on 2 Nov 2005, 6:01 a.m.,*
in response to message #1 by Will

Hi, Will & all:

Just for the record, my 'hardware' HP calcs collection consists of:

```
1 x HP-10C
2 x HP-11C
3 x HP-12C
3 x HP-15C
1 x HP-16C
1 x HP-25
1 x HP-28S
1 x HP-32S
1 x HP-32SII
1 x HP-41CX  + Card Reader + Advantage ROM + PPC ROM
1 x HP-42S
3 x HP-71B + 168 Kb RAM + Card Reader + Math ROM + HP-IL ROM
```

that's 19 machines, all of them with full manuals, cases (inc. leather cases), etc., everything in mint condition.

I also own SHARPs (40 in all, including such superb machines as the SHARP EL-5101, which is allegedly one of *the most beautiful* advanced scientific calculators ever made, and the *20-digit*, BASIC-programmable with microcoded *matrix operations* built-in SHARP PC-1475), TRS (4), Casio (one, the absolutely awesome Casio FX-7500G), and assorted machines of other brands. I also have a Casio PB-2000C on permanent loan. This is a handheld, similar in size to an HP-71B but with a much larger, 4-line display that it's actually *programmable in C* (!!). It also admits plug-in ROMs, including a BASIC ROM.

Edited: 2 Nov 2005, 6:08 a.m.

Re: My HP collection (*with pictures!*)

*Message #51 Posted by **GE** on 3 Nov 2005, 9:11 a.m.,*
in response to message #50 by Valentin Albillo

Hello, the 5101 is nice but how about the 5100, the ORIGINAL machine that started it all. See also the last member of the family, the 5150, much better but quite not so much personality of course.

The PB2000C is nice too, and there was a Prolog module available ("available" being an overstatement as I have never even *heard* of one anywhere). Again, there is the much better fx890P, featuring C, BASIC, CASL *and* assembler out of the box, 64K available to the user... but lots less personality.
I guess our own personal history dictates what we feel is nice, actually.

Re: My HP collection (*with pictures!*)

*Message #52 Posted by **Valentin Albillo** on 3 Nov 2005, 9:38 a.m.,*
in response to message #51 by GE

Hi, GE:

GE posted:

"the 5101 is nice but how about the 5100, the ORIGINAL machine that started it all."

Wish I had one but no such luck yet. Adding insult to injury, I have one good friend of mine which has one in good shape, and I happen to own *two* 5101, also mint. But he won't trade ...

*"The PB2000C is nice too, and there was a Prolog module available ("available" being an overstatement as I have never even *heard* of one anywhere)."*

I've never seen the BASIC module either, but it seems it actually did exist, I've seen the manual.

*Again, there is the much better fx890P, featuring C, BASIC, CASL *and* assembler out of the box, 64K available to the user... but lots less personality."*

Indeed, it's mostly about 'personality'. For instance, I know for sure all RPL models are far more capable than, say, an HP-15C or HP42S. Yet I'd never trade any number of them for a single 15C or 42S. Nor for an HP-25 for that matter.

Best regards from V.

25

*Message #53 Posted by **bill platt** on 3 Nov 2005, 11:39 a.m.,*
in response to message #52 by Valentin Albillo

The 25 is just *too* cool. Way too cool. Could never trade that if I had one.

http://www.hpmuseum.org/3qs/253q.jpg

The beginning of the ultimate pocked programmable. Got to get one!

Re: 25

*Message #54 Posted by **Thomas Okken** on 3 Nov 2005, 8:00 p.m.,*
in response to message #53 by bill platt

They're not hard to get... I got one on eBay for $33 about a year ago. Works great; still as much fun as in 1977. :-)
Of course you have to be prepared to wade through page after page of outboard engines and inkjet cartridges before you find an actual HP-25 *calculator*!

Re: 25 - Filtering eBay searchlist

*Message #55 Posted by **Marcus von Cube, Germany** on 4 Nov 2005, 9:31 a.m.,*

in response to message #54 by Thomas Okken

This is how I keep my eBay search results on topic:

(hp-29, hp29, hp-29c, hp29c) (calc*,Taschenrechner,Rechner) -drucker* -farb* -tinte* -ink* -ink -cartridge* -patrone* -Tintenpatrone* -Leerpatrone* -Druckpatrone* -Druckerpatrone* -patrone* -ml -deskjet -printer -nachf* -refill

Re: 25 - Filtering eBay searchlist

*Message #56 Posted by **valentino ducati (switzerland)** on 7 Nov 2005, 4:00 a.m.,*
in response to message #55 by Marcus von Cube, Germany

> Quote:
>
> This is how I keep my eBay search results on topic:
>
> (hp-29, hp29, hp-29c, hp29c) (calc*,Taschenrechner,Rechner) -drucker* -farb* -tinte* -ink* -ink -cartridge* -patrone* -Tintenpatrone* -Leerpatrone* -Druckpatrone* -Druckerpatrone* -patrone* -ml -deskjet -printer -nachf* -refill

Nice to see nearly my same ebay filter here in hpmusuem...
...it seems we all have the same problems! :D

Valentino

Re: 25

*Message #57 Posted by **Hal** on 7 Nov 2005, 1:46 a.m.,*
in response to message #53 by bill platt

Ahh yes...my first HP was a 25c, bought new in '76. Shortly thereafter the 29c came out and of course that was a MUST HAVE, so I scraped $195 together and got one (I still have it), and sold the 25c (why!! why!! did I do that!!). One of my classmates who sat behind me had a 67, and I'd hear him running the card reader all the time (he must have been from a rich family, because $450 was a chunk of change back then!!) My envy was assuaged, however, by the fact I had continous memory and he didn't!!
Am still looking to add a 67 to my humble collection, but they cost almost as much now as they did then!!
Regards, Hal

Re: 25

*Message #58 Posted by **Ed Look** on 7 Nov 2005, 11:25 p.m.,*
in response to message #57 by Hal

It's still quite a chunk a change today...

... which is why for all the criticism of models like the 33S and 49G+, the beauty of these is that they do put affordable and really, serviceable RPN models with the reach of many.

Re: My HP collection (*with pictures!*)

*Message #59 Posted by **Howard Owen** on 3 Nov 2005, 9:29 p.m.,*
in response to message #52 by Valentin Albillo

> Quote:
>
> *"the 5101 is nice but how about the 5100, the ORIGINAL machine that started it all."*
>
> Wish I had one but no such luck yet. Adding insult to injury, I have one good friend of mine which has one in good shape, and I happen to own *two* 5101, also mint. But he won't trade ...

You mean like this one?

Three days left, as of post time.

Re: HP collections

*Message #60 Posted by **Tizedes Csaba [Hungary]** on 2 Nov 2005, 9:19 a.m.,*
in response to message #1 by Will

Hi!

My owns are:

```
1   12C
1   15C
1   17BII
1   28C
1   32SII (Blue-Orange)
1   41CV (may I will give an another with printer and tape :P )
1   48SX
```

I sold, or traded:

```
1   10C
2   38G :'( snif, snif... --- OK, I know it's not a big deal,
        but it was a total heart-eclipse (BT rlz)
        and I WANT TO buy a new again (help me, please)!
2   45
1   48G (I hate pop-up windows...)
1   48GX (...and filling-forms... ;) )
```

And the "others":

```
1   CASIO FX-850P with +8K RAM (my first...)
1   CASIO FX-750P
1   CASIO FX-4200P
1   CASIO FX-4500P
1   CASIO FX-50f (a great machine - and what a slim!!!)
2   Texas Instruments TI57LCD (damaged keypad)
1   PSION LZ-64 Organiser
1   PSION Revo 8M Organiser (exploded state)
```

In Hungary may impossible to find old HPs, so I think, I'm very fortunate with this collection...

Csaba

Re: HP collections

*Message #61 Posted by **Eddie Shore** on 2 Nov 2005, 11:01 p.m.,*
in response to message #1 by Will

In five short years...

HP 48G (had a 48GX but lost it), 49G+, 39G+, 17BII+ ('03), 12CP ('03), 20S, 39G, 9G. I hope to own the 42S one day, although I have the Free 42.

The only one I want

*Message #62 Posted by **Mike H** on 3 Nov 2005, 12:11 p.m.,*
in response to message #1 by Will

Re: The only one I want

*Message #63 Posted by **Ed Look** on 3 Nov 2005, 11:47 p.m.,*
in response to message #62 by Mike H

LOL!

Any calc with a button marked "FIRE" has got to be worth getting! It may work well in environments with horrible coworkers.

Re: The only one I want

*Message #64 Posted by **Paul** on 4 Nov 2005, 4:32 a.m.,*
in response to message #62 by Mike H

Hi all, I couldn't agree more, such a pity it was only a joke. My attraction to its features may explain my collection of nine HP67s. Internal card reader, LED display, RPN, built like a tank, built to last and last and last!! They also come in handy for mature age engineering ungrads who want to impress pretty young things

at lab time. I blame my university tutor and his TI30 for my addiction to these things.

Regards Paul

Re: The only one I want

*Message #65 Posted by **Ed Look** on 5 Nov 2005, 12:17 a.m.,*
in response to message #64 by Paul

<Incredulous> You mean a TI-30 started you off toward the finer calculators???!!! </Incredulous>

Re: HP collections d8^)

*Message #66 Posted by **Vieira, L.C. (Brazil)** on 3 Nov 2005, 2:06 p.m.,*
in response to message #1 by Will

Here we go: (in technologic order, I guess...)

```
1       55
1       97
1       31E
1       34C
1       37E
1       38E
2       38C
2       41C  (fullnut) + 82143A + 82104A + 82153A + Financial ROM
2       41CV (1 full-, 1 halfnut) + MLDL2000 + NoV32 (both to be delivered)
2       41CX (1 full-, 1 halfnut) + HPIL + 82242A + Navigation ROM
1       75D (?)
1       71B (?) + IL + Card Reader
1       10C
1       11C
3       12C
2       12C Platinum (?)
3       15C
3       16C
1       28S
1       42S
1       14B
1       48SX
2       48G+
1       17BII
1       19BII
2       49G
1       10BII
1       33S
1       49G+
1       48GII
2       39G+
```

(HP or not HP...)

```
1       30S
1       9S
2       9G
```

other brands:

```
1       TI55
1       TI57
1       TI58C (bad mem chips)
1       TI59 + PC100C
1       TI82
1       Casio fx7000GA (interesting model, indeed)
```

That´s all, folks. This is almost complete, I am almost sure I missed something. I also have many original HP manuals and a few original boxes.

Edited: 3 Nov 2005, 2:13 p.m.

Re: HP collections

*Message #67 Posted by **Karl Schneider** on 4 Nov 2005, 12:37 a.m.,*
in response to message #1 by Will

The focus of my collection is what I consider the "golden era" of HP calculators -- mature and (mostly) well-engineered and well-documented products introduced between 1979-1993. This era includes the the HP-41, the Spice, Voyager and Pioneer series, all Saturn-processor models, and all the original RPL-based models.

I do also have a few models from outside that period, as well as a few low-end non-HP's.

This is not to imply that the other major manufacturers did not also have some fine products. It's just that HP's "golden era" produced the complete package of excellence in all-American engineering -- design, mechanical quality, mathematical algorithms, and documentation. RPN was an important bonus.

Hewlett-Packard:

Classic (1971-74): 35

Spice (1978-79): 34C (3)

Coconut (1979-83): 41C, 41CV, 41CX

Voyager (1981-82): 10C, 11C (2), 12C (2), 15C, 16C

BASIC computer: 71B (+ Math)

Pioneer (1988-91): 10B, 14B, 17BII, 20S, 21S, 27S, 32S, 32SII, 42S

RPL-based (1986-98): 28C (2), 48G, 49G

Other (ahem) "HP": 33S, 6S

The Others:

Casio fx-3600P, fx-115MS

Texas Instruments TI-36X

Rockwell 18R

Le World scientific

Re: HP collections

*Message #68 Posted by **Bram** on 4 Nov 2005, 3:48 a.m.,*
in response to message #67 by Karl Schneider

> Quote:
>
> The focus of my collection is what I consider the "golden era" of HP calculators (...)

then you must have some Woodstocks, mustn't you?

Woodstocks *are* golden....

*Message #69 Posted by **Karl Schneider** on 5 Nov 2005, 1:33 a.m.,*
in response to message #68 by Bram

...after all, their namesake bird from "Peanuts" is indeed yellow in color!

All kidding aside, I don't have any Woodstock-series models (21, 22, 25, 25C, 27, 29C) or 67/97's, which are based on Woodstock internals.

Granted, these models have their fans (take a look at the above posts from Paul and Bill Platt in this thread). As impressive as the 67 was, and as "clean" as the 25/25C was, I can't quite consider any of the LED models as the acme of refinement or practicality. The LCD made further significant advancement possible in those areas.

It's true that the HP-67 was built solidly, and had impressive functionality for its era. I actually wouldn't mind getting one as an example of quite likely the best LED handheld calculator ever made. However:

- It's long and heavy, with both a rechargeable battery and an internal card reader to deal with and maintain.
- Its Application Pac software are RPN routines stored on magnetic cards, instead of machine-coded programs on plug-in modules.
- It has "stiletto-heel" arithmetic keys on the left side, which is wrong for right-handers.
- It has a busy-looking faceplate with ugly brown keys. Many basic functions are shifted.

The HP-25 and -25C have a clean, compact form factor and good construction. But its programming functions make some basic functions shifted; the programming paradigm itself is the crude one from the HP-55. Its keyboard arrangement is very similar to that of the compact HP-34C, which has better programming along with SOLVE and INTEG to make full use of it. (Now, if only the mechanical design weren't so flawed...)

No, I'd say the 1980's and early 1990's was the real "golden age" of HP calc's, when traditional quality converged with unquestioned practicality and affordability.

-- KS

Re: Woodstocks *are* golden....

*Message #70 Posted by **Dave Shaffer** on 5 Nov 2005, 10:13 a.m.,*
in response to message #69 by Karl Schneider

re: "It has "stiletto-heel" arithmetic keys on the left side, which is wrong for right-handers. "

Depends, IMHO.

Perhaps for (right-handed) touch typists, the math keys should be on the right of the numbers, but for us right-handed "hunt and peckers," I prefer those keys to the left of the numbers, where I can see them unblocked by my hand, and where I hit them with my thumb or index finger (which produce a firmer push than my little finger!). Maybe that's why I prefer my 11C and 41CX to my 32S and 42S.

What do the "lefties" out there think about this?

Re: Woodstocks *are* golden.... -- OOOOPS

*Message #71 Posted by **Dave Shaffer** on 5 Nov 2005, 12:01 p.m.,*
in response to message #70 by Dave Shaffer

Ooops - the 11C has the arithmetic operations (+ - x /) are on the "wrong" side, too.

Re: Woodstocks *are* golden.... -- OOOOPS

*Message #72 Posted by **Walter B** on 5 Nov 2005, 3:56 p.m.,*
in response to message #71 by Dave Shaffer

> Quote:
>
> Ooops - the 11C has the arithmetic operations (+ - x /) are on the "wrong" side, too.

... but you prefer it as you mentioned one post earlier. So there must be another reason ;-)

Re: HP collections

*Message #73 Posted by **Valentin Albillo** on 4 Nov 2005, 10:52 a.m.,*
in response to message #67 by Karl Schneider

Hi, Karl:

Nice collection you have. Mine is complete (i.e., I already own all HP models I care for) except for an HP-34C and an HP-67. May I suggest you should try getting an HP28S. I see you own two HP28C, but the 28S is the much superior model, IMHO.

As for other brands, I would heartily recommend that you get some of these SHARP models:

```
PC-1211/1212: first dot-matrix LCD BASIC handheld, metallic,
              slim, extremely beautiful and capable


PC-1261/1262: ditto, much smaller but 15 times faster, 7 times
              more RAM and with a much better BASIC.


PC-1421:      ditto, specialized financial functions (a la HP-12C)
              but with the power of BASIC language programming


PC-1425:      ditto, specialized statistical functions, again
              perfectly integrated with BASIC programming.


PC-E500/S:    less fancy looks, but 4 lines x 40 char
              alphanumeric & graphic display, and the fastest
              BASIC language handheld of its time: more than
              5 times faster than the HP-71B and faster than
              most other models, including the HP-75, 28S,
              32S, 42S, you name it. It also includes extremely
              useful program libraries built-in in ROM, etc.
```

Of course there are many other worthwhile models, but I humbly suggest that you try and get some of these. They can be had very cheap in eBay Germany, for instance, and if you manage to get a near mint, working one, you're bound to be delighted and awed by their quality of build and performance. I did show some of mine to a number of HP-loving friends and acquaintances, and most of them turned into SHARP 'lovers' as well. Ah, and all of these models *do* have full I/O capabilities.

As for pure programming fun (challenges & all), have a look at what you can do with the very simplest, less capable model listed above, namely the circa 1980 SHARP PC-1211. This 9-liner solves the NxN Chess Queens puzzle for arbitrary N, without recursion (RUN "A"):

```
1 A(Y)=A(Y)+1: IF A(Y)>X LET Y=Y-1: GOTO 1
2 GOTO 5
3 "A" CLEAR: INPUT "N=";X: Y=1: WAIT
4 A(Y)=1
5 IF Y=1 GOTO 8
6 FOR Z=1 TO Y-1: IF (A(Z)=A(Y))+(Y-Z=ABS(A(Z)-A(Y))) LET Z=Y: NEXT Z: GOTO 1
7 NEXT Z
8 Y=Y+1: IF Y<=X GOTO 4
9 USING: FOR W=1 TO X: PRINT "Queen at ";W;A(W): NEXT W: Y=Y-2: GOTO 1
```

I think that a person like you, who loves challenges and math and programming would love to try these machines, either for real or for pure fun.

Best regards from V.

PC-1250

*Message #74 Posted by **bill platt** on 4 Nov 2005, 2:59 p.m.,*
in response to message #73 by Valentin Albillo

Hi Valentin,

I have a PC-1250 which I bought for $4.00 or something like that--no manual but it has its original slipcase. (It belonged to another amateur radio operator---as you know there are a lot of us on this forum!)

It looks very much like the 1261 but is missing the DEG RAD GRAD and a few other "commands" printed on the face--

I have not used it much, but I wonder how much it is "missing" from the 1261?

It looks to have I/O and everything! I suppose there must be some sort of interface and cable -- maybe to write / read from a compact cassette drive?

Nicely made. The buttons aren't HP but they seem to be pretty reliable.

It is the start of my SHARP collection (well, actually my wife started it--with her little elsi-mate that is still going strong since about 1982--with its original battery--amazingly enough it looks to be a single aaa alkaline cell! I still have not replaced it because it just keeps on working...)

Regards,

Bill

Edited: 4 Nov 2005, 2:59 p.m.

Re: PC-1250

*Message #75 Posted by **Gileno** on 4 Nov 2005, 8:38 p.m.,*
in response to message #74 by bill platt

```
PC 1500A
PC 1360

and

PC 1600 !!!! (For me the first among all. . .)
```

Sharp pocket computers (and other topics)

*Message #76 Posted by **Karl Schneider** on 5 Nov 2005, 9:33 p.m.,*
in response to message #73 by Valentin Albillo

Hello, Valentin --

Thank you for the compliment and the links to some of the advanced models of calculators from Sharp. I looked through Archives 13 and 14, revisiting many interesting old threads, in search of this:

POST: Valentin's Sharp calculators

which sprung from an earlier "What's in your calc collection?" thread.

Yes, the machines certainly look impressive, and doubtless offer -- as you described -- certain functionality and capabilities that no HP models had. If the prices are reasonable, I might even get one or two, in order to have an example of a high-end non-HP product.

However, I doubt that I would indulge a hobby of high-end Sharps as you have. My interests lean more toward what I consider the best pure calculators, not the vintage pocket/handheld computers that run BASIC. I do have the HP-71B with the Math ROM and all the manuals, but am barely competent with it. Eventually, I'll learn from those excellent manuals (and your posts!) how to use it properly; that will keep me busy enough when I undertake *that* task.

> Quote:
>
> May I suggest you should try getting an HP28S. I see you own two HP28C, but the 28S is the much superior model, IMHO.

I like the 28 for its advanced unit conversions/definitions and not having an ALPHA mode to remember; I keep one at work.

I once summarized the main differences between the 28C and 28S was the RAM (2 kB vs. 32 kB), directories on the 28S, added functions (e.g., PERM and COMB), and a slightly faster processor. Is that list accurate? If so, then I'd have little need for a 28S, since I already have a 48G and 49G.

> Quote:
>
> ...you're bound to be delighted and awed by their quality of build and performance *(of Sharp pocket computers)*. I did show some of mine to a number of HP-loving friends and acquaintances, and most of them turned into SHARP 'lovers' as well.

Hmm, I dunno. No RPN? Also, I'd be real surprised if the quality of their mechanical engineering and ergononomics matches that of the HP's from the 1980's. Long-term durability and repairability is an issue now, given the age of these devices. And, I'd be absolutely stunned if the documentation measured up to that of the 71B, 71B Math ROM, HP-41, HP-15...

> Quote:
>
> They can be had very cheap in eBay Germany,

But the shipping to the USA might be a hassle, and I'd have to refer occasionally to my German-English dictionary if discussions with the seller were needed... ;-)

> Quote:
>
> I think that a person like you, who loves challenges and math and programming would love to try these machines, either for real or for pure fun.

I'd characterize myself as mainly a pragmatist (although I admit to having engaged in philosophical disputes on the Fourm from time to time). My programming endeavors emphasize my own professional applications, such as this one for my primary workplace calculator:

PROGRAM: AC Power Transfer for HP-32SII

I also have developed a working and more-extensive version of this program for the HP-42S, but it's not yet "ready for prime time". Adequate documentation would be a real chore.

I've also got several useful programs in mind for the HP-16C, once I understand the commands more fully.

My postings on mathematics have focused on fundamental definitions and computational algorithms on HP calculators:

POST: j^j on the 33S

POST: Hyperbolics with Advantage

And here's my discussion and basic technique for using SOLVE and INTEG:

ARTICLE: SOLVE and INTEG on RPN-based HP's

I do enjoy studying and reading your challenges and detailed answers, but generally leave the "doing" to others (some of whom have already accomplished them by the time I read them...)

-- Best regards from Karl S.

Edited: 6 Nov 2005, 3:41 p.m.

Re: Sharp pocket computers (and other topics)

*Message #77 Posted by **Valentin Albillo** on 7 Nov 2005, 6:36 a.m.,*
in response to message #76 by Karl Schneider

Hi again, Karl:

Karl posted:

"If the prices are reasonable, I might even get one or two, in order to have an example of a high-end non-HP product."

By all means do, but I'd suggest you get first one of the models I mentioned. They're the more likely to make a positive impression on you, and we all know that first impressions are what counts.

"I once summarized the main differences between the 28C and 28S was the RAM (2 kB vs. 32 kB) [...]"

The ratio is even worse, because 1/4 of those meager 2 Kb were permanently reserved for the operating system, thus leaving no more than 1.5 Kb for the user, which was absolutely insufficient. Mr. Wicked himself said that its RAM resources would compare to a bare bones 41C with no extra RAM at all, and that was insufficient to run most complex HP-67 programs.

"Hmm, I dunno. No RPN? "

You can easily search for my opinion on RPN in the MoHP's Archives so no need to repeat it here. Among my frequent posts, the one discussing HP's "Mach's number example" is the best summarization of my views.

"Also, I'd be real surprised if the quality of their mechanica engineering and ergononomics matches that of the HP's from the 1980's. Long-term durability and repairability is an issue now, given the age of these devices."

Don't be so surprised. SHARP have been pioneers in electronics since old, and theirs are the very first

LCD displays. Their first handheld 'computer', the venerable SHARP PC-1211, was offering a 24-character alphanumeric, dot matrix LCD display and BASIC in ROM in a slim, metallic body, with full I/O to mass storage and printer integrated back in 1980+, at a time where the HP-41C did with a 12-character, segmented LCD display and RPN in a plastic body, with I/O to mass storage and printer requiring expensive accessories with their own external ROMs. Not that I would compare both products or suggest that one is better than the other, they're simply in different leagues, but the SHARP's model hardware and build quality are perfectly comparable or even surpass the HP model.

As for durability and repairability, all my SHARPS do work perfectly, keyboards and all, despite being 15, 20, 25 years old. Still shiny as new, as well. You can open them up by simply unscrewing some perfectly normal screws, you can peek at the insides and even do your own things there, if you want to, such as internally wiring more RAM, etc, as long as you know what you're doing. They mostly use standard components.

"And, I'd be absolutely stunned if the documentation measured up to that of the 71B, 71B Math ROM, HP-41, HP-15... "

The documentation is perfectly good. The SHARP PC-1211, for instance, came with a big User Manual, full of detailed examples, plus another big book with *over a hundred* programs in all cathegories, mainly engineering, maths, statistics, etc, many of them suitably long and well written. After having a look at the dismayingly *bad* and insufficient "Standard Pac" which came with my newly acquired HP-41C, I was more than delighted with the SHARP PC-1211's equivalent, which would run rings around HP's offering both in terms of sheer number of programs featured and their quality and documentation. Not only would you learn from them, you'd actually *use* them (for instance, there was a program to solve linear systems up to 11x11).

You can see the quality and thoroughness of their documentation for yourself by having a look at this, which is the whole manual for one of the models I heartily recommended (SHARP PC-E500, the 'engineering' model) in English language, PDF format (6 Mb approx.):

SHARP PC-E500 Operation Manual

I think you'll agree with me it's perfectly good, adequate and comprehensive documentation for this superb machine.

"I do enjoy studying and reading your challenges and detailed answers, but generally leave the "doing" to others (some of whom have already accomplished them by the time I read them...) "

Well, I suppose doing so has its advantages as well, though you'll miss the fun of confronting an interesting problem and actually finding a solution.

Thanks for your kind opinions and

Best regards from V.

Re: HP collections

*Message #78 Posted by **valentino ducati (switzerland)** on 7 Nov 2005, 4:15 a.m.,*
in response to message #1 by Will

Well, many folks here had already say all of that I also would comment on our calculators. So I restrict my post only to the list:

hp12C
hp15C
hp16C

hp17BII *)
hp20S
hp27S *)
hp32SII

hp41CV *) + many peripherals

hp48SX *)
hp48GX *)

*) hp82440B printer for all marked calculators

Re: HP collections

*Message #79 Posted by **Frank Boehm** on 8 Nov 2005, 10:35 a.m.,*
in response to message #1 by Will

I won't post my list, since it might wear out your mouse scroll wheel ;)

(estimated 50 HP calcs only though)

still missing that red dot 35 - that's the last calc on my "important calculators" list

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HP Forum Archive 15

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HP-42S with HP-82240B Printer

*Message #1 Posted by **Joe D.** on 31 Oct 2005, 1:21 p.m.*

Hello,

I'm using my HP-42S in combination with the HP-82240B printer for several years now. But there's one big problem about graphics which I never managed to solve and that's why I'm seeking help from you.

Since the calculator's alpha register handles only 44 signs at the same time, any graphic sequence larger than 42 pixels (44 minus the two signs for the escape sequence) has to be splitted into two, three or four parts. So to print for example a 50 pixel wide graphic sequence, I have to enter the following: CLA, 27 XTOA, 50 XTOA followed by 42 times let's say 195 XTOA. To transmit the (still uncomplete) data to the printer I use the PRA-command. At this point the printer doesn't print anything, because he correctly awaits 50 signs, and writes the sequence into the buffer. No problem so far! But when I try to send the remaining 8 signs (CLA, 8 times 195 XTOA, PRA), the printer draws the following sequence:

```
00X0
00X0
XX0X
00XX
00XX
000X
000X
000X
```

before continuing with the correct graphic. In decimal code this means: 4, 4, 27, 252. So it seems that either the printer or the calculator (by means of the PRA-command) adds AUTOMATICALLY two right-stop line-feeds and one "return to normal width"-command. How can I prevent them from doing this?

P.S. To avoid this problem I always used the PRLCD command, but since the display of the HP-42S has only 131 pixels, I could never take advantage of the 35 supplementary pixels of the printer.

MANY THANKS IN ADVANCE!

Edited: 31 Oct 2005, 1:53 p.m.

Re: HP-42S with HP-82240B Printer

*Message #2 Posted by **TomC** on 31 Oct 2005, 4:26 p.m.,*
in response to message #1 by Joe D.

Hello Joe: [This may not be an answer, but hopefully it helps.]

In the HP42s Manual, there is a printer plotting program which does not (cannot?) use the full width of the printer paper. I don't believe the HP42s can send hex codes to the printer (as the HP48 does), so you are limited to the width of the LCD display.

Good Luck, TomC

Re: HP-42S with HP-82240B Printer

*Message #3 Posted by **Joe D.** on 31 Oct 2005, 5:25 p.m.,*
in response to message #2 by TomC

Thanks for your answer, Tom!

You're right! I know this program very well. I've even written my own version of it, so that it draws an y-axis too now (I simply couldn't understand why they had forgotten this). But it is obvious that this program CAN'T use the entire paper width because it doesn't directly address the printer. Nor does the enhanced version from the Advanced Programer's Manual (with up to 3 simultaneous functions).

My question however refers only to DIRECT printer adressing. This is undocumented in both HP-42S manuals, but you CAN use the escape sequences via 27 XTOA. So you can change v.g. the character set from ROMAN 8 to ECMA 94 which allows the use of greek letters.

By the way, why does the character code table at the end of the User's Manual show both decimal and hexadecimal codes for each character? Only by convention?

Re: HP-42S with HP-82240B Printer

*Message #4 Posted by **James M. Prange (Michigan)** on 31 Oct 2005, 11:17 p.m.,*
in response to message #3 by Joe D.

> Quote:
>
> By the way, why does the character code table at the end of the User's Manual show both decimal and hexadecimal codes for each character?

Well, sometimes it's easiest to use the decimal notation, and sometimes it's easiest to use the hexadecimal notation.

> Quote:
>
> Only by convention?

Actually, I suspect that showing both notations is somewhat unconventional. I wish more character tables would do this; it would sometimes save me the trouble of converting.

Regards,
James

Edited: 1 Nov 2005, 1:05 a.m.

Re: HP-42S with HP-82240B Printer

*Message #5 Posted by **James M. Prange (Michigan)** on 31 Oct 2005, 10:41 p.m.,*
in response to message #1 by Joe D.

I'm not familiar with the 42S, but to find out what the printer does with whatever it receives, you might find the HP82240B Technical Interfacing Guide PDF useful.

Regards,
James

Re: HP-42S with HP-82240B Printer

*Message #6 Posted by **Joe D.** on 1 Nov 2005, 11:31 a.m.,*
in response to message #5 by James M. Prange (Michigan)

Thanks for this hint! Very interesting paper! But it doesn't help in this situation, because I don't know what the PRA command does actually sent to the printer.

Regards, Joe

Re: HP-42S with HP-82240B Printer

*Message #7 Posted by **Thomas Okken** on 1 Nov 2005, 4:42 p.m.,*
in response to message #6 by Joe D.

It's possible to find out what the 42S sends to the printer by using a 48 to capture its output. There is a prgram called INPRT that does this; I've used it myself to work out some details in the Free42 printer emulation.
In case you don't have a 48 yourself, I'd be happy to run some tests for you and send you the results.

Re: HP-42S with HP-82240B Printer

*Message #8 Posted by **James M. Prange (Michigan)** on 1 Nov 2005, 8:35 p.m.,*
in response to message #7 by Thomas Okken

An excellent suggestion! But note that the version of INPRT published by HP remaps many non-ASCII characters from their Roman 8 character set to their modified ECMA 94 character set, which can muddy the issue. However, there are versions available which either skip the remapping or "remap" all non-ASCII characters to themselves; look for one of these versions.

Regards,
James

Re: HP-42S with HP-82240B Printer

*Message #9 Posted by **Christoph Giesselink** on 2 Nov 2005, 12:43 p.m.,*
in response to message #8 by James M. Prange (Michigan)

Instead of the INPRT version you can use the BINPRT program from the Clamshell/Pioneer ROM Upload package at http://privat.swol.de/ChristophGiesselink/Emu28/CPROMUPL.ZIP. This is a recompiled INPRT version without any conversation.

And here we have another possibility, using the PC version of Emu42 with the integrated

debugger.

The IR transmitter routine is at

```
OUTBYT EQU #0318D (HP42S rev. A)
OUTBYT EQU #031D6 (HP42S rev. B/C)
```

and the character to transmit is located in A[B]. So it's easy to set a breakpoint in the debugger and watch the A[B] register.

I made a small test with "ABC" in the alpha register and I got (in HEX) with PRA

1B,FC,41,42,43,04

translated this means

1B,FC = print with normal character width

41,42,43 = ABC

04 = special line feed

This explain the entire behavior I think.

Regards

Christoph

Edited: 2 Nov 2005, 12:46 p.m.

Re: HP-42S with HP-82240B Printer

*Message #10 Posted by **Joe D.** on 2 Nov 2005, 1:47 p.m.,*
in response to message #9 by Christoph Giesselink

Vielen Dank!

Genau das hatte ich mir auch gedacht! Da ich leider keinen HP-48 besitze und daher auch den Emulator nicht installieren kann, möchte ich nachfragen, ob Du nicht für mich noch einige wenige Tests durchführen könntest.

Beste Grüße,
Joe

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new rpn calcs

*Message #1 Posted by **brian healy** on 31 Oct 2005, 1:20 p.m.*

Is anyone aware if HP is working on a design for a successor to the 33s, or to any of its other currently offered calc's?

Re: new rpn calcs

*Message #2 Posted by **Namir** on 31 Oct 2005, 1:39 p.m.,*
in response to message #1 by brian healy

Having attended the HHC2005 conference in Chicago in September, I asked myself the exact same question. I was hoping something would be shed on successors to the 33s or 49G+. Alas, nothing. Th emain focus in the conference, regarding new stuff from HP, was improving on the current versions of the 33s and 12C Platimum.

This forum has discussed these improvements somewhat recently.

Re: new rpn calcs

*Message #3 Posted by **brian healy** on 1 Nov 2005, 9:08 a.m.,*
in response to message #2 by Namir

Namir, can you elaborate on what the HHC Conference is? I am not familiar with it. I assume HHC stands for hand held computer?

Re: new rpn calcs

*Message #4 Posted by **Jake Schwartz** on 1 Nov 2005, 1:52 p.m.,*
in response to message #3 by brian healy

Brian Healy wrote:

> can you elaborate on what the HHC Conference is? I am not familiar with it. I assume HHC stands for hand held computer?

The HP calculator user groups have been holding conferences, almost annually since 1979. The most recent one was held in the Chicago area in September and was called "HHC2005". The web sites for the last three conferences are still up if you want to see them:

HHC2003 is located at http://holyjoe.net/hhc2003/

HHC2004 is located at http://holyjoe.net/hhc2004/

HHC2005 is located at http://holyjoe.net/hhc2005/

The next U.S. conference is tentatively scheduled for September 16th and 17th and various locations

are being discussed, such as San Diego, San Jose and others. Information will be posted here and at comp.sys.hp48 when it is firm - probably by early Summer. For what it's worth, all the conferences going back to 1989 have been videotaped. For info on obtaining copies, check out http://www.pahhc.org/video.htm on the web.

Jake Schwartz

Re: new rpn calcs

*Message #5 Posted by **Bram** on 31 Oct 2005, 5:48 p.m.,*
in response to message #1 by brian healy

well, this one perhaps?

Re: new rpn calcs

*Message #6 Posted by **John** on 1 Nov 2005, 3:45 p.m.,*
in response to message #5 by Bram

Again, Bram, that series of posts does not say HP will be making a new RPN calculator. All Mary did is say they were getting ready for the anniversary of the 12c.

I think they just want stories to post on a web page you won't be able to find on their website.

I'll eat my hat if HP comes out with anything other than a cosmetically changed 12c for this anniversary. Perhaps they'll do it in one of those lovely shades of plum they seem to like.

Re: new rpn calcs

*Message #7 Posted by **brian healy** on 2 Nov 2005, 1:00 p.m.,*
in response to message #6 by John

Do we know if Mary is really from HP or just someone pulling our chains?

Mary, Mary quite contrary

*Message #8 Posted by **John** on 2 Nov 2005, 2:49 p.m.,*
in response to message #7 by brian healy

No we don't. I mean anyone could come here and say they work for HP or TI or ? and there would be very little we could do to stop it.

I wish people would quit getting their hopes built up. At best, we'd get a 12c with a different bezel saying something about a 25th anniversary.

So what and big deal.

Re: new rpn calcs

*Message #9 Posted by **Mike H** on 2 Nov 2005, 9:17 p.m.,*
in response to message #7 by brian healy

I do not think she is pulling our chain or an HP employee.

All indications are that Mary works for an ad agency (Source Communications) hired to develop the promotional material for the 12C anniversary edition.

I hope she was able to get some good ideas, but doubt she has any influence on future HP calculator production.

Mike H

What Mary said.

*Message #10 Posted by **John** on 2 Nov 2005, 10:49 p.m.,*
in response to message #9 by Mike H

She never said "12c anniversary edition" that I recall.

She said for the upcoming anniversary.

Hence, the speculation running wild.

Re: new rpn calcs

*Message #11 Posted by **Bram** on 3 Nov 2005, 8:39 a.m.,*
in response to message #6 by John

> Quote:
>
> Again, Bram, that series of posts does not say HP will be making a new RPN calculator.

True; that's why I said "perhaps".

> Quote:
>
> All Mary did is say they were getting ready for the anniversary of the 12c.

She also said: "(...) what you would like to see in terms of a 25th anniversary promotion that we are working on (...)"
That doesn't *exclude* a new or brushed up model, does it?
But the odds are very very low, I know. I was just connecting discussions.

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Connect HP49G+ via IR

*Message #1 Posted by **Daniel CLEMENT** on 31 Oct 2005, 9:49 a.m.*

Hello,

I have tried to connect my 49G+ to my PC.

The cable connection is fine, so I assume the soft is correctly installed.

However, when I try to connect with IR, the connectivity software claims that no calc is connected.

Indeed, from the PC indicator, the IR link is established then broken within seconds, possibly not allowing enough time for the program to get connected.

Maybe someone can point me to detailed instructions, because the documentation is very thin.

Thanks in advance - Daniel Clément

Re: Connect HP49G+ via IR

*Message #2 Posted by **Crawl** on 31 Oct 2005, 10:41 p.m.,*
in response to message #1 by Daniel CLEMENT

????

You do not connect to a PC with IR. IR is only for connecting two calculators to each other. You connect to a PC "by wire".

Re: Connect HP49G+ via IR

*Message #3 Posted by **James M. Prange (Michigan)** on 31 Oct 2005, 11:06 p.m.,*
in response to message #1 by Daniel CLEMENT

Which PC application are you trying to use for the connection with the 49g+?

As Crawl noted, Conn4x (the "Connectivity Kit" designed for the 49g+) isn't designed to work with IrDA. On my system, attempting to "connect" temporarily breaks the already established IrDA connection, and by the time that it's re-established, Conn4x has already timed out. I suggested getting IrDA working to Conn4x's developer, but he didn't seem to think it important enough to bother.

However, using MS Windows 98SE, my RS-232/IrDA converter is seen as a "virtual COM port", and I can use HPComm (the "Connectivity Kit" designed for the 49G) or HyperTerminal to connect with the 49g+.

Note that the 49g+'s IrDA connection is pretty slow (at least with my PC); in terms of bytes per second, the average througput is even slower than a 9600 bits per second connection with the 48 series. That said, I'm not absolutely sure that the "bottleneck" is in the 49g+; I suppose that it could be in something on my PC, including in the RS-232/IrDA converter.

Of course you can use a USB connection with the 49g+ for Conn4x.

Another alternative is to use an SD card or MMC (MultiMediaCard) to transfer objects.

Regards,
James

Re: Connect HP49G+ via IR

*Message #4 Posted by **Daniel CLEMENT** on 1 Nov 2005, 4:46 a.m.,*
in response to message #3 by James M. Prange (Michigan)

Thank you for all these details.

I guess I'm out of luck, for my OS is Win2k-SP4 which does _not_ use the "IRCOMM" thingy to map the IR port to a virtual COM port. So, HPComm would not help me. (The program I use is conn4x)

It's just disappointing... I don't like to play with cables; there are already enough around my PC. It's the 1st time I see 2 IRDA devices not working togethter!

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fair price for an HP-45?

*Message #1 Posted by **blurdybloop** on 31 Oct 2005, 1:39 a.m.*

I have an extra HP-45 and manual that I'm planning on getting rid of. This is a version with painted OFF/ON indicator.

It was filthy when I got it, and although it cleaned up nicely I wouldn't feel good in assessing its condition as better than 70%. It works, but it looks like something was spilled inside. The chrome is gone over the OFF/ON switch, there's a nick in the lens over the LEDs, the rubber feet are gone, a pair of holes were punched in the instruction foil to access the screws instead of peeling it back, and there's some sort of ID number scratched into the plastic in the battery compartment.

On the good side: it did clean up, there's no corrosion on the battery or adapter contacts, and it's not badly marred. The manual's in fairly good shape.

If it weren't for the fact that I already had a much nicer HP-45, I would have kept this one. It's suitable as a filler for a collection, and would probably restore well if someone put the effort into it.

It looks like HP-45 calculators are a dime a dozen on eBay, and I don't want to rip anyone off. On the other hand, I don't want to underprice it.

So, what do y'all think that it's worth?

Re: fair price for an HP-45?

*Message #2 Posted by **David Smith** on 31 Oct 2005, 10:46 a.m.,*
in response to message #1 by blurdybloop

A nice HP45 with book, case, and charger can be had for less than $50. An ugly banger is probably 20 bucks.

Re: fair price for an HP-45?

*Message #3 Posted by **blurdybloop** on 31 Oct 2005, 11:40 a.m.,*
in response to message #2 by David Smith

> Quote:
>
> An ugly banger is probably 20 bucks.

Yeah, that was the impression that I got from recent eBay sales. It's not worth it to me to put it up for auction for a piddly $20.

Re: fair price for an HP-45?

*Message #4 Posted by **David Smith** on 31 Oct 2005, 11:04 p.m.,*
in response to message #3 by blurdybloop

Mayby list it in the classifieds here. It can be an organ donor and save lots of dying machines. Or keep it, you never know when you will need some parts.

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our favorite bubba is selling the same calculator twice!

*Message #1 Posted by **blurdybloop** on 30 Oct 2005, 9:23 p.m.*

He's selling HP-16c s/n 2332A05616 at http://cgi.ebay.com/HP-16C-Computer-Scientist-Calculator-Set_W0QQitemZ5821883492QQcategoryZ58042QQssPageNameZWDVWQQrdZ1QQcmdZViewItem with 18 hours and 56 minutes left, and at http://cgi.ebay.com/Hewlett-Packard-HP-16C-Computer-Scientist-Calculator_W0QQitemZ5824948449QQcategoryZ58039QQssPageNameZWDVWQQrdZ1QQcmdZViewItem with 6 days and 20 hours left.

I'll bet that the first one turns into a cheap mouse real soon now.

Unfortunately, he's currently the only HP-16c seller, so some poor sucker looking for one may actually pay his prices.

He's also discovered how to bid-snipe. He didn't succeed the times that I observed, but he's no longer the bubba who bids low and hopes nobody else bids. He's turned aggressive.

Re: our favorite bubba is selling the same calculator twice!

*Message #2 Posted by **Mike DiGirolamo** on 30 Oct 2005, 9:43 p.m.,*
in response to message #1 by blurdybloop

For a chuckle, check these two bubba-transactions out:

His buy: <http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&category=80340&item=7190963658>

His offering: <http://cgi.ebay.com/Microsoft-PhotoDraw-2000-Full-Version-2-V-2_W0QQitemZ7193273980QQcategoryZ86734QQrdZ1QQcmdZViewItem>

Whoaaaa... "thatsa bigga gain, eehh?"

:) Mike

Re: our favorite bubba is selling the same calculator twice!

*Message #3 Posted by **Howard Owen** on 30 Oct 2005, 10:04 p.m.,*
in response to message #2 by Mike DiGirolamo

Nothing like a 1055.28% markup to start your week off right.

If he gets it, do you supposed he'll drop HP equipment and start preying on Windoze users exclusively?

Re: our favorite bubba is selling the same calculator twice!

*Message #4 Posted by **blurdybloop** on 30 Oct 2005, 11:17 p.m.,*
in response to message #3 by Howard Owen

> Quote:
>
> If he gets it, do you supposed he'll drop HP equipment and start preying on Windoze users exclusively?

Doubtful. Most Windows users know better than to buy software on eBay, although he has stung a few victims (one of whom neg'd him).

Note that this particular product is a discontinued product (4 years ago) for ancient (Win98 and NT4) versions of Windows, and was part of Office 2000. The modern replacements are Photo Editor and Visio.

Re: our favorite bubba is selling the same calculator twice!

*Message #5 Posted by **blurdybloop** on 30 Oct 2005, 11:06 p.m.,*
in response to message #2 by Mike DiGirolamo

There's numerous examples of that to be found in his feedback history, although not always with price differentials at greater than an order of magnitude.

It's amusing to watch him describe a ratty condition HP-15c (that he bought for $60 BuyItNow) as "great", and that by adding a CD-ROM containing the owner's manual and advanced function handbook (probably from the MOHPC DVD) he thinks that it's worth $319. That's just half an order of magnitude price increase.

Re: our favorite bubba is selling the same calculator twice!

*Message #6 Posted by **Les Bell** on 30 Oct 2005, 10:18 p.m.,*
in response to message #1 by blurdybloop

> Quote:
>
> I'll bet that the first one turns into a cheap mouse real soon now.

Bingo! It's a USB mouse, with 17 hours 51 minutes to go.

Quite something to see. . .

Best,

--- Les
[http://www.lesbell.com.au]

And, while you write...

*Message #7 Posted by **Massimo Gnerucci (Italy)** on 31 Oct 2005, 12:02 a.m.,*
in response to message #1 by blurdybloop

HP-55

Not a bad one...

Couldn't we stop this constant monitoring?
We all know about him, we all (more or less) use eBay, and his buyers are not here.

Greetings,
Massimo

Re: And, while you write...

*Message #8 Posted by **Howard Owen** on 31 Oct 2005, 12:23 a.m.,*
in response to message #7 by Massimo Gnerucci (Italy)

Hi Massimo,

You probably know that this topic is a perennial, as is the point of view you spoke in favor of. I can understand why collectors would be outraged at him. I can also understand why people would get tired of hearing about him on this forum. What I don't really understand is the answer to a question related to the one you raised, That is, why does he hold an enduring fascination for some of us?

I must admit, I'm one of those for whom his activities hold such a fascination. I think my fascination arises from a combination of two things. First, being able to watch part of the inner workings of an "operator's" schemes, which have up to now in the history of the world been largely invisible, strikes me as very interesting. Second, watching others reactions to him as he reduces objects of veneration (perhaps too strong a term) to pure profit and loss teaches me something about how different people value those objects. I'm always interested in learning more about human nature.

Sorry for the use of the indefinite pronoun throughout this post. I figure it's bad luck to speak the devil's name so close to Halloween. 8)

Edited: 31 Oct 2005, 12:26 a.m.

Re: And, while you write...

*Message #9 Posted by **blurdybloop** on 31 Oct 2005, 12:50 a.m.,*
in response to message #8 by Howard Owen

I personally feel that it is very important that there be an ongoing and fresh exposure of coburlin and his activities.

The reason is simple: any individual who does any minimal diligence prior to buying or selling an antique HP calculator will research the MOHPC web page and its forum. If even one person is suitably forewarned, then something good has come of this.

It won't always happen. That poor sap who just sold him that HP-55 knew about the MOHPC web page, but obviously didn't research very thoroughly or he wouldn't have let it go for a piddly $85.

But, sometimes, it does happen. I know this from personal experience. I almost bought from him, but I did my research (his prices seemed a bit high...) first. As a result, I passed on his offering, and got what I wanted for quite a bit less and in much better condition.

It is said that *a fool and his money soon are parted* and those who neglect to do due diligence are coburlin's lawful prey. Nonetheless, as a collector community we should provide the resources for those who attempt diligence.

Re: And, while you write...

*Message #10 Posted by **James M. Prange (Michigan)** on 31 Oct 2005, 2:00 a.m.,*
in response to message #9 by blurdybloop

Well, I suppose some might be forewarned because of reading about him in this forum, but it seems to me that those who sell with a "buy it now" well below the going market price or buy well above it have failed to do their basic research on eBay. If they haven't even bothered to check the typical prices on eBay, then how likely are they to look for advice at MoHPC? A fool and his money (or property) are indeed soon parted. Still, I can't help feeling a bit sorry for the poor suckers who do business with him.

As for the "poor sap" who sold his HP-55 for a "piddly $85", did he actually do much research at MoHPC? In any case, I can't blame the buyer for taking him up on the offer. My guess is that he was simply the first really interested person to spot the bargain.

As for snipers, somehow I can't get excited about them. To be sure, I don't bid very early in an auction, but I make my (usually) one bid the highest I feel willing to pay. Any last-minute bidder will either outbid me or I'll outbid him. If he's willing to pay more than I am, then so be it; it's his money.

It seems to me that sniping is probably mostly effective against (presumably) newbie bidders who want to start out with a low bid and then raise their bid as needed. Sniping may well be very effective in those cases, at least until those who engage in bidding wars learn better.

That's not to say that I like he-who-must-not-be-named's tactics, particularly making private offers (though that is allowable according to eBay) and switching to a different item near the end of his auction. Yes, he is preying on the foolish, but I expect that there are many who do far worse.

Regards,
James

Edited: 31 Oct 2005, 2:16 a.m.

Re: And, while you write...

*Message #11 Posted by **blurdybloop** on 31 Oct 2005, 2:43 a.m.,*
in response to message #10 by James M. Prange (Michigan)

> Quote:
>
> As for the "poor sap" who sold his HP-55 for a "piddly $85", did he actually do much research at MoHPC? In any case, I can't blame the buyer for taking him up on the offer. My guess is that he was simply the first really interested person to spot the bargain.

Obviously, the sap didn't do his research. The buyer was the bubba.

There usually isn't a BuyItNow price with the offering. Instead, as soon as the bubba sees a new listing, he sends the seller a message asking for a BuyItNow price. Most people refuse and let the auction run its course.

Every so often, there's a seller doesn't know the value, just wants to get rid of it (probably a fair number are widows or other heirs), and is thrilled to get a response within minutes of posting the item. So the seller closes the auction prematurely with the bubba's bid, and never finds out that there are others who might bid on it.

There's another HP calculator person on eBay who does the same thing, although that person seems to be somewhat less greedy that the bubba. On the other hand, it may just be a "kinder, gentler" sock puppet of the bubba.

The lesson here is to make an inventory of your collections for your heirs, and make a special note what items are of particular value that should not be sold cheaply.

Re: And, while you write...

*Message #12 Posted by **James M. Prange (Michigan)** on 31 Oct 2005, 4:20 a.m.,*
in response to message #11 by blurdybloop

> Quote:
>
> There usually isn't a BuyItNow price with the offering.

Are you certain of that? My impression is that the BuyItNow option can't be added after an item is listed, but I'm no expert on the matter.

> Quote:
>
> Instead, as soon as the bubba sees a new listing, he sends the seller a message asking for a BuyItNow price.

Yes, he can (and does) ask the seller to end the listing early, but in that case (if the seller complies) the completed listing says something along the lines of "Listing ended early to sell to the highest bidder."

> Quote:
>
> Most people refuse and let the auction run its course.

Quite sensibly, in my opinion. If I were selling and received such a request on the very first day, I'd probably think something like: "Hey, maybe this thing is worth more than I realized."

Regards,
James

Re: One who was helped by this...

*Message #13 Posted by **PeterP** on 1 Nov 2005, 9:55 p.m.,*
in response to message #9 by blurdybloop

just FYI - when I was about to buy my first HP a few years ago, I almost bit the dust buying from Bubba. I got lucky that there was a thread here, as I did not know about MoHPC (or TOS or hp-collection.org) for that matter. I was green and very naive. The post about him helped avoid that landmine. So despite all the gripe about the subject from many here, I want to thank you for saving me a couple years back... Peter

Re: And, while you write...

*Message #14 Posted by **blurdybloop** on 31 Oct 2005, 1:13 a.m.,*
in response to message #8 by Howard Owen

There is a bit of a warped fascination in observing the operation of someone who is utterly devoid of the most basic notion of morality. People want to believe that other people are basically good, and that

there is no such thing as "evil". It's like a splash of cold water on the face to come to realize that there are, indeed, some truly bad people in the world.

It's also true that the study of how these guys operate is a good way to avoid becoming a victim. Most people have an overly-optimistic assessment of their skill in detecting scams; but aren't going to learn unless/until they witness a "this could have happened to me" scenario.

The bubba is a small fry, and relatively harmless. Nobody's life will be destroyed by dealing with him. There are others in this world who are much worse; people (often at a vulnerable age) have lost their life savings, or even their lives.

Well-stated!

*Message #15 Posted by **I, Claudius** on 31 Oct 2005, 5:56 a.m.,*
in response to message #14 by blurdybloop

Spot on!

Only item I disagree with: that Cobubba is "relatively harmless." Crooks evolve to commit bigger and better crimes when not stopped. As has been observed above, some of his tactics are changing. As stupid as he is, he's learning, and so far has been getting away with his schemes. This will do nothing but encourage him to attempt larger scams, which someday will really hurt someone.

Re: Well-stated!

*Message #16 Posted by **Namir** on 31 Oct 2005, 8:09 a.m.,*
in response to message #15 by I, Claudius

I agree you with. I think Cobubba is venting his anger using eBay. I think the core matter has little to do with calculators. He may well want revenge against someone in his past who used these calculators AND who has victimized him. Some victims evolve into criminals. I had a chance to come across one a week ago --- a childhood friend of my step-son who paid him a visit out of the blue and after many years. The childhood friend ended up stealing my steps-on's pick-up truck!!! The childhood friend (no ex-friend of course) was a victim of abandoment by both parents. So victims do sometimes become criminals and do it in an evolutionary way like you mentioned in your message.

We live in a world today where we are more aware about choices and teh availability of counseling that can help us with all kinds of childhood issues.

Edited: 31 Oct 2005, 8:09 a.m.

Re: Well-stated!

*Message #17 Posted by **blurdybloop** on 31 Oct 2005, 12:20 p.m.,*
in response to message #16 by Namir

> Quote:
>
> I think Cobubba is venting his anger using eBay.

That's falling into the same "all people are fundamentally good" trap, by making Cobubba out to be a victim. The problem with talking about "a soul in pain" is that it assumes that there is a soul there.

A generation ago under the tutilage of B.F. Skinner, psychologists and sociologists had convinced themselves that bad behavior was a product of the environment during one's formative years. Edward O. Wilson thoroughly debunked this notion with the 1975 publication of *The New Synthesis*, which demonstrated that behavior was dictated by genetics, and that (sadly) unsavory behavior could not be eliminated from society through enlightened child-rearing.

Today, Wilson has been vindicated and evolutionary psychology is mainstream. Only the religious Right (ironic, since Wilson's opponents 30 years ago were on the radical Left) seriously questions it.

Cobubba's behavior can't be excused because he had a bad childhood. For all we know, he may have had a wonderful childhood. What's more, the world abounds with individuals who had wretched childhoods, yet still contrived to become decent adults.

Some people turn out good, and others turn out bad. Cobubba is one of the latter. Sympathy is wasted on him; he would consider it to be a sign of idiocy.

Re: Well-stated ?

*Message #18 Posted by **Walter B** on 31 Oct 2005, 1:33 p.m.,*
in response to message #17 by blurdybloop

Another lap for the do-it-yourself psychologists (or even psychiaters)!

Come on, let people offer what they want as long as it's not criminal. And I can't see a crime in what Cobubba does. It's annoying, for sure, a waste of market space, and may cost inexperienced people some money. I certainly would appreciate if ebay wouldn't be spoiled by such folks. But you find such dealers on every free market (and found them in the past, too). And after all, experience is just the sum of all the errors you make ... and compared to other errors, this has RELATIVELY harmless consequences, I agree.

Edited: 31 Oct 2005, 1:38 p.m.

Re: Well-stated!

*Message #19 Posted by **Namir** on 31 Oct 2005, 1:35 p.m.,*
in response to message #17 by blurdybloop

I have NOOOOOOOO sympathy for cobbuba. In general, victims can often become monsters because they act out their pain an anger in an improper way. Pedaphiles are a typical (and very sad) example.

I am simply saying that psyhcological issues often pick a certain "theater" or "scenario" to act out psychological complexes. These theaters mask out the real problem.

Re: And, while you write...

*Message #20 Posted by **Massimo Gnerucci (Italy)** on 31 Oct 2005, 11:55 a.m.,*
in response to message #8 by Howard Owen

Quote:

What I don't really understand is the answer to a question related to the one you raised,
That is, why does he hold an enduring fascination for some of us?

Mixing up some SF and comics...

As human beings we are always attracted by the dark side...

By using the Force we could convince him to say *nilruboc* and he will finally join Mr. Mxyzptlk in the 5th dimension.

Well, for 90 days, at least.

;-)

Massimo

Re: our favorite bubba is selling the same calculator twice!

*Message #21 Posted by **James M. Prange (Michigan)** on 31 Oct 2005, 2:12 a.m.,*
in response to message #1 by blurdybloop

By the way, how about trying the "Link" button for long URLs? You can make that huge URL look like this.

Regards,
James

Really? Still?

*Message #22 Posted by **Mark Lynch** on 31 Oct 2005, 8:41 a.m.,*
in response to message #1 by blurdybloop

Sigh.

Is there no chance of y'all just getting over this or growing up or maybe being a little less naive?

Or not.

Mark Lynch and name-calling

*Message #23 Posted by **blurdybloop** on 31 Oct 2005, 12:28 p.m.,*
in response to message #22 by Mark Lynch

Perhaps we can now discuss why Mark Lynch seems to be unable to disregard any posting about Cobubba without weighing in with name-calling ("get over this", "grow up", "naive").

Predictable Course

*Message #24 Posted by **Howard Owen** on 31 Oct 2005, 12:31 p.m.,*
in response to message #22 by Mark Lynch

And this is where the whole thing gets really tiresome and repetitive. Could one or the other party give up the last word to the other before we go through the whole tired litany all over again?

Re: Predictable Course

*Message #25 Posted by **Mark Lynch** on 31 Oct 2005, 1:17 p.m.,*
in response to message #24 by Howard Owen

Happy to go away boys. Consider it done.

Even without my little rants against naivete, you'll still have the other fellows wringing their hands worrying about the fun (and money) others are having.

Speaking just for myself, I can never talk about Coburlin again and not miss a wink of sleep. How about you?

Re: Predictable Course

*Message #26 Posted by **Namir** on 31 Oct 2005, 1:27 p.m.,*
in response to message #25 by Mark Lynch

I am not buying your act Mark!! You among ALL folks on this website are soooooooo worried about cobubba's image. I don't get the sense that you want to be fair. No one else care about cobbuba but you. I get the feeling you take comments on cobubba very personally. Maybe you two share the same social security number????

Re: Predictable Course

*Message #27 Posted by **Howard Owen** on 31 Oct 2005, 2:00 p.m.,*
in response to message #26 by Namir

Last word? Namir?

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12C Platinum prices around the world

*Message #1 Posted by **Gerson W. Barbosa** on 30 Oct 2005, 7:23 p.m.*

Take a look at this 15C:

http://produto.mercadolivre.com.br/MLB-34288870-calculadora-hp-15c-novinha-_JM

It is selling for R$ 300.00 (about $133), fixed price. Not bad comparing to eBay prices, but somewhat expensive here (Exactly one-month wages of a non-qualified worker). They usually sell for R$ 220.00 here (about $97), when they show up. Apparently the seller doesn't tell his 15C from a 12C Platinum, as he lists the specifications of the latter. Also he says this is his final price because he saw a brand new one selling for R$ 500.00 (~ $221) in a store. Yes, here the 12C Platinum costs this much, at least off Black Market.

I know European prices are generally higher than American prices, though not so high as they are here. Just out of curiosity, what is the official price of HP calculators around the world, say the 12C Platinum? I mean prices on local stores, as prices on the internet stores usually are lower. Thanks!

Re: 12C Platinum prices around the world

*Message #2 Posted by **Joao** on 31 Oct 2005, 12:02 p.m.,*
in response to message #1 by Gerson W. Barbosa

Dear Gerson,

The 12C Platinum costs 89.5 Euros in Lisbon and 119 Euros in France. I bet the price in Lisbon is a typo! What surprised me is that the 17bII+ is more expensive in both countries.

All the best,

Joao

Re: 12C Platinum prices around the world

*Message #3 Posted by **Gerson W. Barbosa** on 31 Oct 2005, 4:07 p.m.,*
in response to message #2 by Joao

Hello João,

Obrigado pelo feedback! (Thanks for the feedback!). About typos in price tags, there's a law here that states that the seller has to sell for the announced price, no matter it's right or wrong. The idea is to prevent sellers from attracting customers to their stores by announcing fake low prices. On the other hand, some months ago, a great supermaket sold at least a dozen LCD monitors for one tenth of the real price until they noticed their mistake (misplacement of the comma) :)

Best regards,

Gerson.

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Lex Files !!! Help

*Message #1 Posted by **gileno** on 30 Oct 2005, 4:58 p.m.*

I have several lexfiles (71B) in a diskette (DOS). How do I send them for HP71B using the 82164A HP-IL/RS-232C Interface? The system is already configured and ready to transmit or receive. Thank's

Re: Lex Files !!! Help

*Message #2 Posted by **Vassilis Prevelakis** on 30 Oct 2005, 7:20 p.m.,*
in response to message #1 by gileno

do you have the MoHPC DVD ROM?

Re: Lex Files !!! Help

*Message #3 Posted by **gileno** on 30 Oct 2005, 11:56 p.m.,*
in response to message #2 by Vassilis Prevelakis

I have all of CD's but no DVD.

Re: Lex Files !!! Help

*Message #4 Posted by **Vassilis Prevelakis** on 31 Oct 2005, 1:38 a.m.,*
in response to message #3 by gileno

```
gileno wrote:
> I have several lexfiles (71B) in a diskette (DOS). How do I send
> them for HP71B using the 82164A HP-IL/RS-232C Interface?
```

Read the 71devutil.pdf manual in the MoHPC CD-ROM collection, it contains all the info you need for connecting your 71 to a PC using the RS232 interface (p. 9 onwards).

**vp

Re: Lex Files !!! Help

*Message #5 Posted by **Gileno** on 31 Oct 2005, 11:35 a.m.,*
in response to message #4 by Vassilis Prevelakis

It was that I needed. Thank you very much. :-)

Re: Lex Files !!! Help :-(:-(

*Message #6 Posted by **Gileno** on 31 Oct 2005, 10:18 p.m.,*
in response to message #4 by Vassilis Prevelakis

He Only transfers basic and text! ! ! :-(

Re: Lex Files !!! Help :-(:-(

*Message #7 Posted by **Vassilis Prevelakis** on 1 Nov 2005, 12:41 a.m.,*
in response to message #6 by Gileno

```
Gileno wrote:
> He Only transfers basic and text
```

Not to worry, see the following article on how to create LEX files from ASCII dumps:

ftp://ftp.hpmuseum.org/lif/swap/swap10/lexfv7n1.txt

**vp

Re: Lex Files !!! Help :-(:-(

*Message #8 Posted by **gileno** on 1 Nov 2005, 7:58 a.m.,*
in response to message #7 by Vassilis Prevelakis

I have several lex in diskette (dos mode). I would like a middle of easier of for them in the 71B through RS232 or of the 9114B. :-(

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HP25 without or with polar coordinate bug more valuable ?

*Message #1 Posted by **Bernhard** on 30 Oct 2005, 2:43 p.m.*

Hi folks,

maybe some of the collectors lurking on this list could give some opinions which HP25 is more valuable: the one with the polar coordinate bug (original manual with original addendum how to work around the bug) or the one which hasn't the bug.

Would need this advice on which of my two HP25 I might give away. I'm tempted to keep the one with the bug, because I think it's harder to get.

best regards, Bernhard

Re: HP25 without or with polar coordinate bug more valuable ?

*Message #2 Posted by **David Smith** on 30 Oct 2005, 8:36 p.m.,*
in response to message #1 by Bernhard

They are not all that rare. Quite a bit more common than the HP35 with bugs, which is not all that rare either. What is rare is finding a person that knows how to find the bug...

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HP 15C Amortization Application Program Listing

*Message #1 Posted by **steve adams** on 30 Oct 2005, 1:11 p.m.*

I am trying to locate the HP 15C Application Program Listing for basic Financial Amortization. This program basically puts the HP12C financial functions (n,i,PV,PMT,FV) onto the HP15C programmable keys (A,B,C,D,E). Any assistance in locating this would be greatly appreciated. Thanks in advance. steve/

Re: HP 15C Amortization Application Program Listing

*Message #2 Posted by **Arnaud Amiel** on 30 Oct 2005, 1:59 p.m.,*
in response to message #1 by steve adams

There: Museum Software library

Arnaud

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HP 33C & 34C made in USA

*Message #1 Posted by **Luis** on 30 Oct 2005, 11:22 a.m.*

Hello guys, As most of people on this forum are collectors, i would like to ask if anyone have either a HP 33C or 34C made in USA? They made them? Cheers Luis

Re: HP 33C & 34C made in USA

*Message #2 Posted by **Charlie O.** on 30 Oct 2005, 1:41 p.m.,*
in response to message #1 by Luis

Hi Luis,

I have 33c 1946A264xx

ceo

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scientific notation to fixed integer

*Message #1 Posted by **Bill** on 30 Oct 2005, 1:26 a.m.*

I have a HP-15C without a users manual. The display is set for scientific notation and I don't know how to change it to a fixed integer display. Can anyone instruct me? I've ordered the CD, but in the meantime..... Thanks.

Re: scientific notation to fixed integer

*Message #2 Posted by **Richard Garner** on 30 Oct 2005, 3:46 a.m.,*
in response to message #1 by Bill

Bill,

Click the f key then 7 key for fixed then the number of places you want.

For the display to look like this 0.0000 do the following:

f (gold shift key) 7 (fix notation key) 4 (number of decimal places.

Re: scientific notation to fixed integer

*Message #3 Posted by **Arnaud Amiel** on 30 Oct 2005, 5:46 a.m.,*
in response to message #1 by Bill

While the CD hasn't arrived yet, you can check the manual on: http://www.hp15c.org/hp15c.pdf

Arnaud

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Help!! 9815: Mad at the printer, 9825: Mad at the fan!

*Message #1 Posted by **Etienne Victoria** on 29 Oct 2005, 10:23 a.m.*

Hello Tony & al,

I apologize for asking 2 questions in one topic but maybe you can help save my household!!!

Repairing a 9815 & 9825, I've done the usual job (screw posts under PSU, gummy wheel replacement...) on both calcs.

However, before closing the lid, I've got 2 remaining problems :

- The 9815 keeps on printing the error messages and the printer is not especially quiet: I know this is by design but **is it Ok if I insert an additional switch on the printer power supply wires to keep it silent when I want to ???**

- The 9825 fan is producing a tremendous noise even after carefully taking into parts, greasing the axis, inspecting the fan cavity for frictions : the noise seems to come from inside the motor: **does anybody know the specs of this fan for me to replace it with a new one ?? I intend to use the fans sold for today's PCs.**

I surely won't disconnect the fan due to the amount of electronics warming up inside!!

Having read the maintenance manuals for both machines, I found the Hp part numbers but not the specs.

Heeeeelp, my wife doesn't want me to keep noisy calcs anywhere in our parisian flat!!!

Warm (even with the fan :-) greetings to all and thanks in advance!!!

Etienne (still married)

Re: Help!! 9815: Mad at the printer, 9825: Mad at the fan!

*Message #2 Posted by **Tony Duell** on 29 Oct 2005, 2:35 p.m.,*
in response to message #1 by Etienne Victoria

Warning : This is based on looking at the schematics, I have not tried any of this.

For the 9815, I see no problem in putting a switch in series with the printer solenoid (connected to the PSU/printer PCB by a 2 pin connector). What I would do is uplug that connector (thus disconnecting the solenoid) and see if the machine behaves as you want it to. If so, add the switch in series with one of the solenoid wires.

I do have to wonder about the HP design that causes a machine to print 'OUT OF PAPER' when it has no paper ;-)

For the 9825, the fan is a 120V AC (50/60Hz) unit. I see no reason why a modern replacement wouldn't work. Note that most PC fans are 12V DC, you can't put one of those directly in place of the existing fan. There is a +12V rail in the 9825 which probably could supply enough current for a modern fan, but I like to keep my

machines as orignial as possible (and 120V fans are not hard to get).

I assume you've looked at said schematics...

Re: Help!! 9815: Mad at the printer, 9825: Mad at the fan!

*Message #3 Posted by **Etienne Victoria** on 29 Oct 2005, 3:03 p.m.,*
in response to message #2 by Tony Duell

Good evening Tony,

Thanks galore for your answer!

I'll start with the 9815 and then will go out in the cold to find a 120V fan!

Of course, I'll report back when done.

Thank you also for your 2001 explanation on the printer: 9815 printer overhaul

I received the 9815 with the printer foam spread all around the mechanism and your post did help me to restore it and also the one in my 9825!!!

Have a nice week-end!

Etienne

PS Help!! 9815: Mad at the printer, 9825: Mad at the fan!

*Message #4 Posted by **Etienne Victoria** on 29 Oct 2005, 3:07 p.m.,*
in response to message #2 by Tony Duell

PS : Yes I looked at the schematics on the DVD & found the 12V rail...but not the fan specs: I'll reread then...

I'll try not to consider this rail as a power supply "selfservice" to tune my machine...but I'm tempted :-)

Alea jacta est! (Oops sorry!)

Thanks again.

Etienne

Edited: 29 Oct 2005, 3:17 p.m.

Re: Help!! 9815: Mad at the printer, 9825: Mad at the fan!

*Message #5 Posted by **David Smith** on 30 Oct 2005, 10:19 a.m.,*
in response to message #2 by Tony Duell

It is much easier to find a quiet 12V fan than a quiet 120V fan...

Re: Help!! 9815: Mad at the printer, 9825: Mad at the fan!

*Message #6 Posted by **Etienne Victoria** on 30 Oct 2005, 10:27 a.m.,*
in response to message #5 by David Smith

I guess you're right and I might go this way.

However, Tony pointed that he prefers to keep his calcs as "authentic" as possible!!

You can be sure I'll take the quietest one because I do appreciate the 9825 and try to learn HPL.

Don't shiver, if I elect to poke the 12V rail, I have a bunch of "tuning options to put in the calc such as "laser blue light" within the fan, retrolighting the keyboard :-)

I'll try to finish the 9825 before Halloween!

Etienne

Edited: 30 Oct 2005, 10:28 a.m.

Re: Help!! 9815: Mad at the printer, 9825: Mad at the fan!

*Message #7 Posted by **David Smith** on 31 Oct 2005, 11:07 p.m.,*
in response to message #6 by Etienne Victoria

Put in a quiet 12V fan and use it, keep the old one handy in case you need to restore the machine to its virgin state.

Re: Help!! 9815: Mad at the printer, 9825: Mad at the fan!

*Message #8 Posted by **John Ioannidis** on 29 Oct 2005, 7:04 p.m.,*
in response to message #1 by Etienne Victoria

I recently repaired my 9815 printer (Tony Duell's advice was, of course, invaluable! My biggest problem was finding suitable material for replacing the damper rubber foam that had turned to goo. I used thin self-sticking felt pads but they turned out too thin and not particularly impact-dampening: the printer was advancing too much and making almost as much noise as without the felt. Then I tried Dr Scholl's moleskin foam (shaved to remove the fuzzy part!!!), but it was too thick; the printer wouldn't advance. Then I found the closed-cell foam tape that came with my air conditioner, and it turned out to be just right. It's still noisier than I would like it, but it works and I'm not about to disassemble the printer for the hundredth time.

Now, I would advise against just cutting off power to the solenoid; the machine would keep printing without advancing the paper, heating up the printheads. I would assume that the design depends on the moving paper to carry off some of the heat from the printheads, exposing the heads to new, cool paper as the machine is printing. I would fear that if you don't advance the paper you may overheat the heads. I don't have documentary evidence of that, it's just a conjecture, but better sure than sorry.

I do find it annoying that the printer is used to print diagnostic messages even when the printer switch is off. Would it have been too hard to display "Error" and a number to indicate what the error was?

The fan, after a thorough clean-up, is surprisingly quiet. Maybe the ball bearings in yours are defective?

BTW, thanks to Vassilis Prevelakis for fixing the capstan of my tape drive.

/ji

Re: Help!! 9815: Mad at the printer, 9825: Mad at the fan!

*Message #9 Posted by **Etienne Victoria** on 29 Oct 2005, 7:23 p.m.,*
in response to message #8 by John Ioannidis

Yassou John!

Thanks for your input! I'll try to find a foam-type similar to yours (air-conditionning is not that widespread in France)

I understand your point on the power cut at the solenoid but remain reluctant to put the switch directly on the printer power lines, fearing that the calc would wait some handover signal from the printer finishing it's job.

That's why, Tony's option looks attractive to me! I'll try to recheck thoroughly the schematics before I jump.

Now on the noise issue, the noisy fan is my **9825T** fan which I completely dismantled and powered directly from my bench PSU : I think it's the motor. On the other hand, the **9815S** fan is really quiet after cleanup and realignment!

Thanks again John!

Etienne

Edited: 29 Oct 2005, 7:26 p.m.

Re: Help!! 9815: Mad at the printer, 9825: Mad at the fan!

*Message #10 Posted by **marais** on 30 Oct 2005, 5:54 a.m.,*
in response to message #9 by Etienne Victoria

Interesting! Inspired by your thread, I just decided to give it a try and unassembled my 9815. I cleaned the pad from the goo and tried a square-cm of window insulation tape, but it seems to be too thick - the printer doesn't advance, and yet makes a tremendous noise. Emmanuel, if you happen to find a suitable material in France, I'd be happy to receive a mail. The thickness really seems critical for the operation of the printer.

Andreas

Re: Help!! 9815: Mad at the printer, 9825: Mad at the fan!

*Message #11 Posted by **Etienne Victoria** on 30 Oct 2005, 6:38 a.m.,*
in response to message #10 by marais

Hello Andreas!

By "Emmanuel", I suspect you mean "Etienne" :-)

Of course, I'll keep you posted as soon as I find the proper material.

However, every shop is closed till Nov 2nth and I'm really tempted to try injecting foam (mousse injectable) in the meanwhile.

I'll drop you a mail when my 9815 is definitely silent (I mean works silently!)

Etienne

Edited: 30 Oct 2005, 6:38 a.m.

Re: Help!! 9815: Mad at the printer, 9825: Mad at the fan!

*Message #12 Posted by **Tony Duell** on 30 Oct 2005, 6:40 a.m.,*
in response to message #10 by marais

There is a back stop adjustment on this printer -- a screw locked by a nut on the right hand side of the front IIRC. If the new damper foam is a little too thick or too thin, you could try adjusting this. The ratchet pawl (inside the platten knob!) should pick up one tooth for each operation of the solenoid.

There is, amazingly, some useful information for this in the official 9825 service manual, including a schematic of the test rig (!).

Re: Help!! 9815: Mad at the printer, 9825: Mad at the fan!

*Message #13 Posted by **Vassilis Prevelakis** on 30 Oct 2005, 6:56 a.m.,*
in response to message #10 by marais

```
marais wrote:


> Interesting! Inspired by your thread, I just decided to give it a
> try and unassembled my 9815. I cleaned the pad from the goo and
> tried a square-cm of window insulation tape [...]
```

Way too thick. Unfortunately I didn't take any pictures when we were repairing ji's 9815S (I did the tape drive, he did the printer), but the piece of foam he inserted was very thin (about 3-4 mm).

The printer still makes quite a clatter, but it now prints OK. We wrote a short program to test the tape drive and listed it before and after saving it onto tape.

Ji promised to take a few pictures before reassembling the 9815.

**vp

Re: Help!! 9815: Mad at the printer, 9825: Mad at the fan!

*Message #14 Posted by **marais** on 30 Oct 2005, 8:06 a.m.,*
in response to message #13 by Vassilis Prevelakis

Thank you, it worked on my second attempt...I use only a small strip of window isolation tape (I can bring some to Paris, Etienne!), glued to the outer third of the metal plate. I also lengthened the spring a bit, and now the mechanism works fine. I noticed that a working mechanism can be tested manually, by just pressing the plate from behind...if it clicks, it'll also work with the solenoid moving the plate.

Now for the capstan! This forum is fabulous.

Andreas

Edited: 30 Oct 2005, 9:29 a.m.

Re: Help!! 9815: Mad at the printer, 9825: Mad at the fan!

*Message #15 Posted by **Etienne Victoria** on 30 Oct 2005, 10:10 a.m.,*
in response to message #14 by marais

Andreas, if you want, I have a capstan for you!

It's a spare left after repairing the ones in my 9815 & 9825.

If you prefer machining it yourself, I bought from my plumber the tap joints that I used to rebuild Hp-85, 98x5 and TI SR-52 capstans.

If interested, email me privately.

Cheers from Fourqueux

Etienne

Edited: 30 Oct 2005, 10:13 a.m.

Re: Help!! 9815: Mad at the printer, 9825: Mad at the fan!

*Message #16 Posted by **Tony Duell** on 30 Oct 2005, 6:38 a.m.,*
in response to message #8 by John Ioannidis

The fact that HP allowed the printer to print without paper (e.g. that infamous 'OUT OF PAPER' error) means that it can't be that damaging to the head. As a counterexample, the 7245 printer/plotter (there's one on my bench at the moment..) has a fairly complex out-of-paper circuit, and even detects if the sensor has failed. So presumably something nasty happens to that machine if it's run without paper.

I also don't believe that the platten roller carries that much heat away in the 9815. It's not a metal roller, after all.

Now, I wouldn't disable the solenoid and the out-of-paper sensor and, say, try printing a program listing on the 9815. That might well do damage. But disconnecting the solenoid would leave the out-of-paper sensor working, so what would happen if it tries to print (assuming there's no paper in the machine) would be to print OUT OF PAPER and then stop. I don't think that would do damage.

If you want to leave paper in the machine and shut it down, you might look into forcing an out-of-paper error, e.g. by also disconnecting the LED of the sensor.

Re: Help!! 9815: Mad at the printer, 9825: Mad at the fan!

*Message #17 Posted by **donald wallace** on 31 Oct 2005, 6:24 p.m.,*
in response to message #8 by John Ioannidis

Hi John,

RE: heat build up if pplatten stalls: yes thats how it works.

Hey Man, I like your PIC code!

dw

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i found out a Brand New 48GX lost at book store

*Message #1 Posted by **Beast** on 29 Oct 2005, 9:03 a.m.*

Hi Guys i found out a Brand New 48GX lost at book store(BOX quite faded), i paid a original price close to 200$ but is NEW even with the blister sealed from HP...Maybe looking in these places we can find more "Lost" units. I also saw a Brand New 48G+.

Re: i found out a Brand New 48GX lost at book store

*Message #2 Posted by **I, Claudius** on 29 Oct 2005, 9:08 a.m.,*
in response to message #1 by Beast

We're so excited! Just can't wait 'til you put it on eBay...

Re: i found out a Brand New 48GX lost at book store

*Message #3 Posted by **Chris Woodhouse** on 29 Oct 2005, 1:01 p.m.,*
in response to message #1 by Beast

You couldn't talk them down on price?! Come on the argument would be easy, it's an obsolete calculator no longer made, they could never sell it ;) ;) They should jump at an offer of $100 lol

Chris W

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Wanted: English manual for CCD module

*Message #1 Posted by **Geir Isene** on 29 Oct 2005, 6:08 a.m.*

Anyone?

Re: Wanted: English manual for CCD module

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 29 Oct 2005, 6:36 a.m.,*
in response to message #1 by Geir Isene

Hello Geir,
I do have it but it is 34221554 bytes long.
Where can I e-mail/ftp it?

Greetings,
Massimo

Re: Wanted: English manual for CCD module

*Message #3 Posted by **Geir Isene** on 29 Oct 2005, 10:28 a.m.,*
in response to message #2 by Massimo Gnerucci (Italy)

Would you be able to have it on an ftp server or on a web site for me to download?

You have mail [NT]

*Message #4 Posted by **Massimo Gnerucci (Italy)** on 29 Oct 2005, 11:27 a.m.,*
in response to message #3 by Geir Isene

I said No Text :-)

Re: You have mail [NT]

*Message #5 Posted by **Geir Isene** on 29 Oct 2005, 12:00 p.m.,*
in response to message #4 by Massimo Gnerucci (Italy)

No Text??

Thanks, Massimo.

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No serial number

*Message #1 Posted by **Arnaud Amiel** on 29 Oct 2005, 5:44 a.m.*

I recently acquired a very cheap 6s and noticed that it does not have a serial number but a batch number instead. Are there any other hp calculators (not prototypes) that don't have serial numbers?

Arnaud

serial

*Message #2 Posted by **bill platt** on 29 Oct 2005, 1:00 p.m.,*
in response to message #1 by Arnaud Amiel

Hi Arnaud,

What's the difference between a "batch number" and a cereal number (oops I mean serial---I haven't had breakfast yet! :) ?

Regards,

Bill

Re: serial

*Message #3 Posted by **Arnaud Amiel** on 29 Oct 2005, 1:34 p.m.,*
in response to message #2 by bill platt

There is one serial number per calculators. I would assume that a batch number would be shared between many?

Arnaud

Serial

*Message #4 Posted by **bill platt** on 29 Oct 2005, 2:04 p.m.,*
in response to message #3 by Arnaud Amiel

Yes, but how can you tell that it is a *batch* rather than serial? Can you give example?

Re: Serial

*Message #5 Posted by **Arnaud Amiel** on 29 Oct 2005, 3:19 p.m.,*
in response to message #4 by bill platt

On my 6s, the batch number is CN10020, on my 33s it is CNA11105782. I would believe that there are more 6s than 33s so I assume the batch number is identical for many calcs. Anyone around here with the same batch number as me? Arnaud

serial

*Message #6 Posted by **bill platt** on 29 Oct 2005, 5:16 p.m.,*
in response to message #5 by Arnaud Amiel

Your 33s has one more digit after the "A" than mine (though mine is a CN4 not a CNA4

Re: serial

*Message #7 Posted by **Arnaud Amiel** on 29 Oct 2005, 5:26 p.m.,*
in response to message #6 by bill platt

There was bad lighting, mine is actually CNA41105782, same number of digits though (?)
My 49g+ has the same number of digits CNA51001296

Re: No serial number, Also for 30s

*Message #8 Posted by **I, Claudius** on 30 Oct 2005, 9:00 a.m.,*
in response to message #1 by Arnaud Amiel

The 30s also just has batch numbers.

Re: No serial number, Also for 30s

*Message #9 Posted by **Mark Crispin** on 30 Oct 2005, 11:29 p.m.,*
in response to message #8 by I, Claudius

Are you sure about that?

I have two HP-30s, purchased about a month apart. They both have proper serial numbers in the CNA4060#### range, approximately 2200 apart.

Re: No serial number, Also for 30s

*Message #10 Posted by **I, Claudius** on 31 Oct 2005, 6:05 a.m.,*
in response to message #9 by Mark Crispin

Interesting, they must have changed from early units. The 30s is a junk machine, so it really doesn't matter.

HP is blowing it by trying to produce multiple models as none is good quality. Instead, it should pare back to just three: the eternal 12C, the 32/33 ROM in a classic Voyager 15C case, and a top end 49+, all top quality, with no hardware/software bugs. This fairly simple strategy would go a long way to restore HP's luster in the calculator business.

Edited: 31 Oct 2005, 6:08 a.m.

Re: No serial number, Also for 30s

*Message #11 Posted by **Mark Crispin** on 31 Oct 2005, 1:21 p.m.,*
in response to message #10 by I, Claudius

> Quote:
>
> The 30s is a junk machine, so it really doesn't matter.

True, although I think that this is more because it is algebraic-only. For $15, it is alright for the purpose to which I put it: one is tossed in the console box of the RV, and the other is on a corner of my desk at work. I usually have a much better calculator with me, but having a 30s on hand means that I have access to a reasonably competant basic calculator in the few cases when I don't.

Since a 30s is a $15 throwaway, I don't need to worry about its long-term welfare. I would not worry about the loss, theft, or destruction of a 30s; I would for a 12c, 15c/16c, and even a 33s (although the 33s is hideously ugly).

> Quote:
>
> [HP] should pare back to just three: the eternal 12C, the 32/33 ROM in a classic Voyager 15C case, and a top end 49+

I wish that I could agree about a 15c redux. Alas, I can't. The display on the 33s is *far* superior, and I don't see any good way that it can fit in the Voyager case.

You could get some vertical space back by moving annunciators to the side; there is sufficient real estate available on each side of the display on the Voyager. But I don't think that that this will provide enough headroom, and the result would certainly have a much "busier" look than the Voyager's elegant cosmetics.

Also, I don't think that a 15c redux could underprice the 33s. That's a fatal flaw; like it or not, the 33s (or a successor, hopefully without that hideous keyboard) is the top-of-the-line scientific calculator . A new 15c, especially if the display is unchanged, would have to fit in at a lower price.

I don't think that a 15c Platinum (ala 12c Platinum) would work as a 33s replacement. There's still the issue of the display.

What may be more likely (and I can hear the shudders going through the community now!) would be an HP-12c Titanium which would have changable face plates that also change the key tops. The face plate also changes the microcode. So you could buy one calculator with three face plates and have a 12c, 15c, and 16c. There would be no software changes, just packaging changes. Whether the microcode is part of the face plate (leaving open the option of other calculators based on the platform), or if it's just a big switchable ROM between 12c/15c/16c is open.

I think that an HP-12c Titanium could be sold at a premium price, since it's effectively three calculators in one.

The catch would be that the PHBs would probably insist that it be based on the 12c Platinum rather than the 12c. As far as I know, the 12c Platinum is a complete reimplementation of the Voyager platform and not itself a Voyager; so you can't just change keytops and microcode and have it become a 15c or 16c.

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33s CHECKSUM issue: old/new

*Message #1 Posted by **ECL** on 28 Oct 2005, 6:51 p.m.*

```
Just got a new copy of the 33s and have this problem:


I entered a program from my old 33s and see the same checksum: LN=270, however when I run the
program, I get different answer from my old 33s. Any ideas?


Also, noted these improvements:
1. Spacing between numbers in display is increased (VERY GOOD)
2. Decimal larger (VERY GOOD)


ECL
```

33s Checksum

*Message #2 Posted by **bill platt** on 29 Oct 2005, 1:25 p.m.,*
in response to message #1 by ECL

Hi,

Please post your program code so that I may run it on mine.

(I have one of the 1st production series).

regards,

Bill

Re: 33s Checksum Resolved (LONG - code listing)

*Message #3 Posted by **ECL** on 29 Oct 2005, 3:39 p.m.,*
in response to message #2 by bill platt

```
Bill,


I have found the problem. I mistook the meaning of LN=xxx under the -> MEM , PROGRAMS
menu. I thought this was the check sum, but it is not. I suppose it is memory used by
this label. Here is the code anyway, you may already have it, but I have updated it
since I first posted it:


Eric Lundgren April 2005
Rev 2 - August 2005
HP 33s/ Location of Vertical Nuetral Axis, and Ix (Second Moment)for composite cross
section:


Description: For a buildup of n rectangular sections (ibeam, c-channel, sandwich, etc.),
this program computes the location of neutral axis (measured from bottom of section),
and the moment of inertia.
```

```
To use the program-
The program requires that FLAG 1 is set prior to running. I simply keep FLAG 1 set all
the time.
Execute via XEQ I, and you are prompted for number of sections. A basic I-beam would
have 3 sections (web, upper cap and lower cap). B = width of a section, and H = height
of that section.


Both lines of the screen are used for the result:
Upper line is the location of vertical neutral axis (centroid). Lower line is the
second moment of inertia of the plane area defined by the combined rectangular sections.
Note that you can model two plates that have open space between them (perhaps a foam
core that does not contribute to stiffness) by entering the width as zero, and then
height equals the empty space.


LBL I
FS? 1
CLVARS
FS? 1
INPUT N
CF 1


INPUT B
INPUT H
RCL H
2
/


RCL +T
RCL B
RCL * H
*
RCL +Q
STO Q


RCL B
RCL H
*
RCL +R
STO R
1


RCL +V
STO V
RCL Q
RCL / R
RCL – C
X^2


RCL *A
RCL + I
STO I
RCL T
RCL H
2


/
+
RCL Q
RCL / R
-
X^2
RCL *B
RCL *H
RCL H
3
Y^X


RCL *B
12
/
+
```

```
RCL + I


STO I
RCL Q
RCL / R
STO C
RCL B


RCL * H
RCL + A
STO A
RCL T
RCL +H


STO T
RCL V
RCL N
X>Y?
GTO I
SF 1


RCL C  **location of neutral axis**
RCL I  **value of composite Ix **
RTN


CK: 1A60(valid only on HP33s)
LN = 270
```

Is this a 33s vs. 32sII problem? or different 33s'?

*Message #4 Posted by **Gene** on 29 Oct 2005, 3:51 p.m.,*
in response to message #3 by ECL

RCL wrote: "CK: 1A60(valid only on HP33s) LN = 270"

Gene: Did you mean here "valid only on new 33s" or ?

I'm not aware of any changes to the checksum determination with any 33s revision, but that doesn't mean it hasn't happened, of course.

If this is from a 32SII to a 33S version, then all bets are off. :-)

Gene

Re: 33s Checksum Resolved (LONG - code listing)

*Message #5 Posted by **brian healy** on 31 Oct 2005, 1:18 p.m.,*
in response to message #3 by ECL

does you program allow the consideration of a different width for the web versus the flanges (caps). I'm a structural engineer, I get into reinforcing steel wide flange (ibeams) from the AISC manual, and all of the shapes have webs that are thinner than the caps.

Re: 33s Checksum Resolved (LONG - code listing)

*Message #6 Posted by **ECL** on 31 Oct 2005, 3:33 p.m.,*
in response to message #5 by brian healy

Brian,

A nice point is that it only uses one label. My code is for any cross-sect composed of n rectangular pieces.

I'll illustrate with an example of a basic I-beam, and note that I do not account for the radius at the web/flange intersection. Say you have a beam with:

```
upper flange= 3"x0.33" (width x height)
web = 0.35"x6" (width x height)
lower flange= 4"x0.25" (width x height)


My code would work like this, starting from the bottom surface of the lower
flange:
N = 3 R/S
B = 4 R/S
H = 0.25 R/S
B = 0.35 R/S
H = 6 R/S
B = 3 R/S
H = 0.33 R/S


The output is:
3.25204 = Ybar (vertical coordinate of centroid from bottom. Units: inch)
25.99 = Ix (second moment, or area-moment of inertia. Units: inch^4)
```

Hope this helps. I've run it against some real beams and found very close to the published data. Of course, they account for radius and possible taper of web? ECL

Composite Sections

*Message #7 Posted by **bill platt** on 1 Nov 2005, 12:33 p.m.,*
in response to message #6 by ECL

Hi ECL,

No I remember! We talked about this some months back--and swapped programs. I also have written simple programs for this problem.

I have written programs for this problem a number oftimes--1st on the 11c, then the 32s, then the 41cv---I run the 41cv using Hrastprogrammer's emulator on a 48gx.

I "modularize" so that I run separate routine for each:

a: take rectangle width, height, above baseline (this routine can be run over and to keep adding more components)

b: solve for inertia and section modulus. Takes as input the maximum fiber distance from the baseline.

c: a subrooutine that will add the area, self inertia about centroid, and distance to baseline, of any known shape--all you have to do is enter it's I, its A, and its distance from centroid to baseline.

Routine (c) and (a) can be run in any order--and even after running (b)---in other words you can find intermediate results.

I find these routines very useful for design work, especially if making some strange built-up sections. Also good for checking htat a spreadsheet soulution is working correctly before freezing the cells.

Regards,

Bill

ECL: preformatting your posts?

*Message #8 Posted by **Karl Schneider** on 30 Oct 2005, 2:51 p.m.,*
in response to message #1 by ECL

ECL --

Are you using preformatting ("[pre]" using Forum special formatting), or with an HTML editor?

If so, please don't becuas it really impairs legibility. Preformatting is intended for code listings.

Thanks,

-- KS

format

*Message #9 Posted by **bill platt** on 30 Oct 2005, 3:24 p.m.,*
in response to message #8 by Karl Schneider

I was going to ask the same question.

I am curious if it is his browser rather than the "[pre]" thing

Re: format

*Message #10 Posted by **ECL** on 30 Oct 2005, 5:21 p.m.,*
in response to message #9 by bill platt

Sorry guys,

I thought I was doing everyone a favor by that. I thought carriage returns would not be preserved unless I used the [pre]. Ok, only for code listings from now :)

ECL

Re: format

*Message #11 Posted by **Howard Owen** on 30 Oct 2005, 7:40 p.m.,*
in response to message #10 by ECL

> Quote:
>
> .. I thought carriage returns would not be preserved unless I used the [pre].

Not exactly. Two carriage returns in a row will show up as one line break without [pre], so your paragraphs will break naturally without worrying about them. You can also use [nl] to get the equivilant of an (X)HTML <br/>. But [pre] will preserve every carriage return, won't collapse consecutive white space, and will switch the font to fixed rather than proportional, just as with <pre> in HTML, so it's the right choice for listings.

Re: format

*Message #12 Posted by **James M. Prange (Michigan)** on 30 Oct 2005, 10:43 p.m.,*
in response to message #11 by Howard Owen

Yes, [pre]...[/pre] is perfect for program listings, tables, and so on, but it would be better not to include the ordinary text within the preformat delimiters. That way it wraps to whatever the size of the display box turns out to be, and assuming that no preformatted lines are terribly long, we won't have to scroll right to see the whole message.

Also see the advanced formatting techniques.

Regards,
James

Edited: 30 Oct 2005, 10:45 p.m.

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"new" and "old hp33s

*Message #1 Posted by **brian healy** on 28 Oct 2005, 2:15 p.m.*

I was just at my local wal mart and noticed that behind the improved hp33s, there were still the older ones with the horrible decimal point. I will try not to laugh when I type this, but I think that HP should have recalled the older version with the bad display. And if it costs a lot of money, then that's the price for letting a product into the market with an ovious design flaw. I know that I'm not being realistic, but on this website you can read about the bug in the HP35 and Dave Packard's response. HP, learn from your history and do it right.

33s versions

*Message #2 Posted by **bill platt** on 28 Oct 2005, 2:33 p.m.,*
in response to message #1 by brian healy

Hi Brian,

There have been even more versions than old nad new. There was "prototype" (of which I think Gene may have one:-) "early Wal-mart Pre-release (of which I have one) and 1st initial production...and now "improved decimal point".

I would love it if you could put it through its paces, checking to see if any of the known bugs are resolved....There are detailed lists/discussions in the archives.

Best regards, Bill

Edited: 28 Oct 2005, 2:34 p.m.

Re: 33s versions

*Message #3 Posted by **brian healy** on 28 Oct 2005, 2:59 p.m.,*
in response to message #2 by bill platt

I occaisionally use it, as I mostly use my 32sii, which was made in singapore in 1993, and is in mint condition. It is a total pleasure to use. I haven't encountered any of the bugs mentioned, but that is not to say they have been fixed. It's just that in my line of work (structural engineering) that I don't need the functions that are buggy. One nice thing about the 33s is that due to the larger memory, I can have more than the 3 programs and 1 equation that fit into my 32sii. The improved display and keyboard have made what in my opinion was unusable into a calculator that I can use at work. I have a version of the 33s with the bad display and poor keyboard, and I felt that I just couldn't trust it.

Re: 33s versions

*Message #4 Posted by **Crawl** on 28 Oct 2005, 5:00 p.m.,*
in response to message #2 by bill platt

I've tried a newer version, and most of the important glitches have been fixed (ones involving polar conversions, or similar complex math).

The glitch involving the wrong indicators being displayed after a self test is still present.

Re: *any* hp33s?

*Message #5 Posted by **Paul Brogger** on 28 Oct 2005, 7:08 p.m.,*
in response to message #1 by brian healy

Well, I went to my local Wal-Mart, and they don't have *any* HP-33s on display. (The slot is there, but it's empty.)

I think it's curious that this particular model is sold out. I'll be watching to see if it's re-stocked.

(It does appear to be still available via their web site.)

How do you distinguish between the....

*Message #6 Posted by **Al In FL** on 28 Oct 2005, 10:31 p.m.,*
in response to message #1 by brian healy

old and new HP 33s if you wanted to order it online?

Re: How do you distinguish between the....

*Message #7 Posted by **Howard Owen** on 28 Oct 2005, 10:54 p.m.,*
in response to message #6 by Al In FL

I believe the answer to that is "you don't."

According to reports on this forum, HP itself won't tell you if the machine you are ordering from them directly is the new model. the only way I can see to be sure is to press the "ON" button through the plastic and squint at the decimal point. So far, I haven't found one in the SF Bay Area, but I've only looked in the Lawrence Expwy Fry's.

Re: How do you distinguish between the....

*Message #8 Posted by **david bowers** on 29 Oct 2005, 10:55 a.m.,*
in response to message #7 by Howard Owen

hi i called hp from taiwan and they said all the shipping ones now are from august 05, the lady put me on hold to query it, anyway they said when you order online there is a space for special instructions and to mention that you want only the latter ones i was about to order online from here, but it wouldnt accept overseas credit cards, so many engineers go home to the states on leave, one guy said, ha no problem, i will get the right one for you, so i shall see. i offered him local currency if he could use his card and have it shipped hassle free to his house to bring back here. one guy on this site did offer to get me one through my cousin, but my cousin lost his email address, thanks again anyway. i just want one to crap around the jobsite, are they as dropable as my old 42. i dont know how to post photos on this site but i can email anyone who does, a photo of my retired 42s that a lot of people said wasnt dropped as i claimed cheers david

I'm not sure how HP could know which 33s you would get

*Message #9 Posted by **John** on 30 Oct 2005, 4:42 p.m.,*
in response to message #7 by Howard Owen

After all, remember that the calculators are not in a closet in San Diego where the HP calculator staff is

located.

They are probably in a big warehouse somewhere in Asia (or perhaps smaller ones in different countries). I'd be very confident that no one associated with ordering, the hp website, or the phone tech support has the ability to go get one off the shelf.

While it is possible that HP in San Diego might be able to get one or two that way, keep remembering how many different products HP actually sells.

In the large corporate scheme of things, calculators are lost in rounding to HP's bottom line, I'm sure.

We are fortunate HP corporate has not decided to write them off entirely. After all, that would mean only TI and Casio (perhaps Sharp) making any new models at all today.

Re: Found a "good" one.....

*Message #10 Posted by **Al In FL** on 29 Oct 2005, 1:04 p.m.,*
in response to message #6 by Al In FL

Decided to check out the local Wal-Mart and if you press hard enough you can hit the C key! AS luck would have it, they have some newer ones....

This "good" or "better" one is definitely an improvement.

Not only is the comma much bigger and the decimal point about, what, 25 to 30% bigger....

The biggest improvement is that the clarity of the display is better. Side by side, you can see that the upper projection layer is not as far apart from the lower...so there is less shadow or separation effect if you're not looking at it head on.

FWIW: The original pre-order WalMart one I got is a CN4040...

The newer off the rack model at WalMart is a CNA 4420...

Al in Fl

33s versions

*Message #11 Posted by **bill platt** on 29 Oct 2005, 1:33 p.m.,*
in response to message #10 by Al In FL

Hi,

My pre-order is CN40402051

The one I got from Amazon right when they 1st got them (the second production batch) was CNA....

The only difference, after extensive testing, had to do with the function of the x<>y feature under "Algebraic" mode (which is descibed in detail under the archives). Everything else was the same---all the bugs were the same, e.g. polar, h.ms, Permutation --- not showing overflow for over-sized args etc etc.

Edited: 29 Oct 2005, 1:34 p.m.

Re: Found a "good" one.....

*Message #12 Posted by **ECL** on 29 Oct 2005, 3:49 p.m.,*
in response to message #10 by Al In FL

Also,

Note that the number spacing has INCREASED. ie, there is more space between each number on the screen. This greatly improves legibility.

My new machine CNA 52707099 does have a bad alignment of the solve and display keys. They rub against the ENG and MODES keys when I depress them.

Also it 'tic-tacs' on the table. This is irritating, but twisting the case seems to ameliorate the condition.

Still, I am very satisfied for now. I'd be even happier to see an 'anniversary ed' of these internals in the 32sii casing.

ECL

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Gummy wheel repair , Need O=-ring size

*Message #1 Posted by **Frederick Harvie** on 28 Oct 2005, 1:54 p.m.*

In the repairs section there are two excelet articles on repairing the gummy wheel problem of card readers. Both articles mention using o-rings for the repair but they don't give a size for the o-rings needed.

Re: Gummy wheel repair , Need O=-ring size

*Message #2 Posted by **Mike DiGirolamo** on 28 Oct 2005, 2:44 p.m.,*
in response to message #1 by Frederick Harvie

Fred,

I've tried to measure the ones I've been using successfully. Be mindful that these are made of rubber hence, are a bit difficult to measure.

The ID is from 0.1181" (3mm) to 0.125" (1/8"). I suspect a tight fit would be correct to hold snugly on a 1/8" shaft.

The OD is ~0.250" or 1/4".

Sorry I don't have a gear out right now that I could directly measure for you.

Hope this helps,

Mike

PS If you have any problems finding the ones you need, drop me an email.

Re: Gummy wheel repair , Need O=-ring size

*Message #3 Posted by **Brian Gladman** on 28 Oct 2005, 2:57 p.m.,*
in response to message #1 by Frederick Harvie

The ones I used recently are 1/8 inch inside diameter and 1/4 inch outside diameter. In British Standards this O-ring is designated as BS006 (see here).

Brian Gladman

Re: Gummy wheel repair , Need O=-ring size

*Message #4 Posted by **Tony Duell** on 29 Oct 2005, 6:19 a.m.,*
in response to message #3 by Brian Gladman

I've found that '1 size smaller' -- the shop I get them from calls them 005 (so presumably that is BS005) is a better fit. Something like 7/64" ID.

Size 006 is ideal for the rubber O-rings in a 9100 keyboad BTW.

Re: Gummy wheel repair , Need O=-ring size

*Message #5 Posted by **Peter Geiser** on 29 Oct 2005, 9:21 a.m.,*
in response to message #1 by Frederick Harvie

There is two guys on ebay who sell the rings, one in the US, the other in Italy. In the US, they are USD 5 for 10 pairs of rings, I think. Try http://cgi.ebay.com/HP-Calculator-HP67-HP97-Gummy-Wheel-Repair_W0QQitemZ5823642197QQcategoryZ11713QQrdZ1QQcmdZViewItem as an example.

If you are interested in pictures to repair HP41 card reader, I could also offer my guide: HP 41 Card Reader Repair http://www.pmgeiser.ch/calc/index.php?id=HP82104A

Best of luck Regards Peter

Re: Gummy wheel repair , Need O=-ring size

*Message #6 Posted by **Brian Gladman** on 29 Oct 2005, 11:52 a.m.,*
in response to message #5 by Peter Geiser

In the UK I got mine from here, where I got 30 for their minimum order of £5. I bought BS006 O'rings but I am pretty sure they will have the BS005 ones as well.

Brian Gladman

Re: Gummy wheel repair , Need O=-ring size

*Message #7 Posted by **James F. Chumbley** on 5 Nov 2005, 4:58 a.m.,*
in response to message #5 by Peter Geiser

I am now getting the "Malfunction" error message intermittently after a "gummy wheel repair" of two years ago. The cause feels like a misadjustment of the little gold contact switches. Does your guide explain how to make the adjustments for these switches?

Thanks, Jim Chumbley

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Unable to transfer data through cables between IBM laptop USB port and HP48 GX Serial Link

*Message #1 Posted by **Antoine M. Couëtte** on 28 Oct 2005, 1:18 p.m.*

Oct 28, 2005

Hello to you all,

I just purchased a "Prolific" (Trade / Registered Mark)USB-Serial Adaptor to attempt transferring data IBM laptop USB port and HP48 GX Serial Link. I am totally unable to make it work in either way through a cable - which cable of course I did check as working properly .

To make things worse, I fail retrieving through the "search" function the quite recent post on this subject which seemed quite optimistic and gave information on how to make it work.

Thank you for your help for indicating me the link of this recent post (published here less than one month ago I think) or for any other kind of help.

Antoine

Re: Unable to transfer data through cables between IBM laptop USB port and HP48 GX Serial Link

*Message #2 Posted by **Antoine M. Couëtte** on 31 Oct 2005, 9:27 a.m.,*
in response to message #1 by Antoine M. Couëtte

Oct 31, 2005

Hello to all again,

Sorry for my former post dated Oct 28. My memories failed since the discussed item apparently was not adressed here on this forum lately.

I just recovered the researched information - although I did not use it - on TOS under the title " USB to serial ADAPTOR ... " .

Best Regards

Antoine M. "Kermit" Couëtte

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TI-59 vs HP-41 reviving the old contest

*Message #1 Posted by **Vassilis Prevelakis** on 28 Oct 2005, 8:16 a.m.*

Back in 1982, there were a number of attempts to pit the TI-59 against the HP-41. In the PCC Journal V9 N5 (Aug 1982), p 25 there was an article called "LOTS OF PIE" which included a program for calculating the digits of pi on the TI-59.

Another contest involved calendar printing and (I think) another the calculation of digits of e.

Both e and pi calculations were limited by available registers, because all digits of the number were retained. However, since both the TI-59 and (of course) the HP-41 have output devices, how about a new contest to calculate e or pi by printing the digits calculated on the printer as they are computed.

Any takers?

**vp

Re: TI-59 vs HP-41 reviving the old contest

*Message #2 Posted by **Marcus von Cube, Germany** on 28 Oct 2005, 8:28 a.m.,*
in response to message #1 by Vassilis Prevelakis

Hi Vassilis,

do you have alogrithms for PI and e handy?

The TI line of programmables (56 and 59) were the first programmable devices I've ever owned. I might be interested in such a challenge.

Marcus

Re: TI-59 vs HP-41 reviving the old contest

*Message #3 Posted by **Gerson W. Barbosa** on 29 Oct 2005, 9:54 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Hi Marcus,

Take a look at this algorithm (Brent-Salamin):

http://mathforum.org/library/drmath/view/58283.html

I tested it on both the 48GX and 49G and it worked great. Of course I used the long float libraries available for these calculators to make the job easier (only a few lines using those libraries). It would have been more interesting the implementation of the required long float operators in RPL though. (Besides '+', '-', '*' and '/' it would be required long float square root).

Regards,

Gerson.

Re: TI-59 vs HP-41 reviving the old contest

*Message #4 Posted by **John Limpert** on 28 Oct 2005, 8:36 a.m.,*
in response to message #1 by Vassilis Prevelakis

See http://www.lacim.uqam.ca/~plouffe/Simon/articlepi.html for an algorithm that allows you to compute individual decimal digits of pi.

Re: TI-59 vs HP-41 reviving the old contest

*Message #5 Posted by **hugh steers** on 29 Oct 2005, 10:53 a.m.,*
in response to message #4 by John Limpert

i tried to port that algorithm to the 41, but its too slow. theoretically, you can continue to calculate pi forever, but in practice it quickly get to a 3-day wait for digits still below 1000.

feel free to improve my program!

http://www.voidware.com/index.php?
option=com_wrapper&page=http://www.voidware.com/calcs/hp41cv.htm

Re: TI-59 vs HP-41 reviving the old contest

*Message #6 Posted by **Vassilis Prevelakis** on 29 Oct 2005, 8:38 p.m.,*
in response to message #4 by John Limpert

Oh, yes, Simon Plouffe is one of the team!

If you look at this picture (presumably from his desk: http://www.lacim.uqam.ca/%7Eplouffe/prix.jpg), you will notice in the right bottom corner an HP calculator (32SII ???).

**vp

Re: TI-59 vs HP-41 reviving the old contest

*Message #7 Posted by **Chris Roccati** on 30 Oct 2005, 3:22 p.m.,*
in response to message #6 by Vassilis Prevelakis

The calculator in the image is an HP-32SII: the keys in the leftmost column are (unreadable), (unreadable/likely STO), ENTER, XEQ, gold left arrow and a bit of the blue right arrow.

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forum message deletion feature considered harmful

*Message #1 Posted by **Eric Smith** on 27 Oct 2005, 9:17 p.m.*

I expect some will disagree, but I'd like to see the message deletion feature go away. The ability to delete postings is inconsistent with the purpose of having an open and archived forum. It makes the discussions harder to follow.

Anything that a person doesn't want archived for posterity shouldn't be posted to the forum in the first place.

Message Delete Is A Very Good & Useful Feature

*Message #2 Posted by **I, Claudius** on 27 Oct 2005, 10:25 p.m.,*
in response to message #1 by Eric Smith

The creator and moderator of this forum, in his wisdom has given us a very powerful and useful tool: the ability to delete a message. Sure, under ideal circumstances everyone should measure all they say, but everyone slips sometimes, including me. One night I really ragged on an HP employee. When I read the post the next day, I realized I'd overdone it, and I deleted it. I suppose you're so perfect you've never said anything stupid you'd like to take back? Hey, why don't you try it by deleting your post!

Re: forum message deletion feature considered harmful

*Message #3 Posted by **Howard Owen** on 27 Oct 2005, 11:22 p.m.,*
in response to message #1 by Eric Smith

That's what I'm used to in other forums. It might me useful, but I wonder if folks are more likely to shoot from the hip when they know they can take it back by deleting the post later? Personally, I like the edit feature. I use it to correct speling erurs all the time. I've also used it to amplify or modify a post too. But if it weren't there, I'd just be more careful up front.

Both features are open to abuse. There's a subculture of confrontation on this site that invites revisionist edits. I have a volatile side, so I've been caught up in it myself, mostly to my later regret. If I were less scrupulous, I might yield to the temptation to go back and edit the posts I was ashamed of. A truly viscious user wouldn't delete old posts, instead he'd edit them so they made the exchange look completely different. That wouldn't be possible in all cases, but there's enough ambiguity in language that such mischief could often succeed.

My vote would be to get rid of both the deletion and after-post editing features.

Re: forum message deletion feature considered harmful

*Message #4 Posted by **Valentin Albillo** on 28 Oct 2005, 4:26 a.m.,*
in response to message #3 by Howard Owen

Hi, Howard:

Howard posted: *"My vote would be to get rid of both the deletion and after-post editing features."*

That's nonsense. As a frequent poster that frequently posts program listings and snippets of code, I fully know that no matter how many times you read and proofread the listings, you'll invariably commit one or two mistakes that you'll invariably notice *later*, once the listing is posted for good, so having the ability to edit these typos is kind of ***essential*** to make the posts useful in the first place and avoid leaving either errors or duplicated messages (in order to point out and correct the error) in the archives for posterity.

Just for instance, what would you prefer, reading some post of mine including a listing for the 71B which you know it's guaranteed to be correct ? Or having to search the whole thread to see if I had to point out typos in the listing, perhaps several of them scattered among several different later posts ?

Another instance: in your very post to which I'm replying right now, you have such pearls as "speling erurs", which is obviously an intentional mistake or two, and "It might me useful", which perhaps it's not.

Best regards from V.

Re: forum message deletion feature considered harmful

*Message #5 Posted by **HrastProgrammer** on 28 Oct 2005, 4:54 a.m.,*
in response to message #4 by Valentin Albillo

I agree with Valentin.

The possibility to edit a post is essential for non-english speaking posters because many times I noticed that I spelled some word wrong (possibly in this post, as well) and the ability to correct it was very useful ...

Edited: 28 Oct 2005, 5:31 a.m.

Re: forum message edit feature considered essential

*Message #6 Posted by **Paul Brogger** on 28 Oct 2005, 12:09 p.m.,*
in response to message #5 by HrastProgrammer

Quite apart from whether non-English speakers may find it useful (and I assume they may), I use the edit feature myself. Maybe it's a mild dyslexia, but I seem repeatedly to preview my draft posts, finding they look just fine until I see them actually posted, and then there's the garish misspelling or omission suddenly (somehow) made obvious.

(I suppose, alternatively, that from the perspective of some folks "across the pond", I'm a "non-English speaker", and therefore covered under the above statement of need ... ;-))

And, as another post below demonstrates, the "quote" feature may be used to good effect. However, if either the original or the response is deleted or edited, we're left with the question of whether the quote is indeed an accurate and adequate reflection of what was originally written.

I would be interested in a feature that supports "deletion" and editing, but also provides link access to all posted versions of all messages. That way, the poster may hone his/her message, while the reader would have the option to form a fuller picture of what may have transpired.

But regardless of any minor nits that we may find in the way the site is implemented, the bottom line for most of us, I suspect, continues to be something like: "Thanks, Dave, for providing a place to meet!"

Re: forum message deletion feature considered harmful

*Message #7 Posted by **Upset** on 28 Oct 2005, 6:51 a.m.,*
in response to message #3 by Howard Owen

A perfect example of abusive use of deletion feature, and use of quote as countermeasure HERE

An upset reader

Edited: 28 Oct 2005, 6:55 a.m.

May I? (was: forum message deletion feature considered harmful)

*Message #8 Posted by **Vieira, L. C. (Brazil)** on 28 Oct 2005, 9:47 a.m.,*
in response to message #1 by Eric Smith

Hi, all;

as it is an open question, I'll risk posting my own thoughts.

Many reasons have been pointed out, but the ones I support in order to keep deletion/editing features are: (I simply cut and paste some from others, as you'll see)

- The possibility to edit a post is essential for non-English speaking posters (I assume others agree with the fact that many contributors are foreigners related to the Forum's origin, I included)
- You'll invariably commit one or two mistakes that you'll invariably notice *later* (even when you are a native English speaker)
- everyone should measure all they say, but everyone slips sometimes, including me.

In a real world, what's said is said, no way to turn such said words back to our mouths and brain. In some particular cases, I´ve seen

(read) true 'dog fighting' here at this forum, involving regular contributors, that were completely whipped out, neither Dave Hicks was aware of that (I asked him later about some facts and he told me he was not aware of them). So, I conclude no back up is generated for such whipped out posts, and no such ' bad legacy' is left.

Considering these facts, the Forum Achieve does not perfectly reflects our Forum's history, so we actually are not aware of such inconvenient facts. My question is: knowing about such bad facts or having them recorded would elucidate current behavior from some contributors? As time passes, some unwanted contributors simply disappeared and most of their bad posts are there at the Archives. One of our regular contributors once decided not to offer his valuable emulators because of some disturbed contributor that is no longer posting for more than two years, though.

I myself don't remember removing my own posts except for one particular event in my very first months writing in here. Since them, I 'sit on my hands' long enough prior to writing, so I only edit my posts for corrections, not exactly to change a point of view.

But this is only me...

As a matter of fact, some regular contributors asked me why I was not participating so regularly at the Forum, and I must confess I've been reading messages that are not exactly of my own interest, but somehow others are interested on them. In other cases, I just read and have nothing to add. This does not mean I'd like such messages to be removed.

I'd vote for keeping editing/deletion. How to use the features is up to those who use them, and the main resource should not be confused for the way it is used.

Luiz (Brazil)

(had to correct for spelling)

Edited: 28 Oct 2005, 9:51 a.m.

deletion feature is Essential

*Message #9 Posted by **bill platt** on 28 Oct 2005, 9:58 a.m.,*
in response to message #8 by Vieira, L. C. (Brazil)

Hi Luiz,

I agree.

Also, we have often used the "Luiz if you get this message can you call me" etc followed by "1234 to delete" which enables us to carry out logistics without cluttering the archive with those logistics.

Edited: 28 Oct 2005, 12:44 p.m.

Re: forum message deletion feature considered harmful

*Message #10 Posted by **Howard Owen** on 28 Oct 2005, 12:02 p.m.,*
in response to message #1 by Eric Smith

My apologies to Eric for partially hijacking this thread by including the edit feature in the discussion. Obviously many folks (myself included) find a lot of value in being able to edit posts after they are first published.

The only argument in favor of the deletion feature I've seen so far is that it makes passing short off topic message easier. With respect, I'd like to point out that email is the right technology for that sort of thing. Given recent abuse of the deletion feature, does the convenience of message passing balance the possible misuse?

(Making use of the editing feature. How about that?)

There has been another argument for the deletion feature brought forward: that it allows people to take back hasty intemperate postings. I'm guessing that this may be the reason the feature was included in the first place. (Perhaps the moderator got asked to delete inflammatory postings too many times?)

In the real world, it is rare that you get the opportunity to really "take back" hasty, harmful speech. Words that leave your lips within hearing of someone else can't be recalled. Once the letter is in the mail carrier's bag, its delivery to the recipient is literally out of your hands. Most of us adjust our speech and writing with this fact of life in mind.

In the online world, it is also rare to be able to "take back" your posts. It's common for a moderator to be able to delete messages, but not for the user to have the same power. Despite this, it seems that intemperate speech is far more likely online than off.

Opinions vary as to why this is, but it seems to be true. But this forum probably has a more mature crowd, on average, than other meeting places online. (If not emotionally, then in years, at least.)

I submit that if the deletion feature were removed, that *most* of the users of this forum would adjust. I predict that would lead to *fewer* abusive postings, not more. I know I would be more careful about what I posted if I knew I couldn't take it back.

Wait! That's not what I meant to say! 8) <-- emoticon indicating ironic humor (I hope)

Edited: 28 Oct 2005, 1:05 p.m. after one or more responses were posted

RE" Forum Messager Deletion considered Harmful

*Message #11 Posted by **bill platt** on 28 Oct 2005, 12:49 p.m.,*
in response to message #10 by Howard Owen

Hi Howard,

I disagree with the premise that "email is the appropriate technology" etc. Many here do not register their e-mails--a basic design concept which Dave allows for a number of very good reasons.

This leaves us with the need to pass messages on occasion.

As for the abuse of delete. Well, if you look at the recent string, it was all a lot of "off-topic arguing" and so what really is the harm?

Edited: 28 Oct 2005, 12:50 p.m.

Re: RE" Forum Messager Deletion considered Harmful

*Message #12 Posted by **Howard Owen** on 28 Oct 2005, 1:10 p.m.,*
in response to message #11 by bill platt

See my edited post above. If speech here were more like the real world, we might see less casual abuse between people with more or less common interests. The premise is that postings that *don't* get deleted nonetheless reflect the atmosphere of an environment in which postings *can* be deleted.

And I didn't deny the convenience of passing notes in class. I questioned its value relative to the bad effects of the deletion feature.

Re: forum message deletion feature considered harmful

*Message #13 Posted by **Eric Smith** on 28 Oct 2005, 1:06 p.m.,*
in response to message #10 by Howard Owen

Actually I'd favor removing the edit feature as well, for the same reason, but I knew that would be even more controversial.

I certainly have used the edit feature many times myself, mostly for very minor corrections to my posts, but occasionally to add things I meant to write but unintentionally omitted. However, if the edit feature were removed, I'd be perfectly happy to simply post a response with corrections. That's how Usenet works, and it worked fine as a global forum for quite a few years. (Whether Usenet still is useful today is somewhat debatable, but the problem isn't the lack of delete and edit capability.)

Re: forum message deletion feature considered harmful

*Message #14 Posted by **Howard Owen** on 28 Oct 2005, 1:17 p.m.,*
in response to message #13 by Eric Smith

Usenet is interesting in this connection. It actually does have a delete feature. But for a couple of reasons it was never very effective. The main reason was the distributed nature of the network. Unix systems would call each other up over phone lines and exchange "net news." It was a "seldom on" type of networking, and very ad hoc. That meant that a lot of systems could miss or ignore a kill command. They would later call other systems and exchange news, including the "deleted" posts. The called systems might have different software that implemented the kill feature differently, or not at all.

The second reason was that users of the network, highly technical as most of them were at the beginning, were either unaware of the kill feature or knew it didn't work very well and didn't bother with it.

Edited: 28 Oct 2005, 1:17 p.m.

usenet

*Message #15 Posted by **bill platt** on 29 Oct 2005, 12:57 p.m.,*
in response to message #13 by Eric Smith

HI Eric,

If you look at this thread:

http://groups.google.com/group/comp.sys.hp48/browse_frm/thread/ead62448f8c83ba5/1b05746a858512c1#1b05746a858512c1

I think it shows that indeed, Usenet is still very useful! That little discussion will be archived and universally accessible for a loong time.

Best,

Bill

Re: forum message deletion feature considered harmful

*Message #16 Posted by **Wayne Brown** on 28 Oct 2005, 1:39 p.m.,*
in response to message #1 by Eric Smith

I absolutely agree. I've never liked the delete feature.

Yeah Try Talking About "Coburlin" . . .

*Message #17 Posted by **Mark Lynch** on 28 Oct 2005, 4:37 p.m.,*
in response to message #1 by Eric Smith

And that's putting it nicely.

Edited: 28 Oct 2005, 5:00 p.m. after one or more responses were posted

Re: HP Calc. Promo

*Message #18 Posted by **bill Not for Archive platt** on 28 Oct 2005, 4:47 p.m.,*
in response to message #17 by Mark Lynch

Well, the only person who could delete your messages would be the moderator---unless you used a password and gave that password out (or used 1111 or 1234).

The coburlin stuff was waaaay OT --not all of it---but a lot of it, and if it was removed from the archive, I don't think it harms any of us.

As far as disparaging hobbyists---well, this happens to be a *hobby* for most people around here. That cobubba is bidding in virtually every auction in this hobby certainly is worth noticing and discussing. But when it gets to a flame war----why should Dave pay $$$ to keep that stuff on the server?

BTW, please delete this when you have read it---it doesn't need to be archived as far as I am concerned :-)

1111

Coburlin?

*Message #19 Posted by **Mark Lynch** on 28 Oct 2005, 4:58 p.m.,*
in response to message #18 by bill Not for Archive platt

> Quote:
>
> Well, the only person who could delete your messages would be the moderator---unless you used a password and gave that password out (or used 1111 or 1234).

Is this correct? I was wondering. Further, when I tried to actually "log in" and post I found my account existed, but could not be accessed. So I either forget the password (although "Mark Lynch" didn't seem to be hooked to the real email account I

use), or it was highjacked.

Huh. Food for thought. Oh well, I certainly mean no harm. If the moderator has the bandwidth and inclination to review and/or delete my messages I am okay with that. It is his forum after all.

M

Re: THE Moderator?

*Message #20 Posted by **Paul Brogger** on 28 Oct 2005, 5:09 p.m.,*
in response to message #19 by Mark Lynch

As I understand it, there may be several people acting as moderators at any time. You shouldn't necessarily assume that, when a post of yours is deleted mysteriously, it is Dave Hicks himself performing the surgery.

Re: THE Moderator?

*Message #21 Posted by **Mark Lynch** on 28 Oct 2005, 5:12 p.m.,*
in response to message #20 by Paul Brogger

I see. So at this point can I conclude definitely that it is *a* moderator deleting/editing my messages and not just another user?

Re: THE Moderator?

*Message #22 Posted by **Paul Brogger** on 28 Oct 2005, 5:17 p.m.,*
in response to message #21 by Mark Lynch

I just tried to delete the post to which I'm now responding. I didn't have the password, so it wouldn't let me delete.

So, I don't think that the typical user may delete someone else's post without the password.

(And no, I'm not *a* moderator -- though I was, once upon a time -- and I didn't edit your other message.)

A Ha!

*Message #23 Posted by **Mark Lynch** on 28 Oct 2005, 5:21 p.m.,*
in response to message #22 by Paul Brogger

Well then that settles it.

Coburlin is secretly a moderator of the forum and filters my messages so as to continue his evil practices unnoticed!

Just as I suspected . . .

Re: A Ha!

*Message #24 Posted by **Paul Brogger** on 28 Oct 2005, 5:24 p.m.,*
in response to message #23 by Mark Lynch

I doubt it. If he was, he'd have already listed his Moderator password on eBay . . .

MINT!!! $480.00 NR!!!!

Edited: 28 Oct 2005, 5:25 p.m.

Fast!

*Message #25 Posted by **Mark Lynch** on 28 Oct 2005, 5:08 p.m.,*
in response to message #18 by bill Not for Archive platt

Wow! The post you read and responded to has already been edited (not deleted), by someone other than me.

If it's the moderator making these changes I must say he's exceedingly efficient. It can't be more than 20 minutes past.

Re: forum message deletion - Let's try this...

*Message #26 Posted by **Dave Hicks** on 28 Oct 2005, 5:46 p.m.,*
in response to message #1 by Eric Smith

Hi everyone,

I haven't had a chance to look at the forum much over the last couple of months. Lately I've had time to do a quick spam/scam check and that's about it. I have received a couple of emails about one person but they weren't very specific about the problem since I think they assumed I was caught-up. I wasn't and I'm still not unfortunately. I also saw a reference to me in a post implying that if I wasn't banning him, then I must be "OK" with whatever has been going on. That's also potentially incorrect due to me being out of the loop.

So, I've done a forum update that allows edits and deletes only up to the point where someone responds to your post. After that, you're stuck with what you've said. I can turn this restriction off at some time in the future if everything seems calm or if people hate it.

We do have several moderators here but I guess everyone else has been busy lately too or may have not been sure exactly where to prune. I've seen some strange threads with a bunch of deleted posts myself and not known what to make of them. Perhaps the other mods were similarly confused. Please take advantage of the "report post" feature if you see something inappropriate. If the mods don't agree, they'll just ignore you. You won't be punished and your report won't be made public.

If there are still problems or a "subculture of confrontation" as Howard called it, please let me know. I probably still won't have time to follow each thread over the next few weeks but I hope to get more active later.

On an unrelated subject/poster:

Yes, I edited the Coburlin post since it would flatter Mark and so as not to derail this thread with off-topic flaming. Mark, out of your 23 posts here so far, I see two that are actually about HP calculators. The rest are about Coburlin, ebay, paypal etc. with your contributions frequently being to call people names and to tell them not to talk about these things. If you want to see less on these topics, I suggest you stir them up less. (I don't think I deleted the earlier one, but looking at the logs, I see a few that would have tempted me.) Posting more signal will make the noise less annoying.

Re: forum message deletion - Let's try this...

*Message #27 Posted by **donald wallace** on 28 Oct 2005, 7:13 p.m.,*
in response to message #26 by Dave Hicks

Hi David,

I am happy to discuss with you PRIVATELY what has been going on (apparently in your absence) from my point of view. When I do post advice in good faith to people who have technical problems I draw a lot of flak from certain people. I beleive I understand their motives, which imho are not benign. Other critics have been much more balanced and their feedback I am sure is welcomed by all the reasonable people here including myself.

The contents of my posts are technically sound as others here have independently shown. I thank those people for their objectivity in sharing their knowledge and findings. That's what it's all about, isn't it? I'm beginning to really wonder...

I have received strong support via e-mail (out-of-band ;-) from professional people which I sincerely appreciate.

Much more disturbing to me is that within a day or two of this "flame war" happening I was advised by email of attempts to set up fraudulent amazon.com account and paypal account in my name. I have an I.P. address supplied to me apparently by paypal which I will have to check out to find out what is really going on. What is being attempted is apparently fraud, which carries stiff penalties and can be prosecuted.

Some time ago in August when I first floated an advert to do repairs two attempts were made to send me a destructive payload via e-mail. Due to the poor technical knowledge of the attacker they failed and were a source of annoyance and amusement rather than alarm. I have my machine configured to do comprehensive FORENSICS within a few minutes of becoming aware of attacks so I don't think it's very wise for anyone on the net to hassle me in this way.

Criticism of technically skilled people like myself who urge caution in specific aspects of d-i-y repairs others want to undertake is imho quite unwarranted. I was only trying to help others from a strong technically sound standpoint, FOR FREE. And I was on topic ;-)

I find this whole ridiculous episode a serious waste of my freely given time.

To my critics, particularly those whom I have given good technical advice I would say with respect that imho you may profit from taking a good look at yourself. I think it IS time a few people cleaned their act up. No individual has a monopoly on this forum or on doing repair work for fee or helping people freely by way of accurate advice.

Bottom line from my point of view would be: this forum needs less politics/partisan behaviour, less juvenile bullying/abuse and more technically sound advice. I don't have to cop ill considered criticism or abuse in silence and more to the point I WON'T. Please be clear on that point, everyone. Please keep your posts civil... and accurate.

Anyone who wants technical advice from me on any hp equipment (not just calculators! ;-)I am familiar with without the potential negative side effects of doing this in forum can write to me:

donwallace63@yahoo.com.au

I have also repaired a lot of other brands, too ;-P

I have not bothered to read the copious thread on deletions. My interest here is in assisting hp41 owners to keep their machines running and extending the capability/utility, not helping owners to unwittingly wreck them or abusing others who offer good advice or on-topic cautions.

Dave, if you don't mind, can you please delete all my posts and those responding negatively (for balance) in about a week or two. Thanks for hosting us all. Despite the drama, I HAVE met some really nice interesting people here, both hobbyist and professional.

Seriously unimpressed...

fwiw,

Don Wallace

P.S. To certain people, Please don't cuss/criticize me in latin... No doubt you would be able to faithfully render into latin the phrase: Get a Life...

Re: forum message deletion - Let's try this...

*Message #28 Posted by **donald wallace** on 28 Oct 2005, 8:26 p.m.,*
in response to message #27 by donald wallace

Hi all,

I have read the thread. I vote for keeping edit and delete and would ditch the quote feature but one can cut and paste anyway. No matter what features you keep or discard a forum will be abused by calculating people no matter what.

I am NOT one of them!

Note (Howard) that the quote feature can be (and has been imho) used maliciously. Your assertions about my deletions are just plain wrong. I consider you a friend of sorts so I am not offended. My motives in self-censorship were good. Others could and perhaps should take my lead...

Editing is neccessary. I posted some non trivial technical comments the other day which were just plain wrong (whoops! there's always a FIRST time, for EVERYONE... ;-) but corrected it within about 30 minutes.

Changing gears for a bit... To clarify: I apologize to all hobbyists who have misinterpreted me (my doing (Mia Culpa!) due to slightly careless use of language). There's nothing wrong with those people. However, when someone, whether hobbyist or supposed "pro" jumps in and criticises good technically sound advice meant to protect others from damaging equipment then I find that a bit strange. When they are backed up by people going off like a bunger comparing apples to oranges (34C to 41 battery-and-connect hardware (Hi, Karl)) it gets bizarre...

I respectfully vote for a general return to sanity here and STILL advise caution in d-i-y repairs in certain areas, that is unless people LIKE (enticing others into...???) making inoperable junk! My technical position has not changed.

There is imho nothing wrong with civility, relevance, technical accuracy and moderate behaviour in a forum. However, when being disparaged or under public attack (from others with ulterior motives who behave in a sneaky and hypocritical manner) it is NATURAL to want to respond. As people have found, when pressed I reluctantly can give as good as I get, in latin if required. I am under a lt of stress in my personal life atm and maybe it rubbed. If so then I AM SINCERELY SORRY!

The two people who imho started this garbage some time ago, Tony and Randy are conspicuously quiet. I suspect not after this post. One can hope at least...

I urge all here to take a careful considered approach not just to writing here, but also to READING the posts...between the lines...

In responding to problems I POST FOR THE BENEFIT OF THE PERSON WITH THE PROBLEM. What others think of me is IRRELEVANT.

Now I have to go fix a PC with a thermal alarm problem for a friend for free so I cannot waffle further.

A saying I like form an old drunk (maths genius lecturer who taught me at U.Q. ages ago): If you can't understand what all the fuss is about then you don't know what the hell is going on!

All freedoms are relative.

Sorry for drawing all this heat Dave! Have fun everybody, and PLAY NICE!

CYA!

Don Wallace

Re: forum message deletion - Let's try this...

*Message #29 Posted by **Howard Owen** on 28 Oct 2005, 8:37 p.m.,*
in response to message #28 by donald wallace

> Quote:
>
> Hi all,
>
> Note (Howard) that the quote feature can be (and has been imho) used maliciously. Your assertions about my deletions are just plain wrong. I consider you a friend of sorts so I am not offended. My motives in self-censorship were good. Others could and perhaps should take my lead...

I believe you when you say the deletions were not meant to be malicious, Don. I think that you were trying to use them to take back intemperate outbursts that you thought better of later. The trouble with that is, you can't really take stuff like that back after people have read it. There are fragile egos everywhere you go, and this forum is no exception. Given that, it's a good idea generally to restrain your pen when you feel like someone has offended you. Personally, I find that postings I make in anger have a disenheartening way of rebounding on me. Often the rebound has the ironic twist that the thing I thought I was being victimized with is the very thing I myself was guilty of in the response. I really hate it when that happens.

Anyhow, I think that you and I, and the forum generally, could benefit from knowing that what we post would be permanent. I know for certain that I would take more care with the content of my writing in that case, and I expect that others would too.

Regards,

Howard

There goes Don again...

*Message #30 Posted by **Karl Schneider** on 29 Oct 2005, 12:41 a.m.,*
in response to message #28 by donald wallace

More excerpts from Don Wallace:

> Quote:
>
> *My motives in self-censorship were good. Others could and perhaps should take my lead...*

To post repeated diatribes within a thread, then to delete them all after-the-fact, only leaves a mess, as Dave pointed out. (Quote: "I've seen some strange threads with a bunch of deleted posts myself and not known what to make of them.") We

won't follow your example.

> Quote:
>
> *However, when someone, whether hobbyist or supposed "pro" jumps in and criticises good technically sound advice meant to protect others from damaging equipment then I find that a bit strange. When they are backed up by people going off like a bunger comparing apples to oranges (34C to 41 battery-and-connect hardware (Hi, Karl)) it gets bizarre...*

Um, hi, Don.

Some of us didn't agree that your advice regarding the risk of using rechargable batteries on the 41's was as sound -- or at least, as specific -- as it could have been. Do you care to elaborate?

On the 34C vs. 41C battery terminals ("going off like a bunger"): Yes, they are different. The 34C's are flexible and seem to be made of spring steel; the 41C's are fixed, and seem to be copper (maybe I'm wrong on both counts).

Many 41C's have severely corroded terminals. I would surmise that most 41's have been run on alkaline disposables, for many practical reasons.

The 34's rarely have corroded terminals, but often have broken ones. 34's were run on their custom-designed NiCd rechargeables -- at least until their owners balked at paying $12 for a new NiCd pack, inserted the overlength AA disposables, thereby breaking the contacts eventually.

Again, do you care to elaborate?

> Quote:
>
> *There is imho nothing wrong with civility, relevance, technical accuracy and moderate behaviour in a forum...*

I consider it *de rigeur*. (That's French.)

> Quote:
>
> *...However, when being disparaged or under public attack (from others with ulterior motives who behave in a sneaky and hypocritical manner) it is NATURAL to want to respond. As people have found, when pressed I reluctantly can give as good as I get, in latin if required. I am under a lt of stress in my personal life atm and maybe it rubbed. If so then I AM SINCERELY SORRY!*

Ah yes, the irrational "victimhood" exception, which is then invoked to justify the *incivil* counterattack!

> Quote:
>
> *The two people who imho started this garbage some time ago, Tony and Randy are conspicuously quiet. I suspect not after this post. One can hope at least...*

No, you started it, by suggesting that people who elected to use certain kinds of batteries "HAVE ROCKS IN THEIR HEADS". Remember? As for the two individuals, perhaps they have wisely quit wasting their time on a person who seems to have little control over his thoughts and public communications.

> Quote:
>
> *Sorry for drawing all this heat Dave! Have fun everybody, and PLAY NICE!*

How ironic that last statement was...

Frankly, I like the "edit and delete even after responses" capability, and now they have been indefinitely rescinded largely because of your actions. I have liberally made after-the-fact edits (as Valentin Albillo has done), wanting to improve my contributions whenever possible. I don't edit to make respondents appear foolish, and can't cite a clear case of anyone else doing that.

We can all sympathize with your A.S. condition, Don, but I doubt that most of us can fully comprehend it. However, you mustn't allow yourself to use it as a pretext for inappropriate statements.

If this stuff continues, I'll ask Dave and the surrogate moderators to review your postings and to just delete the "bad" ones as they see fit.

-- KS

Re: There goes Karl again...

*Message #31 Posted by **Howard Owen** on 29 Oct 2005, 1:49 a.m.,*
in response to message #30 by Karl Schneider

> Quote:
>
> I consider it *de rigeur*. (That's French.)

No, that's a *sneer* in any language.

> Quote:
>
> How ironic that last statement was...

Don Wallace doesn't know from irony.

> Quote:
>
> Frankly, I like the "edit and delete even after responses" capability, and now they have been indefinitely rescinded largely because of your actions.

Which completely ignores the context the deletions were made in. I'm not talking about the technical arguments, but the rather viscious and cutting responses to Don's over the top, paranoid reaction to criticism.

> Quote:
>
> We can all sympathize with your A.S. condition, Don, but I doubt that most of us can fully comprehend it. However, you mustn't allow yourself to use it as a pretext for inappropriate statements.

And don't let the fact that Don certainly asked to be criticised keep you from feeling ashamed about piling it on a guy with limited capacity to defend himself coherently. He handed *someone* his head, rhetorically speaking, by questioning Randy's credentials. You chopped it off, apparantly with gusto.

All very high-minded, but....

*Message #32 Posted by **Karl Schneider** on 29 Oct 2005, 3:47 a.m.,*
in response to message #31 by Howard Owen

Howard --

... I must take some issue:

> Quote:
>
> *I consider it de rigeur. (That's French.)*
>
> No, that's a sneer in any language.

Perhaps I should have defined it (and, ahem, spelled it correctly) --

De rigueur: strictly required, as by etiquette, usage, or fashion (1825-35).

This is a reasonably familiar foreign phrase that has long been incorporated into English. Remember that Don used pejorative Australian slang to poke me, after having taken others to task for using Italian and Latin phrases (which admittedly should also have been translated to English).

> Quote:
>
> Don Wallace doesn't know from irony.

I guess we'll have to take his (and your?) word for that, won't we? Of course, it might well be true...

> Quote:
>
> ...but the rather viscious *[sic]* and cutting responses to Don's over the top, paranoid reaction to criticism.

I don't think any of us were particularly vicious (least of all myself), but some of us were justifiably blunt.

I think that Don gets displeased that his repeated counterattacks didn't put an end to the threads, so he tried to "wipe the whole thing out" after the fact. Heck, I don't mind deleting my contributions to those threads, but why should people have their time wasted responding to slurs, only to eventually be asked, "Never mind"?

> Quote:
>
> And don't let the fact that Don certainly asked to be criticised keep you from feeling ashamed about piling it on a guy with limited capacity to defend himself coherently.

Let's not forget that he has initiated and repeated the slurs, and that he is educated and intelligent enough to recognize the likely outcome of initiating disputes, given his acknowledged circumstances.

Nobody should get *carte blanche* (a "blank check" or free pass) to act freely, just because of some identified handicap. If someone cannot function properly in a certain activity, he should make that "extra effort" to avoid it. In this case, Don should just present his information as plainly as possible without argumentative embellishment.

> Quote:
>
> He handed someone his head, rhetorically speaking, by questioning Randy's credentials. You chopped it off, apparantly *[sic]* with gusto.

Well, I'd say that's hyperbole.

But a line must be drawn. I won't stand for further irrational criticism and questioning of competence -- by name, in an archived and "Google-able" forum -- regarding myself and others who I know deserve better.

-- KS

Just for the record

*Message #33 Posted by **Massimo Gnerucci (Italy)** on 29 Oct 2005, 6:02 a.m.,*
in response to message #32 by Karl Schneider

> Quote:
>
> This is a reasonably familiar foreign phrase that has long been incorporated into English.
> Remember that Don used pejorative Australian slang to poke me, after having taken others to task for using Italian and Latin phrases (which admittedly should also have been translated to English).

Hi Karl,
since **I** was the one who used latin **once** to express (in a mild manner) my feelings about Don's posts I must also point out that I never used italian on this forum.
I thought, erroneously of course, that some latin phrases were known enough around the world to not include a translation. Who knows? Maybe because I keep on spotting latin "mottos": from your national one *E pluribus unum*, to military corps, universities and so on; the EU motto is *In varietate concordia*, BTW.

This is because latin was a *lingua franca* [a language used beyond its native speakers, in commerce and cultural exchanges] long before english.

When asked for a translation I promptly provided it, though, even if "google-ing" around would easily give the answer.

Just a last nitpicky note: when you quote Howard [and I report it *verbatim* ;-)]

> Quote:
>
> He handed someone his head, rhetorically speaking, by questioning Randy's credentials. You chopped it off, apparantly [sic] with gusto.

Here we find **sic** *latin* and **gusto** *italian*.

Given this I must remember that the lack of a positional notation in Roman numerals prevented us to invent the *calculatrix* [*calculus*: pebble, small stone] which - as we all know - brought us to The Fall Of The Roman Empire... :-)

Greetings,
Massimo

Edited: 29 Oct 2005, 6:26 a.m.

Re: Just for the record

*Message #34 Posted by **Howard Owen** on 29 Oct 2005, 2:21 p.m.,*
in response to message #33 by Massimo Gnerucci (Italy)

> Quote:
>
> Here we find **sic** *latin* and **gusto** *italian*.

As long as we are picking linguistic nits, **gusto** is actually an *english* word. English is of course a great borrower of vocabulary from (mostly) European languages.

In this case, the word was borrowed from spanish, not italian, according to Merriam-Webster

Edited: 29 Oct 2005, 2:21 p.m.

Re: Just for the record

*Message #35 Posted by **Walter B** on 29 Oct 2005, 2:55 p.m.,*
in response to message #33 by Massimo Gnerucci (Italy)

It's always taken for granted all people in this forum (Latin!) understand English despite a real lot of typos and/or slang and these weird abbreviations some folks use. But if anybody once quotes an old and famous expression in another language, those folks are embarrassed. Hi, there are other languages still on this planet! And history didn't start with the Pilgrim Fathers! And if it's just a matter of majority, then we shall have these discussions in Chinese ...

I just had to tell this once.

Ceterum censeo quam lineam esse delendam! (Furthermore I think this thread should be deleted - completely, because it's off topic and will never return to calculators. A similar sentence was used repeatedly - and effectively in the end - by Cato Maior in the Senatus of Rome, about DIV A.U.C., i.e. CXLIX B.C.) Please, Dave!

Re: Just for the record

*Message #36 Posted by **Etienne Victoria** on 29 Oct 2005, 4:07 p.m.,*
in response to message #35 by Walter B

Hallo Walter!

If you use the *"ceterum censeo Carthaginem esse delendam"* form then you must be german-educated!

As a french, I knew only the simple form *"Delenda est/quoque Carthago"* and was scolded by my teacher in Mainz!!!

Did you learn Latin in Germany ? Please answer me before this thread is deleted!!!

MfG from France!

Etienne

Sorry Dave :-)

Re: Just for the record

*Message #37 Posted by **Walter B** on 29 Oct 2005, 6:14 p.m.,*
in response to message #36 by Etienne Victoria

Bonsoir Etienne!

You got the point :-)) Almost 4 decades ago they used also this form to teach us the A.c.I. (in Darmstadt, not too far from Mainz). What did you do in Mainz? Exchange student?

Salut

Walter

P.S. As mentioned, this thread is off topic anyway. So there is no reason to put OT in the subject here.

Edited: 29 Oct 2005, 6:15 p.m.

Re: Just for the record

*Message #38 Posted by **Etienne Victoria** on 29 Oct 2005, 7:01 p.m.,*
in response to message #37 by Walter B

Hallo!

YOU got the point :-)

I was an exchange student in Mainz for one year (2 years before the Abitur), practising my german in a normal german Gymnasium.

I love german, did enjoy attending a normal school and adapted quickly except for the latin courses with explanations in german!!!

My otherwise good grades (in France) were here transformed in a complete catastrophe!!

And the latin teacher kept on making fun of my "Latin de cuisine" (ie bad latin) let alone my lack of mastership Accusativus cum Infinitivo forms :-)))

A great experience anyway and the Rheinland Palatinat is a wonderful region!!

Thanks for your answer und freundlichem Grüße aus Frankreich!

Etienne

Re: Just for the record

*Message #39 Posted by **Walter B** on 30 Oct 2005, 4:34 a.m.,*
in response to message #35 by Walter B

Hmmmh, of course there had to be an error in my post (due to hybris (= ancient Greek!)). It should read

"about **DCIV** A.U.C."

in the bottom line. Another effect of calcs: I have difficulties to calculate without them ;-)

Practical, not (necessarily) high-minded

*Message #40 Posted by **Howard Owen** on 29 Oct 2005, 2:41 p.m.,*
in response to message #32 by Karl Schneider

> Quote:
>
> Perhaps I should have defined it (and, ahem, spelled it correctly)

No, I understood what it means. It's still a sneer when you imply that the person you address the message to wouldn't know that it was french, or wouldn't know the definition.

> Quote:
>
> *Quote: And don't let the fact that Don certainly asked to be criticised keep you from feeling ashamed about piling it on a guy with limited capacity to defend himself coherently.*
>
> Let's not forget that he has initiated and repeated the slurs, and that he is educated and intelligent enough to recognize the likely outcome of initiating disputes, given his acknowledged circumstances.

I know you are capable of using language carefully. That implies you are also capable of reading carefully. I know that can be hard to do when you are defending yourself in public. But please do try to reread the above exchange. I think you are restating part of my premise, and entirely missing its point.

You might also look at my exchange with Don here in this thread in which I criticise him in a way likely to be heard and acted on. Also notice that he apologized in response. My main point now is that your approach to criticism added fuel to the fire, and that could have been predicted. If what you are after is a good roast, then you are clearly approaching things in the right way.

Questions for Don

*Message #41 Posted by **Randy** on 29 Oct 2005, 4:00 p.m.,*
in response to message #28 by donald wallace

I know this may appear out of place in this thread as it is in direct response to Don's post... but here goes:

> Quote:
>
> The two people who imho started this garbage some time ago, Tony and Randy are conspicuously quiet. I suspect not after this post. One can hope at least...

Don, what is that "One can hope" for? That I'll remain conspicuously quiet? A simple yes or no will do.

Since that was an easy one, here's one that is a bit tougher. Could you please explain what you think my motives are by posting what you have many times said is unsound/bad information on this board? I'm most curious...

Re: Questions for Don

*Message #42 Posted by **donald wallace** on 30 Oct 2005, 12:02 a.m.,*
in response to message #41 by Randy

I really am tired of these threads...

Randy, I do not have to justify myself or explain the motives of others here or anywhere else.

You can explain your motives here...if you like.

You need to justify your statement that NiCd cells don't deteriorate or corrode much and won't wreck equipment in

time if not watched...closely. They are more trouble than they are worth. That fact is borne out by long history. Remember all those old PC motherboards with NiCd cells on board for CMOS config ram backup? How many motherboards died that way? How many Canon printing calculators? Etc..... Ad Nauseum.....

Alkaline cells are really bad but only when they do eventually leak. I never ever had trouble with them in my hp and always use them in fact. NiCds are in practice much more troublesome. The difference in discharge characteristics (disch. slope, knee voltage and "flat-cell" cliff) and cell chemistry means with nicd cells you don't get adequate warning from the low battery indicator of some incremental damage occuring when using tired nicd cells. HP fitted a shield in some models to overcome this, apart from different cell cradles all manufacturers try to solve the problem. Alkalines do not give this trouble because at least you know when they are flat and unlike nicd cells they don't seem to damage equipment until they really are quite flat partly as they are not rechargeable and don't gas. When they do go they ARE terrible. So are NiCads, not quite so much so.

I am not certain of what the 41CX "off state" drain is, someone SAID it's about the same as for a CV and that it didn't matter. Well, I know better. A lot of us may use our calcs intermittently and a higher off drain (my measurements indicate a factor five difference based on the timer running a 10kHz oscillator which is where that extra current goes). Not a big difference but significant. As someone said, I got "called out" on that one but I am still right on that point. A timer in system drops the "shelf life" by a factor of five... 41CV off = 6 uA (varies); 41CV with timer off = 30 uA (varies)

A good many people here (this is not meant as a criticism) are not very technical and not very aware. Repairing a lot of different stuff daily for 20 years you soon learn. So you must then know things others don't and that don't get taught at university. I have met some very knowledgeable engineers and some very impractical ones too. Ditto for programmers.

Tony needs to justify his statement to a newbie d-i-y repairer that one can easily pull down an hp41 display and reassemble it when the success rate for people who do it FOR A LIVING is about 30% and on that basis it's almost never done. He needs to justify to me his strong criticism of my warning which was issued in good faith.

You both need to justify criticism of my offering to do repairs here when you both repair calcs for money and in light of the fact that often others offer a tagline type advert for your repair biz (Randy).

There is nothing wrong with friendly open-handed competition and technically accurate criticism.

Tony needs to justify criticising me for "witholding information" when he himself does just that all the time, but subtley. When someone knows something he doesn't he is strident in wanting to know everything they found. Of course, because there's money in doing good repairs as you well know. The more one knows the more repairs one can successfully perform.

There is a lot wrong with starting a flame war in a forum, whatever that forum may be about. That happens a lot on the net, but I have found exactly the politics displayed here in other forums. There's less of it here because most of the time people are quite genteel. Except when fighting over scraps?... or argueing linguistics or semantics (!)

In some cases (in other forums, particularly some computer forums) some of the moderators get very abusive and "bitchy" when they encounter people (not only or neccessarily myself) who are (somewhat or very) knowledgeable on things like internet networking protocols, network security or firewalls or whatever. When after dishing out repeated "cr*p", their bluff is called, they fall silent, outgunned by hard fact and unmasked by their own bad behaviour. Until they are actually silenced they really try to make you look bad, though...That these people are moderators is what surprises me. I am thinking of a girl called Ursula, btw...

Dave Hicks isn't like that, I guess because he's an engineer who's done it (hp product work); he hasn't anything to prove...

As everyone here by now knows, I do not like people who don't know what they are on about or with ulterior motives jumping on me in public. I really "made a few clams" here though... Big ones... I have been really very tired lately (partner does shift work and the hours are crazy so I need more sleep).

Again: SORRY!

Hmmm...

To Karl: Randy doesn't need your support and you didn't help anyone. You just displayed your personality. Oh and a bunger is a firecracker, btw. Was that the oz lingo you referred to?

To Howard: Thanks mate, but I don't need your support though you and Bill and a few others I find by and large are

from fairly to very clear headed about the politics of all this. I enjoyed reading their posts, too many to mention here...

Although abrasive, I have shown I am (perhaps too) open and honest, albeit intolerant of criticism and a bit quick and definitely too abrasive in responding to it. I am also technically competent, despite dropping out of engineering many years ago (not through lack of academic skill). There's one more fact about myself I have disclosed.

Although it would indeed be good for business, I do not talk up or encourage people to dive in to "repairing" elements in equipment which they won't be able to get back in one piece and running again. I do not see any merit in it whatsoever.

People with ANY elecronics fault in ANY hp equipment are WELCOME to write to me privately. I will help you in any way I can. People who want complex software written for the 41 (optionally in a module) can also write to me. If the application warrants it, I will fully characterise any software or hardware I devise.

sincerely,

DW

Re: Questions for Don

*Message #43 Posted by **Dave Hicks** on 30 Oct 2005, 12:59 a.m.,*
in response to message #42 by donald wallace

Hi Don,

> Quote:
>
> ...some of the moderators get very abusive and "bitchy" ...
> Dave Hicks isn't like that, I guess because he's an engineer who's done it (hp product work); he hasn't anything to prove...

Please don't make assumptions about me. I haven't commented because I haven't read your posts before. I can get bitchy if I have to. It's possible that I haven't been bitchy enough lately.

Today I have been looking through the logs and piecing conversations together. This has been made somewhat difficult due to your tendency to delete things so I may have missed some things, but here's what I'm seeing:

Here some of the ways the you have referred to people on this forum:

> Quote:
>
> "hacks and hobbyists"
>
> "Where certain parts of this forum get (imho) quite bizarre at times is where people who do not know what they are talking about berate people who actually DO."
>
> "I have met some really remarkable people here. Maybe you are one too. So far, in your replies, I haven't seen it. Am I missing something? (I doubt it...)"
>
> "Some others (perhaps someone whose been critical of me?) have offered completely impractical repair advice here. I never criticised them. "
>
> "I decided to stay here for now as people may need some protection from the BAD ADVICE of a few others... I am happy to fill that role. "
>
> "Anyone who wants to run rechargeables in his 41 HAS ROCKS IN THEIR HEAD."
>
> "Have I offended anyone? Who cares!"
>
> "Grow up, please."

On the other hand, I've found threads where people have politely stated that they have different opinions and experiences from you and you have responded like:

> Quote:
>
> "When you and Randy continue to abuse me (for reasons related to your thinking your getting some competition?): annoying."
>
> "Please don't criticise my posts and I will continue not to criticise yours. Ditto to Randy if you are reading."

As much as you claim to be abused, I haven't yet been able to find it.

> Quote:
>
> Tony needs to justify his statement to a newbie d-i-y repairer that one can easily pull down an hp41 display and reassemble it when the success rate for people who do it FOR A LIVING is about 30% and on that basis it's almost never done. He needs to justify to me his strong criticism of my warning which was issued in good faith.

That isn't quite what he said. What Tony actually said was:

> Quote:
>
> What is the problem (other than very static-sensitive chips) in dismantling the display module of a fullnut?
> ...
> I will admit I have never taken a fullnut HP41 display, but unless I can find good evidence that taking one apart _will_ ruin it, I would give it a go if other cures failed.
> ...
> After all, the HP manual does give an official procedure for doing this.
> ...
> Which brings me back to my original question. If there is something odd about this display where dismantling it will do serious damage, then I would like to know about it. If there is nothing known like that, I probably will take an old 41CV (the most common 41 in my experience, I have a few with cracked posts, etc) apart and see how I get on. I'll report here anything that I find out.

I see nothing to justify there.

By the way, I just tried Tony's technique on my fading old Fluke and it worked nicely. Of course, that's the example Tony gave so it doesn't prove anything about HP41s but it was useful advice for me. Notice also that Tony starts simply by asking a question. He wants to know if what has worked on a Fluke display might work on an HP. This was a fine chance to educate him or just let him try it and see what the results are. I don't see the problem. I would assume the (alleged) newbie would wait to see what results Tony got before proceeding and would decide whether his skills were comparable to Tony's. I think we also need to understand that some people would rather have ideas that they can try themselves because they have no plan whatsoever to send a calculator off to a professional to repair. Such ideas are better than nothing, even if the chances are slim, because in some cases it's either a free self-repair or toss it and buy a new one.

If you're going to continue contributing to a public group like this, you're going to have to learn to accept differences of opinions and experiences. You're also going to need to learn to treat others more like the way you expect to be treated.

> Quote:
>
> Although abrasive, I have shown I am (perhaps too) open and honest, albeit intolerant of criticism

Yes, please work on the abrasiveness and the intolerance of criticism. We'd love to have you share your knowledge with us but we need a little more friendliness and willingness to accept other points of view. (And a different point of view is not necessarily criticism.)

> Quote:
>
> I have been really very tired lately (partner does shift work and the hours are crazy so I need more

sleep).

Again: SORRY!

I hope you get a good night's sleep tonight.

Edited: 30 Oct 2005, 1:11 a.m.

Oh and...

*Message #44 Posted by **Dave Hicks** on 30 Oct 2005, 1:23 a.m.,*
in response to message #43 by Dave Hicks

I don't want to leave the impression that I **only** saw posts like the ones I quoted above. I've seen many perfectly pleasant posts from you as well.

Re: Oh and...

*Message #45 Posted by **donald wallace** on 30 Oct 2005, 2:05 a.m.,*
in response to message #44 by Dave Hicks

Thank you kindly, Dave.

DW

Re: Questions for Don

*Message #46 Posted by **donald wallace** on 30 Oct 2005, 1:53 a.m.,*
in response to message #43 by Dave Hicks

Hi Dave,

There are other threads in which Tony and Randy jumped on me. I think that is where some confusion lies. So, my fault for kind of cross-posting; I should know better.

If you care to you can find some rather critical off-track stuff about me (Karl's posts etc...) in this thread. If you care to... It's worth your while to check other threads.

The point is I was posting to help someone, I know what I am on about, my comments are by and large technically VERY sound, if badly phrased and I did not start this "bun fight".

Generally I'd like to hear from anyone who actually HAS pulled down a display module, reassembled it and got it going. That WOULD be really interesting. If they do it ten times (on ten different displays) and we get a % success rate then that would be great experience for the forum. I expect the rate to be maybe 10%. My advice to the poster was very sound. I admit I phrase things poorly, though, at times.

I am getting a very clear picture of the relative experience of the posters (regardless of degrees, etc...) in this forum and in that respect these recent threads have been very enlightening to me. Ditto wrt personalities/friendships/loyalties, generally speaking with respect to all concerned.

I do not assume you can't get bitchy :-) I do assume you are WAY MORE knowledgeable and rational than Ursula... and less partisan.

A fluke display is designed to be dismantled and cleaned and is quite rugged. I bought a 2nd hand 75 in 1983. One cannot compare that with the repair of stuff like 41's though. They are not designed to be pulled apart and put back together and are infinitely more fragile.

Lots of people, not just me, make all sorts of assumptions...

All I ask, Dave, if you review the threads is be balanced and do not let a matter of personal friendship cloud your objectivity. It is possible Tony and Randy trade on this sort of thing. There's money in it for them!

I now regret deleting my posts in that the water is now somewhat muddied, not my intention at all.

Dave, I wonder how come I was no longer able to post as Don and had to change my user name? Is anyone

apart from yourself able to fiddle my password? Has anyone changed my password on me?

Just curious.

Now more than ever, I feel I can be of benefit to people who post to the forum with problems. Certainly the benefit and payoff is to them not me.

God I hate politics!!!

DW

Re: Questions for Don

*Message #47 Posted by **Dave Hicks** on 30 Oct 2005, 2:19 a.m.,*
in response to message #46 by donald wallace

> Quote:
>
> A fluke display is designed to be dismantled and cleaned and is quite rugged. I bought a 2nd hand 75 in 1983. One cannot compare that with the repair of stuff like 41's though. They are not designed to be pulled apart and put back together and are infinitely more fragile.

Thank you. That is a vast improvement over your earlier response.

> Quote:
>
> All I ask, Dave, if you review the threads is be balanced and do not let a matter of personal friendship cloud your objectivity. It is possible Tony and Randy trade on this sort of thing. There's money in it for them!
>
> Quote:
>
> God I hate politics!!!

Do you? A little while ago you weren't going to discuss Randy's motives. I suggest that you either post the entire story of Randy, Tony, me(?), others(?), "destructive email payloads", Paypal fraud, Amazon etc. now, or just drop all the intrigue and talk about calculators.

Re: Questions for Don

*Message #48 Posted by **Tony Duell** on 30 Oct 2005, 7:09 a.m.,*
in response to message #42 by donald wallace

> Quote:
>
> I really am tired of these threads...
>
> Randy, I do not have to justify myself or explain the motives of others here or anywhere else.

No, but you seem to expect others to justify what they say.

> Quote:
>
> I am not certain of what the 41CX "off state" drain is, someone SAID it's about the same as for a CV and that it didn't matter. Well, I know better. A lot of us may use our calcs intermittently and a higher off drain (my measurements indicate a factor five difference based on the timer running a 10kHz oscillator which is where that extra current goes). Not a big difference but significant. As someone said, I got "called out" on that one but I am still right on that point. A timer in system drops the "shelf life" by a factor of five... 41CV off = 6 uA (varies); 41CV with timer off = 30 uA (varies)

I really quant follow this at all. First you say you don't know what the CX off-state current drain is. And then you

say you know better than 'it's about the same as for a CV and it didn't matter'. Now either you do know the current drain of a CX (that is, you've measured it, or have seen measurements that you trust), or you are talking nonsense.

And AFAIK the real time clock oscillator in the CX (and for that matter the time module) is 32.768kHz, not 10kHz. Not that it makes much difference to the argument.

> Quote:
>
> A good many people here (this is not meant as a criticism) are not very technical and not very aware. Repairing a lot of different stuff daily for 20 years you soon learn. So you must then know things others don't and that don't get taught at university. I have met some very knowledgeable engineers and some very impractical ones too. Ditto for programmers.

You have no idea as to my qualifications or experience. Period.

I will say this, though. I've been repairing stuff for a lot longer than 20 years. I've also done a heck of a lot of very successful repairs when others claimed they couldn't be done. Yes, I've had disasters, but that, alas, is part of the learning process. If you claim you've never messed anything up, then quite honestly I won't believe you.

And yes I am most definitely a self-taught hobbyist. I also object to the implication that that means my knowledge is somehow inferior to others. I've met plenty of self-taught people in all fields who really know what they are talking about.

I will also gladly admit that I make mistakes and that I've made errors when posting here. I don't believe anyone can ever claim not to have done either. However, I find it a lot more helpful to post justified corrections to such errors, not just flame me for making them.

> Quote:
>
> Tony needs to justify his statement to a newbie d-i-y repairer that one can easily pull down an hp41 display and reassemble it when the success rate for people who do it FOR A LIVING is about 30% and on that basis it's almost never done. He needs to justify to me his strong criticism of my warning which was issued in good faith.

I do not need to justify that because I've never said it. What I claimed was it was possible to take a 41 display module apart without ruining it. And although I've never done it (I am certainly going to try though), I still don't see what the problem is. This does not mean I think it's a good idea to take apart display modules 'for the fun of it' (it isn't) or that anybody can do it. I do think it's _possible_, and will therefore practice on an otherwise broken machine to see.

I re-ask my original question : If you know something odd about this display that means there is some issue in taking it apart that doesn't apply to other similar displays and isn't mentioned in the HP service manual, then please tell us. If not, then let me get on with possibly wrecking an old display to find out.

> Quote:
>
> You both need to justify criticism of my offering to do repairs here when you both repair calcs for money and in light of the fact that often others offer a tagline type advert for your repair biz (Randy).

Yes, I do repair machines for money occassionally. Quite honestly, I'd rather not have the hassle of so doing, but some people do not feel happy with a soldering iron and logic analyser, so I help them out. I'd much rather help them (and others) to do the job themselves.

> Quote:
>
> There is nothing wrong with friendly open-handed competition and technically accurate criticism.

I agree totally. The problem is that much of your critism does not seem to be based on available facts -- that is things I can read in manuals, on the web, etc.

> Quote:
>
> Tony needs to justify criticising me for "witholding information" when he himself does just that all the time, but subtley. When someone knows something he doesn't he is strident in wanting to know everything they found. Of course, because there's money in doing good repairs as you well know. The more one knows the more repairs one can successfully perform.

Let's get the trivial case out of the way now. If I posted all the information I had on a particular machine every time that machine was mentioned here, I'd not have time to do anything else, and this forum would soon be over-full.

Now I want you to point me to one place where I have deliberately witheld information (so I can make a profit on the repair or otherwise). Yes, there have been times when it would have been a waste of time for me to post the information (the questioner would not have had the skills to make use of it). There have been times when I've taken a discussion to private e-mail, but I've then given permission for the results (and the information I've provided) to be made public.

And who do you think produced repair schematics for just about every HP handheld and most of the desktops. And then gave them away free.

Re: Questions for Don

*Message #49 Posted by **donald wallace** on 31 Oct 2005, 9:35 p.m.,*
in response to message #48 by Tony Duell

Hi Tony,

10240 Hz (to get 1/100th secs easily).

Why do you guess tech. details? RTFM mate.

Thanks for clueing me in on the source of the error riddent 41 schematic.

I've got way better things to do with my time that argue with the t/k/r mutual admiration B.S. machine and read supportive prattle by a few calc collection fetishists...(hey guys (Ettiene and Massimo et. al.) u did not have to weigh in on a scrap between a few techies...)

dw

Re: Questions for Don

*Message #50 Posted by **Dave Hicks** on 31 Oct 2005, 9:54 p.m.,*
in response to message #49 by donald wallace

> Quote:
>
> I've got way better things to do with my time that argue with the t/k/r mutual admiration B.S. machine and read supportive prattle by a few calc collection fetishists...(hey guys (Ettiene and Massimo et. al.) u did not have to weigh in on a scrap between a few techies...)

Then please go do them.

Or clean up your act if you want to hang around here.

Re: Questions for Don

*Message #51 Posted by **Klaus** on 1 Nov 2005, 5:44 a.m.,*
in response to message #49 by donald wallace

Did you check that frequency? The "Timer Chip detailed description" states "32768 Hz". (Available on TOS). I don't say your statement ist wrong, but in theory it should be 32KHz.

On Topic: Time module

*Message #52 Posted by **Klaus** on 1 Nov 2005, 7:58 a.m.,*
in response to message #51 by Klaus

The Phineas specification also states:

I in operation = 1mA

24 uA standby

32768 Hz clock input. Prescaler : 175/57344

"This results in a 100 Hz signal..."

As the specification is for the Time Module, not for the 41cx, the 41cx current may be lower.

Edited: 1 Nov 2005, 7:59 a.m.

Re: On Topic: Time module

*Message #53 Posted by **Klaus** on 2 Nov 2005, 5:13 a.m.,*
in response to message #52 by Klaus

On the other hand...

Don, besides the 32KHz in the Timer chip description, I also found the 10240 Hz in the manual: HP41cx owners manual II, appendix. In the section where the calculation of the accuracy factor ist described, it states the internal cycle is 10240 Hz.

Re: Questions for Don

*Message #54 Posted by **Tony Duell** on 1 Nov 2005, 8:28 a.m.,*
in response to message #49 by donald wallace

> Quote:
>
> Hi Tony,
>
> 10240 Hz (to get 1/100th secs easily).

Can you please explain to me how you _easily_ get 100Hz from 10240Hz? I can think of several ways it can be done, but none are 'easy', and all would also work starting from 32768Hz. Starting with 12800Hz would make it 'easy' (divide by 2^7).

Every $5 digital watch has a stopwatch mode which reads down to 1/100 s. Every $5 digital watch that I've ever seen has a 32768Hz crystal (I am willing to accept that there are, or have been, digital watches with other crystal frequencies, but they sure are not common).

> Quote:
>
> Why do you guess tech. details? RTFM mate.

Can you please give me the title of any HP manual, or for that matter any other reliable source, that specifies that the time module or 41CX use a 10240Hz crystal? Because I have a couple of references that specify 32768Hz.

> Quote:
>
> Thanks for clueing me in on the source of the error riddent 41 schematic.

Are you implying that I produced a 41 schematic? Check your facts, please. I did not. Why would I? I've got the offical service manual on the shelf.

I said I produced schematics for 'almost all' of the handhelds. That's the ones where there aren't official manuals available -- thus excluding the 97, 41, 71 and 75. Official manuals for those 4 machines are around.

I suggest you learn to read and stop posting defamatory comments. If you do not do the latter, I shall, reluctantly, be forced to take this considerably further

> Quote:
>
> I've got way better things to do with my time that argue with the t/k/r mutual admiration B.S. machine and read supportive prattle by a few calc collection fetishists...(hey guys (Ettiene and Massimo et. al.) u did not have to weigh in on a scrap between a few techies...)

I feel like saying 'thank goodness for that', in that it means you'll not be posting here any more. But I guess that is too much to hope for.

dw

[/quote]

-tony

Re: Questions for Don

*Message #55 Posted by **Randy** on 30 Oct 2005, 10:27 a.m.,*
in response to message #42 by donald wallace

Don,

I'll take your direct lack of response to my two questions as Don once again, doing only what Don wants to do.

So it's okay to make denigrating posts and when asked for justification you say you don't have to? That simple eh? My my, aren't we above it all.

And just for the record, about rechargeables... the original thread was about using modern nimh cells in 41's, not nicads. You said yourself "those are a different kettle of fish".

Let's not talk about computer motherboards, let's stick to 41's shall we? So far, of the seventy four 82120A's that I've rebuilt, only one had any significant corrosion that caused the 41 to need repair, minor at that. That's my experience as it pertains directly to the 41, all that really matters here. I think that is far more relevant than your anecdotal evidence of one nicad pack on your 41 with a timer, mother boards nonwithstanding.

On the topic of 41 displays, my evidence shows that removing and cleaning the elastomers works about 40% of the time. This does not apply to the original Ampleflex interconnects, I find a lower repair rate there, especially when the unit experienced a battery leak. FWIW, my current sample size is 52. The remaining 60% almost evenly divides between bad hybrids and bad lcds. Take out the older gold interconnects and the sample is 39 units.

As further support of this evidence, I'll point you to HP service note 41C-35 under the topic "Testing", paragraph G: "Display fades out/Missing Segments/Strange characters in display". They cite in order of occurance:

1. Check for cold solder joints between display and keyboard.
2. Check display connections (P/N 1251-5400)
3. Replace display driver hybrid
4. Replace display (1PT1-0001)

There you have it, straight from Corvallis.

Is there anything else you want ME to justify? Oh, gee, wait, it's your turn first.

Why don't we just give this up Don? Really. It's a waste of time since there seems to be nothing that you already don't know nor seem to want to learn, especially from us "hobbyists". Or am I just a hack?

Edited: 30 Oct 2005, 3:13 p.m.

Re: Questions for Don

*Message #56 Posted by **Karl Schneider** on 30 Oct 2005, 3:42 p.m.,*
in response to message #42 by donald wallace

Don --

I was quite pleased to see Tony and Randy respond directly and eloquently. They covered quite well the topics they chose to address .

You finally took the opportunity to elaborate specifically upon your assertions. I, like Tony, had difficulty following the the "line of logic" in your explanations. Tony covered the issue of standby- and timer current; I have some comments about the NiCd batteries:

> Quote:
>
> ...NiCds are in practice much more troublesome. The difference in discharge characteristics (disch. slope, knee voltage and "flat-cell" cliff) and cell chemistry means with nicd cells you don't get adequate warning from the low battery indicator of some incremental damage occuring when using tired nicd cells....

This discussion is rather vague, in my estimation. You mention "difference in discharge characteristics ... and cell chemistry" without describing what they are. The last part of that excerpt is rather confusing, because low battery indicators cannot possibly give "adequate warning ... of some incremental damage occuring..." And what does "tired" mean -- near the end of its service life, or merely discharged?

Here's what I think you're trying to state (without my judging if it is correct):

"NiCd cells internally self-discharge, and discharge at a slightly higher rate if a timer is being run. The resultant outgassing can cause corrosion over time. Since NiCd cells tend to maintain high output voltage even when significantly discharged, the low-battery indicator does not activate very early in the discharging process, which could otherwise alert the user of possible damage."

Is my "translation" substantially right? (I'll admit now that I'm not an electronics engineer or technician, or even a chemist, but do have a BSEE & MSEE in the area of power sytems.)

In summary, your explanations do not suggest to me a level of expertise that you have claimed to compare so favorably with that of others.

> Quote:
>
> To Karl: Randy doesn't need your support and you didn't help anyone. You just displayed your personality. Oh and a bunger is a firecracker, btw. Was that the oz lingo you referred to?

I'll stand up for anyone I please, until that person asks me not to. Is that clear, Don? I didn't know if he was monitoring your public smears, but I'm glad that he did -- I wasn't about to let them go unchallenged.

On the issue of personality and people "going off like a firecracker/bunger", many of us -- including the website owner -- have already spoken in this thread. Readers can determine for themselves whose personality could be described as pyrotechnic.

-- KS

Edited: 30 Oct 2005, 4:48 p.m.

Re: forum message deletion - Let's try this...

*Message #57 Posted by **Howard Owen** on 28 Oct 2005, 8:27 p.m.,*
in response to message #27 by donald wallace

I'd watch it responding to those Amazon and PayPal warnings, Don. It sounds like "phishing" to me. That's where email is sent that looks like an official communication from some company you do business with. Your bank, eBay, PayPal or Amazon, for example. The mail tells you there have been attempts to access your account, and that as a result your access has been suspended. There is usually a link in the email that looks like it leads to the official site in question, but it really

lands you at the bad guy's site. There you are asked to enter personal information, including your credit card info.

I don't know if the messages you got match that profile, but if they do, my advice is not to click on anything in the email. Also, I find it hard to believe anyone here would attempt abuse of that nature. Putting aside the violation of simple human decency that would represent, there's also the real possibility that anyone attempting something like that would get caught. So don't read too much into events that may well be unrelated.

Regards,

Howard

Re: forum message deletion - Let's try this...

*Message #58 Posted by **donald wallace** on 28 Oct 2005, 10:42 p.m.,*
in response to message #57 by Howard Owen

Hi Howard,

Thanks mate for the warning. That has occurred to me.

Until I posted ads here I was not ever deluged with bizarre requests from idiots in Nigeria (rolling on the floor pmsl...) trying scams on me. My fault for dropping an e-mail address into the mix along with my real name.

As an A.S. sufferer, I have been very viciously setup in RL, to my extreme detriment. So I am (perhaps too) vigilant to scams and subtle social engineering by people ANYWHERE on the net in atempting to exploit me, smear me or rip my banking passwords.

I apologize to all here for my rather sensitive trigger finger. Here's no place to vent... even IF provoked.

Kind regards, man!

Don Wallace

No Latin, no cry

*Message #59 Posted by **Massimo Gnerucci (Italy)** on 29 Oct 2005, 6:23 a.m.,*
in response to message #27 by donald wallace

> Quote:
>
> P.S. To certain people, Please don't cuss/criticize me in latin...

I never cussed you nor anybody else, my dear.
If a quote from Cicero makes you feel cursed I'm sorry. I translated it into english for you, however, so you can see that I am no sorcerer.

> Quote:
>
> No doubt you would be able to faithfully render into latin the phrase: Get a Life...

And that's exactly what I hope you'll get.
Please stop with this Conspiracy Theory.

Greetings,
Massimo

Re: No Latin, no cry

*Message #60 Posted by **donald wallace** on 29 Oct 2005, 9:59 p.m.,*
in response to message #59 by Massimo Gnerucci (Italy)

Hi Massimo,

I owe you an apology. My repsonse was meant for the person who posted (according to another person who can read latin) a latin obscenity. That's MY mistake.

All this over my warning people about two ways of wrecking an old calculator! Amazing!

DW

Re: No Latin, no cry

*Message #61 Posted by **Massimo Gnerucci (Italy)** on 30 Oct 2005, 2:32 a.m.,*
in response to message #60 by donald wallace

> Quote:
>
> I owe you an apology. My repsonse was meant for the person who posted (according to another person who can read latin) a latin obscenity. That's MY mistake.

Thanks Don, you finally realized that.

Chapter closed.

Let's all share what we know and try to understand what we don't.

Massimo

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HP Series80 bus expander

*Message #1 Posted by **Vassilis Prevelakis** on 27 Oct 2005, 8:52 p.m.*

If anybody wondered if it is possible to plug more than four modules to a Series 80 computer, have a look at this hack:

http://www.series80.org/Pictures/HP-85-BusExpander.jpg

The power supply next to the assembly provides power to the cards so as not to put too much strain on the built-in PSU.

**vp

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typo/overstatement in HP-16c manual?

*Message #1 Posted by **Mark Crispin** on 27 Oct 2005, 4:39 p.m.*

On page 32, the HP-16c manual states:

> Quote:
>
> A current word size smaller than 8 will limit the size of the number you can enter to stipulate a new word size; but you can always enter 0 **f WSIZE** to set a word size of 64.

That seems to be overstating matters. 7 bits is enough in signed mode to enter any valid word size (0-63) and 6 bits is enough in unsigned mode.

I took a doubletake when I first read this, until I realized that they were talking about entering 64 (instead of 0) in signed mode.

Re: typo/overstatement in HP-16c manual?

*Message #2 Posted by **Eric Smith** on 27 Oct 2005, 7:12 p.m.,*
in response to message #1 by Mark Crispin

> Quote:
>
> 7 bits is enough in signed mode to enter any valid word size (0-63)

The valid word sizes are 1 through 64; it is not possible to actually set the word size to zero. Representing 64 as a signed integer requires 8 bits; 7 bits only gives you the range -64..63 (two's complement) or -63..63 (one's complement).

Re: typo/overstatement in HP-16c manual?

*Message #3 Posted by **Mark Crispin** on 27 Oct 2005, 10:48 p.m.,*
in response to message #2 by Eric Smith

> Quote:
>
> The valid word sizes are 1 through 64; it is not possible to actually set the word size to zero.

It is not possible to set the word size to zero bits, but it is certainly possible to do a set word size of 0!

Doing **0 WSIZE** sets the word size to 64; it is exactly equivalent to **64 WSIZE** except that you can do it even if the word size is 1 bit. That's how you can recover from an ill-advised word size setting.

Therefore, you only need the range 0..63 to set all possible word sizes. 7 bits suffices for signed, and 6 bits suffices for unsigned.

As a side note, word size 1 in signed mode means that only 0 and -1 are valid numbers.

Re: typo/overstatement in HP-16c manual?

*Message #4 Posted by **Eric Smith** on 28 Oct 2005, 12:56 a.m.,*
in response to message #3 by Mark Crispin

The argument to WSIZE is the desired word size. Zero is handled as a special case alias for 64. Nevertheless, representing a valid word size requires seven bits (unsigned) or eight bits (signed), which is what the quoted paragraph is describing. Zero is not a valid word size; it is just a valid argument to the WSIZE function.

Re: typo/overstatement in HP-16c manual?

*Message #5 Posted by **Mark Crispin** on 28 Oct 2005, 1:13 p.m.,*
in response to message #4 by Eric Smith

Please turn to page 32 of the HP-16c manual and consider the entire paragraph in question:

> Quote:
>
> A current word size smaller than 8 will limit the size of the number you can enter to stipulate a new word size; but you can always enter **0 f WSIZE** to set a word size of 64. (You can then set any word size.) **Error 2** results if you attempt to specify a word size larger than 64.*

Thus, the manual is talking about the need to use a two-step process to recover from setting the word size smaller than 8: **0 f WSIZE** then ***n* f WSIZE** where *n* is the desired new word size. It is not talking about "representing a valid word size".

This two-step process is completely unnecessary in the case of a current word size of 7, and in the case of a current word size of 6 if the mode is unsigned. There is no need for the additional bit because 0 is treated as equivalent to 64, and works no matter what the word size may be.

You only need to use the two step process if:

```
. signed, current word size 6, desired new word size 32 or greater
. unsigned, current word size 5, desired new word size 32 or greater
. signed, current word size 5, desired new word size 16 or greater
. unsigned, current word size 4, desired new word size 16 or greater
. signed, current word size 4, desired new word size 8 or greater
. unsigned, current word size 3, desired new word size 8 or greater
. signed, current word size 3, desired new word size 4 or greater
. unsigned, current word size 2, desired new word size 4 or greater
. signed, current word size 2, desired new word size 3 or greater
. current word size 1
```

Note: "3 or greater" is not a typo. If the desired word size is 2 you don't need to do anything!

As for whether zero is (or is not) a valid word size, without referring to the microcode (have you?), there is no particular reason to believe that "0 is handled as a special case alias for 64." It is quite possible that 64 is the special case for zero in the microcode. Consider, for example, a 6-bit register which holds the "word size restriction", where zero means "unrestricted".

Regardless of what how the microcode implements it, the effect is the same: the range of values accepted by WSIZE is 0..64, and 0 and 64 are functionally identical.

Go ahead and argue semantics if you wish; the fact is that in terms of keystrokes entered the

manual overstates the need to do the two-step process.

Re: typo/overstatement in HP-16c manual?

*Message #6 Posted by **Mark Crispin** on 28 Oct 2005, 5:24 p.m.,*
in response to message #5 by Mark Crispin

Speaking of HP-16c microcode, does the source exist anywhere? All I can find is an object file. I'm not interested in disassembling it myself just to determine how WSIZE is implemented.

Re: typo/overstatement in HP-16c manual?

*Message #7 Posted by **Eric Smith** on 29 Oct 2005, 12:35 a.m.,*
in response to message #6 by Mark Crispin

> Quote:
>
> Speaking of HP-16c microcode, does the source exist anywhere?

Unknown, but I suspect not. There have been stories from seemingly reliable sources that the original HP-12C source code was lost, but other seemingly reliable sources state otherwise. Possibly it was lost and later recovered. A lot can be lost when responsibility for a product line shifts between different corporate divisions scattered across the world three times after the product was discontinued.

The survival of HP-16C source code seems less likely than that of HP-12C source code, since the former has not had any commercial value for HP in more than 16 years.

But in any case, if the HP-16C source code still exists, it's relatively unlikely that copies will be made available to the general public. AFAIK, the only HP-16C object code publicly available is the modified version I released with Nonpareil.

Re: typo/overstatement in HP-16c manual?

*Message #8 Posted by **Eric Smith** on 29 Oct 2005, 12:26 a.m.,*
in response to message #5 by Mark Crispin

> Quote:
>
> Go ahead and argue semantics if you wish;

OK, I don't mind killing another five minutes.

Suppose I design a product in which feature X has limitation Y, so I add a subfeature Z that effectively changes the limitation to Y2. I would write in the manual an explanation that in order for the user to circumvent limitation Y, the subfeature Z is provided. It wouldn't make sense to say that in order to circumvent limitation Y2, the subfeature Z is provided, because the limitation Y2 doesn't even exist without subfeature Z.

For the HP-16C:

feature X is user-adjustable word size of 1 to 64 bits by way of the WSIZE function

limitation Y is that a minimum of 8 bits are required (in signed modes) to represent any valid

word size (in signed modes)

subfeature Z is the ability to use the value 0 to specify a word size of 64

limitation Y2 is that a minimum of 7 bits are required (in signed modes) to represent any valid input to the WSIZE function when taking advantage of subfeature Z.

Plugh!

Edited: 29 Oct 2005, 12:38 a.m.

Re: typo/overstatement in HP-16c manual?

*Message #9 Posted by **Mark Crispin** on 29 Oct 2005, 1:03 a.m.,*
in response to message #8 by Eric Smith

Well, the argument would probably be answered by disassembling the 16c microcode. I suspect that if that is done, it will be seen that the WSIZE value is actually between 0 and 63, and 64 is supported by a special hack (both for input and display with status).

0..63 is what makes sense. 64 is what some PHB would have forced the microcoder to do.

Re: typo/overstatement in HP-16c manual?

*Message #10 Posted by **Eric Smith** on 29 Oct 2005, 10:04 p.m.,*
in response to message #9 by Mark Crispin

If the processor were particularly optimized for six-bit operations, you would likely be right. But it's not; it's optimized for operations on multiples of four bits, for obvious reasons. So I suspect that it internally uses the true count of 1..64.

If the WSIZE were internally stored as 0..63, as you suggest, everywhere that loops over the bits would have to special-case 0 and convert it to 64 for the loop counter. And everywhere that multiplies by the WSIZE/4 would have to do likewise.

I haven't yet located the particular code that is responsbile for WSIZE, but I'm working on it. At this point we're both just guessing. I'll post an update here when I find it, but it might not be for a while.

Eric

Re: typo/overstatement in HP-16c manual?

*Message #11 Posted by **Mark Crispin** on 29 Oct 2005, 10:40 p.m.,*
in response to message #10 by Eric Smith

It doesn't have to be optimized for 6-bit operations. Rather, it's a matter of how the WSIZE value is stored. You're probably right that it is stored in two 4-bit nybbles.

However, in the early 1980s memory was still quite expensive, and register memory was particularly expensive. I doubt that they would have wasted two bits like that.

It seems more likely to me that they used six bits for WSIZE and two bits for something else. They could have offset by 1, so 0..63 meant 1-64, which would match your idea of 0 being a special hack, but still not wasted two bits.

My guess is that they had 0 mean 64 (= "don't apply a WSIZE, use the full 64-bits"). Rather than "convert to 64 for the loop counter" as you suggest; suppose that WSIZE was a masking operation, and in the case of WSIZE=0 there was no masking.

One way to check for this would be to do some timing tests of 64 bit vs. other bit sizes. If my guess is correct, we probably would see 64 be faster.

As for the other two bits, a possible use was for the base. You could only set the base to one of four values (2, 8, 10, 16). So, that byte would effectively be the display/input mode.

I'm definitely interested in the result of the microcode analysis.

This also suggests a useful hack for nonpareil -- the ability to patch memory or a register and see what happens. If they really use a full byte for the word size, I wonder what happens if the WSIZE is forcibly set to 72.

Re: typo/overstatement in HP-16c manual?

*Message #12 Posted by **Eric Smith** on 30 Oct 2005, 1:14 p.m.,*
in response to message #11 by Mark Crispin

From the HP-35 through the HP-41C, HP routinely stored internal values using space rounded up to the next multiple of 4 bits. Most of their calculators that had flags stored each flag (1 bit) in its own 4-bit digit, though the 41C did not since it had so many. And most of the models that had two or three display modes (FIX, SCI, ENG) used 4 bits to store that, or in some cases, 8 bits.

Your masking idea is plausible, though 0 still wouldn't be "no masking". It's a 56-bit machine, so they still have to mask the high part. In fact, they go through all sorts of gyrations to deal with the high part of each stack location.

The low 56 bits of X is stored in the CPU's M and/or N registers. The low 56 bits of Y, Z, T, and L are stored in memory locations 0x00 through 0x03. The high 8 bits of all of these are stored together in location 0x07:

```
CSC LL TT ZZ YY 0 XX
```

Where CSC is the Cold Start Constant 0xEAE, and the digit shown as zero might be used for something, but is more likely always zero because it makes extracting and inserting the X extension more efficient, and they obviously have to do that a lot. The Nut processor has a defined field for digits 0 though 2 (the rightmost three) used for dealing with the exponent and sign. To insert and extract the other fields, they have to do rotations and pointer operations.

Re: typo/overstatement in HP-16c manual?

*Message #13 Posted by **Mark Crispin** on 30 Oct 2005, 4:07 p.m.,*
in response to message #12 by Eric Smith

Sheesh, so the 64-bit limitation is complete arbitrary!

At the time the HP-16c came out, 36-bit systems (with 72-bit doublewords) were still very much alive, and there were microcode engines which used word sizes of 80 bits. They could have used another word for extension and supported 72 bits, or just do the simple thing and use a doubleword for each

register (thus up to 112 bits).

Having played with a 16c for a while now, I've concluded that it is most useful in doing 16 and 32 bit hex calculations and conversions to/from decimal. It does that quite well.

In floating point, it is little more than a four function calculator. Ditto for decimal. In octal and especially binary, the small (8-digit) display forces you to use scrolling too much.

That probably explains why sales were poor. Had I looked at it at the time, my first reaction would have been that with all the physical space they had on top it could have had a display with many more digits of precision. Two more precious digits would have been available if hex, oct, bin, and dec were annunciators. With all the need for scrolling, having it be a shift was a drag. etc. etc.

Of course, they were limited by the 10c series form factor and display; and in particular they couldn't change annunciators. IIRC, the series was all the same hardware, with just different paint on the keytops and different microcode, right?

Interestingly, the HP-33s is a 36-bit machine, although it limits the word size to 36 bits. It's interesting to think what kind of programmer's calculator can be done with that platform, given the two-line display and additional keys

HP-16C internal state

*Message #14 Posted by **Eric Smith** on 30 Oct 2005, 3:36 p.m.,*
in response to message #11 by Mark Crispin

Much of the 16C's general state is stored in the register at hardware location 0x06. Thus far I've only seen the leftmost 8 digits of this register have non-zero values. The encoding is:

```
R S D M WW FF 000000
```

R is the radix setting: 0=hex, 2=oct, 4=bin, 8=dec, c=float (the floating point digit setting is stored in the processor's G register, with values 0 through 9 or A for "FLOAT ."

S is the sign mode: 0=unsigned, 1=one's comp, 2=2's comp

WSIZE is stored in the D and M digits.

D is the number of digits unused at the left end of the word M is the mask of the bits used in the leftmost used digit of the word (always f, 7, 3, or 1)

Examples:

WSIZE (decimal)	DM
64	0f
63	07
62	03
61	01
60	1f
59	17

```
56          2f

39          67

 1          f1
```

WW is the window position, as an 8-bit binary number indicating displayed digits shifted to the left. WINDOW 0 through 7 are represented as 00, 08, 10, 18, 20, 28, 30, and 38 (hex). Using the arrow keys, you can get any window position from 00 through ff. (Shortly after I got my first 16C in July 1982, I verified that there are 256 window positions in binary mode, and that the arrow key will wrap from position 255 back to 0. I never tried it in other radix modes.)

FF is the flags, binary xx54 3210

Re: HP-16C internal state

*Message #15 Posted by **Mark Crispin** on 30 Oct 2005, 4:33 p.m.,*
in response to message #14 by Eric Smith

> Quote:
>
> WSIZE is stored in the D and M digits.
>
> D is the number of digits unused at the left end of the word M is the mask of the bits used in the leftmost used digit of the word (always f, 7, 3, or 1)

That settles it. You're right, then; the word size is 1..64 and 0 is a special hack. My consolation is I guessed that the WSIZE is not stored as 1..64 in an 8-bit value. I agree that the format that it uses makes sense, and it does use all 8 bits.

Thank you for hunting up that information.

It's interesting how the R and S data is stored.

Are you certain that 0=hex instead of 1=hex? That means that instead of testing the 0x1 bit being set, it would have to test the 0xe bits being unset. Or maybe it tests for R being zero?

Even more interesting is c=float; this suggests that it first tests for decimal and then uses the 0x4 (nominally binary) flag to do floating.

What happens if you try various invalid states, e.g. R=1, S=3, etc.?

Re: HP-16C internal state

*Message #16 Posted by **Eric Smith** on 31 Oct 2005, 1:28 a.m.,*
in response to message #15 by Mark Crispin

> Quote:
>
> Are you certain that 0=hex instead of 1=hex?

Yes. I went through about a zillion (technical term) combinations of mode settings, dumping the internal registers after each, and zero definitely is hex. I was rather surprised at the encoding, but it must make sense for some reason that isn't immediately apparent. I think only the display code uses the radix, and I haven't yet studied that code at all.

> Quote:
>
> What happens if you try various invalid states, e.g. R=1, S=3, etc.?

I haven't had time to try any. If you care to try it with Nonpareil, here's what you do:

1. Get the simulated calculator into the state you want base your modifications to
2. Save the state. If you use "Save" it will by default go into the ".nonpareil" directory under your home directory (no leading dot on Windows), with a name like 16C.nst. You can use "Save as" to save the state file anywhere you like.
3. The save file is a gzipped XML file, and the XML is not formatted for human consumption, so you can decompress and format it by a command like "zcat 16C.nst | xmllint --format - >16C.xml"
4. Make your changes to the XML file using either a text editor or an XML editor. For playing with the 16C mode settings, you're looking for a line like:

   ```
   <loc addr="006" data="000f0000000010"/>
   ```

   where the data attribute consists of the 14 hexadecimal digits of internal memory location 0x06.
5. Rename/move the resulting file so that it has a ".nst" extension. It is not necessary to gzip it, as Nonpareil will happily read an uncompressed XML file. Note that the Load command in Nonpareil uses the standard GTK file selection dialog, which will usually not let you select files in hidden directories.

It's a bit cumbersome, but it's a lot easier than trying to do this stuff on the real hardware. Though there's always the danger that the simulator might have bugs and behave differently than the real hardware in subtle ways. However, I think Nonpareil's simulation of the Nut processor used in the 41C and Voyager families is pretty well shaken out, with the exception that I probably haven't matched all of the bugs in the real chips. The programmers at HP generally didn't rely on the bugs, because they new that future hardware revisions could eliminate them.

Re: HP-16C internal state

*Message #17 Posted by **Mark Crispin** on 31 Oct 2005, 2:41 p.m.,*
in response to message #16 by Eric Smith

Thanks for the information.

> Quote:

> I think Nonpareil's simulation of the Nut processor used in the 41C and Voyager families is pretty well shaken out, with the exception that I probably haven't matched all of the bugs in the real chips. The programmers at HP generally didn't rely on the bugs, because they new that future hardware revisions could eliminate them.

I think that you're doing the right thing here by not worrying excessively about a bug-for-bug reimplementation.

I don't see much point in reimplementing a processor bug in an emulator unless it is necessary for the correct operation of the software. I agree with the general observation that programmers avoid relying upon processor bugs since future hardware revisions can eliminate them. The main benefit of intentionally using a bug is for code to detect and report a particular hardware revision.

More importantly, if Nonpareil is used as part of a platform to reimplement a physical Voyager family calculator, I think that most of us would prefer one that works as if it were an updated model from HP as opposed to one that slavishly reimplements bugs from the 1980s.

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HP 9000 Server for $49 :-)

*Message #1 Posted by **Gileno** on 27 Oct 2005, 3:13 p.m.*

http://cgi.ebay.com/HP-9000-Server-847S-HP-IB-800-Series_W0QQitemZ7549797284QQcategoryZ25402QQrdZ1QQcmdZViewItem

Re: HP 9000 Server for $49 :-)

*Message #2 Posted by **Frank Wales** on 27 Oct 2005, 4:23 p.m.,*
in response to message #1 by Gileno

Unfortunately, it's probably not even worth $49, unless you specifically want, say, the box it comes in as a very heavy drinks cabinet.

Computationally, it's way outclassed by modern desktop PCs, it runs a severely out-of-date version of HP-UX that probably hasn't been upgraded since 2001, and it sucks so much power that it needs multiple mains leads. You'll also be stuck with 1995-class expansion cards, memory and disks, as well as a delightful fifteen minute boot-up with any reasonable amount of RAM.

But don't let me put you off buying it if you feel nostalgic. :-)

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My First HP!

*Message #1 Posted by **Samuel Heddle** on 27 Oct 2005, 2:57 p.m.*

I just recieved my first HP calculator, a good condition HP-28S on ebay for just $53, good price considering ebay's other prices. It included the owners manual, a refrence manual, and a probability and statistics book. It also included the leather case.(No word weather it is "rich" or "corinthian")I'm currently learning RPN, and am excited to get into this new style of calculator!

Re: HP Calc. Promo

*Message #2 Posted by **bill platt** on 27 Oct 2005, 3:31 p.m.,*
in response to message #1 by Samuel Heddle

Congratulations! Welcome to the "club". Best of luck. You can find a lot of information here--great stuff.

Re: My First HP!

*Message #3 Posted by **db (martinez, ca.)** on 28 Oct 2005, 12:33 a.m.,*
in response to message #1 by Samuel Heddle

Or maybe "welcome to my nightmare". Welcome in any case. You may have made a good first choice, since your 28 is more an RPL than an RPN and what you learn in programming it will help you directly with the new models.

Re: My First HP!

*Message #4 Posted by **Bram** on 28 Oct 2005, 3:44 a.m.,*
in response to message #3 by db (martinez, ca.)

> Quote:
>
> your 28 is more an RPL than an RPN

True, but let's not confuse Samuel. RPN can be learnt without knowing anything of RPL. RPN is a good start to get to know the calculator. RPL will follow at a later date. No doubt about that.

Re: My First HP!

*Message #5 Posted by **marais** on 28 Oct 2005, 3:55 a.m.,*
in response to message #4 by Bram

Congratulations for acquiring the 28S, which was also my first HP 16 years or so ago. A pleasant machine, and of historical significance. Just be careful with the battery door, about the only flaw of the machine - the forum discussed this at length.

Andreas

A Toast to Samuel!

*Message #6 Posted by **Eddie Shore** on 28 Oct 2005, 7:58 a.m.,*
in response to message #1 by Samuel Heddle

Welcome to the club of proud HP calculator owners, Samuel. Feel free to send any questions if you need help.

Re: My First HP!

*Message #7 Posted by **Stephen Easterling** on 28 Oct 2005, 9:43 a.m.,*
in response to message #1 by Samuel Heddle

So you're the one that outbid me for this calc! I was bidding just for the sake of getting that leather case, which are hard to come by these days and can sell for more than you paid for the entire package. Oh well, no hard feelings, really! My first HP was also a 28S I got about fifteen years ago and I used it quite a bit. I still have it and all the manuals in mint condition. I've retired it now but use other HPs for work and home. Enjoy your 28S, but don't let you batteries run down too low or you'll lose everything in memory. (I lost almost 30k worth of programs in mine when the batteries ran too low!) Preplan how you want to set up your directories to organize them well so you won't have to move too much info around downstream. The 28S is unique and more powerful than most folk give it credit for. Being more of a RPL guy compared to RPN anyway, I'll always have a soft spot for the 28S.

Re: My First HP!

*Message #8 Posted by **GE** on 28 Oct 2005, 10:22 a.m.,*
in response to message #1 by Samuel Heddle

$53 is just small change if you happen to be biten by 'the bug'...
I'm not sure how much this craziness cost me all in all but maybe i could have a (much) bigger car by now were it not for this.
Congratulations on the 28S, it was my second HP after the wonderful 42S, and was a pleasure to use. It scored many firsts, a revolution like the 41 before it : symbolic calculation, curve plotting, directories, RPL (yes, yuck !), large memory, folding... and the infamous battery door.

Re: HP Calc. Promo

*Message #9 Posted by **bill platt** on 28 Oct 2005, 11:42 a.m.,*
in response to message #8 by GE

I put a spreadsheet together to track what I was up to...

I have spent over $2,000 on Calculators and ave over $1,200 in them, after selling off some!

I did not show my wife the sheet....

Re: HP Calc. Promo

*Message #10 Posted by **Stephen Easterling** on 28 Oct 2005, 3:20 p.m.,*
in response to message #9 by bill platt

Don't feel too bad. I have over $4k in my HP calculator collection!... if I include a printer, expansion cards, and cases. I still need two calculators to finish my collection, though.

collection

*Message #11 Posted by **bill platt** on 29 Oct 2005, 1:38 p.m.,*
in response to message #10 by Stephen Easterling

Hi Stephen,

To "complete" your collection....Do you have a comprehensive collectio n, or in otehr words, what defines your collection as complete.

If you have only spent $4k ahd have one from every modle, then I'd say you've done very well indeed!

Calculator collection

*Message #12 Posted by **Stephen Easterling** on 29 Oct 2005, 8:31 p.m.,*
in response to message #11 by bill platt

Prior to collecting, I wanted to set some rules so it didn't get out of hand. One thing in common with all I have is that they are all in mint or new condition with cases and manuals. Also, the only models I picked up that were not in the original plans are a few of the Voyagers. Essentially, I have all of the Pioneers, the 48SX, (just sold a mint 48G), 48G+, 48GX (with infrared printer, 2M card, Math, Statistics, Calculus, Chemistry, & Physics cards), 49G+, 33S, 11C, 12C, 15C, and 28S, which was my first 15 yrs ago. I have many books on the 48 series, too, and even a nice poster and a couple of wonderful calculator collection / documentary books. I rotate each of them in/out of office and home use and stay on top of the battery situation. The three that get the most use right now are the 12C, 33S, and 49G+. Reasons for this are partly because they are currently easily replaced. The others are not easy. I can't say that I didn't have to spend much on Ebay. I think I have about $1500 tied up in the 48GX with books and accessories alone!... but I bought it brand new a couple months ago, too. I'd like to get a 10C and 16C to end the collection, but I have to be honest with myself and say that I don't think I'd ever use the 16C in the way it was meant to be used. As a working physicist, I get use out of all of the others.

Re: My First HP!

*Message #13 Posted by **Samuel Heddle** on 28 Oct 2005, 11:54 a.m.,*
in response to message #8 by GE

Thanks, everyone for the replys! I currently am enjoying my calculator, and am reading the owner's manual cover to cover. I am kinda confused about the FORM command, but hope to get it down in memory. :)

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MoHPC *The Museum of HP Calculators*

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Rechargeable NiMh 1/2 N Cells for Battery Pack Rebuild

*Message #1 Posted by **Brian Gladman** on 27 Oct 2005, 12:14 p.m.*

I have had a response from GP Batteries about the GP23NH 1/2 N size NiMh rechargeable batteries that are needed for rebuilding of the HP41 rechargeable battery packs.

They can supply these cells but only in boxes of 400 at a cost of about $3.50 per cell. If enough people wanted these at this sort of price (plus shipping costs) it might hence be possible to obtain them.

This seems pretty costly to me so my guess is that there probably wouldn't be a lot of interest. But I thought it might be worth mentioning here in case I am wrong about this.

If there was sufficient interest I might be able to coordinate a bulk purchase.

Brian Gladman

Re: Rechargeable NiMh 1/2 N Cells for Battery Pack Rebuild

*Message #2 Posted by **David Smith** on 28 Oct 2005, 12:29 p.m.,*
in response to message #1 by Brian Gladman

Check your part number and quote. I think you want the GP18NH....

Re: Rechargeable NiMh 1/2 N Cells for Battery Pack Rebuild

*Message #3 Posted by **Brian Gladman** on 28 Oct 2005, 2:24 p.m.,*
in response to message #2 by David Smith

I used this Technical Information to find the GP23NH, which is a 1/2 N NiMh cell. Do you believe this information is wrong for some reason?

Brian Gladman

Re: Rechargeable NiMh 1/2 N Cells for Battery Pack Rebuild

*Message #4 Posted by **David Smith** on 29 Oct 2005, 10:40 a.m.,*
in response to message #3 by Brian Gladman

My local battery guy called it a GP18. I have also seen the GP18 number in a couple of other posts somewhere. Must be a GP23 though... the manufacturer is seldom wrong.

Re: Rechargeable NiMh 1/2 N Cells for Battery Pack Rebuild

*Message #5 Posted by **Brian Gladman** on 29 Oct 2005, 11:44 a.m.,*
in response to message #4 by David Smith

GP Batteries have been uprating the capacity of many of their NiMh cells - my guess is that there

used to be a GP18NH (180 mAh) but that this has now been uprated to GP23NH (230 mAh). Sadly the manufacturer will only deal in boxes of 400 though.

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Lex Files.

*Message #1 Posted by **Gileno** on 27 Oct 2005, 11:32 a.m.*

I have several lexfiles (71B) in a diskette (DOS). How do I send them for HP71B using the 82164A HP-IL/RS-232C Interface? The system is already configured and ready to transmit or to receive. Thank's

Stay on the same thread!

*Message #2 Posted by **Vassilis Prevelakis** on 28 Oct 2005, 8:02 a.m.,*
in response to message #1 by Gileno

Why are you starting a new thread? We are already discussing the subject of xfering data to your 71 in this thread:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=80343#80343

If you change thread in the middle of the discussion, new posters cannot easily review what has already been said. For example, on the other thread you have already told us that you have a 41 connected to the same HP-IL as the 71 and you do not want to disconnect it.

Reading-in data from the 71 **depends** on whether the 71 is loop controller!

If you want others to help you, at least try to make their job easier.

**vp

Re: Stay on the same thread!

*Message #3 Posted by **Gileno** on 28 Oct 2005, 2:15 p.m.,*
in response to message #2 by Vassilis Prevelakis

That doubt was already solved (How do I send a string of a 71B for a hp41CX through HP-IL?), now it is another doubt (I have several lexfiles (71B) in a diskette (DOS). How do I send them for HP71B using the 82164A HP-IL/RS-232C Interface?). I hope you help me in this new doubt. :-)

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An argument for simple rpn non-graph in university

*Message #1 Posted by **ECL** on 27 Oct 2005, 1:58 a.m.*

I've come to the conclusion that since computers (unix, PC, mac) are abundant at universities, along with code like MATLAB, C, Fortran, VBA languages...why not abandon graphing calculators?

Instead, students could utilize some form of what is offered by the 33s. This is complex enough to allow programming, but not so specialized that you are isolated from mainstream code barriers.

I really do not need the 48G/49G+ machines on exams, in fact, I seem to do better with the simpler 32sii/33s machines. Also, common functions (natural log) are primary keys on these machines.

Thoughts? ECL

Re: An argument for simple rpn non-graph in university

*Message #2 Posted by **Thomas Radtke** on 27 Oct 2005, 3:05 a.m.,*
in response to message #1 by ECL

To each his own. I'm grateful that we (still) don't live in a world where there is just one way to do it right.

Thomas

Re: An argument for simple rpn non-graph in university

*Message #3 Posted by **Walter B** on 27 Oct 2005, 12:45 p.m.,*
in response to message #2 by Thomas Radtke

You got the point! There are markets for both lines, graphic calcs and pocket calcs, in the technical area at least. As long as you can do, choose according to your requirements and enjoy you have the choice. If you don't have it, think about a change ... ;-)

Re: An argument for simple rpn non-graph in university

*Message #4 Posted by **Namir** on 27 Oct 2005, 8:05 a.m.,*
in response to message #1 by ECL

ECL

You have a very good point. In fact in the last HHC2005 in Chicago there was a brief and informal discussion about the possibility that sophisticated calculators will become extinct. The reasons you mentioned (using software like MATLAB, MAPLE, SPSS, MINITAB, and so on) makes the calculators inferior tools for what I call "big-gun" jobs. I have recently gotten into MATLAB, SPSS, MINITAB, and a few others and am able to do calculations that I had dreamed of in the past!!! As I play with BASIC programming on the HP-71B I realize how limited the old calculators are.

I guess that our attachement to these machines is notalgic. Besides, they are familiar and relatively simple to

use. Their limited resources did challenge our intellegence to squeeze in programs with the calculator's limited memory and programming steps.

Cheers,

Namir

Re: An argument for simple rpn non-graph in university

*Message #5 Posted by **Donald Ingram** on 27 Oct 2005, 8:46 a.m.,*
in response to message #4 by Namir

ECL - try 'R' a great free alternative (very extensive) stats language http://www.r-project.org/ syntax is MATLAB like.

At university (ok - a few years ago) all ALPHA capable calculators were banned so my HP41CX was no longer acceptable.

The HP15C was the best substitute available - with complex number handling (rather handy for electrical engineering students). I still regularly use this calculator today as I keept it just incase I ever needed to sit any further exams.

There is a movement calling for a HP15C update from HP http://hp15c.org/ (the first URL returned when googling HP15C).

For non graphic needs, it's almost ideal - unmatched ergonomics and size and 10 year battery life. Check the eBay prices for this calc !!

The only thing that needed improvment was it's inability to store the complex numbers coupled together in memory. This had a knock on effect with complex matrix handling which required a rather primative set of transformations to be done to multiply two partitioned [Re Im] matrices which formed the complex matrices.

Today these problems could easily be overcome and a new variant with more memory produced.

I would buy an upgrade immediately if one were available - those HP49 keys eeeugh! As for the HP33s - what is it with the 'V' shaped keyboard ?

Re: An argument for simple rpn non-graph in university

*Message #6 Posted by **GE** on 27 Oct 2005, 12:12 p.m.,*
in response to message #4 by Namir

It's not obvious that very capable CAS are the way of the future.
It is not common or desirable to handle multiple-page equations, and those packages are used exactly for that. I have heard of published proofs where single equations were spread across more than 10 pages. Most "real" problems are quite simple actually.
On the other hand, it is very easy to state one-line problems that those CAS can't solve. Example : "find the triangle with integer sides and surface, whose perimeter is maximum, and whose surface is less than 100000".
Either you use the grey matter for the most part, or ou write a 'brute force' program, but there is no way to input the problem in a CAS semi-exactly as stated, and get results (to my knowledge).

Couldn't Disagree More

*Message #7 Posted by **I, Claudius** on 27 Oct 2005, 10:15 a.m.,*
in response to message #1 by ECL

If you go to any college where technical subjects are taught, from chemistry to physics to engineering, a fast, accurate, powerful and portable machine is highly prized. And what do you see on study tables, lab benches, in test halls? Most likely it will be a TI89, probably the most useful, powerful hand-held produced so far. Sadly, HPs are seldom seen in US colleges nowadays.

Sales figures back this up: TI has sold over 30 million graphing calculators in the last decade, and growing daily. Do some arithmetic, at an average $100 per unit, no wonder TI's calculator division is one of the most profitable ever. There's even a joke in the electronics industry about TI employees saying "We make other great stuff besides calculators!"

While there is a wealth of great computer programs out there, there is no substitute for something like a TI89 or HP48/49. For there are still situations where you often don't have or can't carry a pc with you, and they don't have the quick interface of a calculator. From a student studying in the library to a surveyor in the field, there is nothing that beats a great calculator.

Re: Couldn't Disagree More

*Message #8 Posted by **donald wallace** on 27 Oct 2005, 11:11 a.m.,*
in response to message #7 by I, Claudius

Hi I Claudius,

Absolutely agree with you...

DW

Graphing Calc not needed.

*Message #9 Posted by **Chan Tran (USA)** on 27 Oct 2005, 2:38 p.m.,*
in response to message #8 by donald wallace

Graphing calculators have too small and too low resolution screens to be useful for graphing. A PC would be a much better tool.

Re: Couldn't Disagree More

*Message #10 Posted by **I, Claudius** on 27 Oct 2005, 10:17 p.m.,*
in response to message #8 by donald wallace

Ah, Don, we finally agree on something. This forum does more for international relations than the UN. Perhaps it's that politicians are rarely nerds, and lack the capacity to experience the joy of a great calculator! :-)

Re: Couldn't Disagree More

*Message #11 Posted by **Garth Wilson** on 27 Oct 2005, 3:43 p.m.,*
in response to message #7 by I, Claudius

> Quote:
>
> Sales figures back this up: TI has sold over 30 million graphing calculators in the last decade, and growing daily.

This is because of the "wow" factor though, not anything practical. Our older son said a lot of students in his math classes had them, and the only thing they used the graphics for was games. Yes, games-- which to me is a total waste of computing power! (I realize some will disagree.) The real class work did not benefit at all from the graphics, even though graphics improve sales. As an electronics engineer, I use my 41cx daily, but virtually never have any desire that it would do graphics, let alone color. I use the PC graphics for printed circuit board CAD and looking at data sheets and product info, jobs that would be quite impractical on a 2" screen.

Reply: Couldn't Disagree More

*Message #12 Posted by **Samuel Heddle** on 27 Oct 2005, 3:51 p.m.,*
in response to message #11 by Garth Wilson

> Quote:
>
> This is because of the "wow" factor though, not anything practical. Our older son said a lot of students in his math classes had them, and the only thing they used the graphics for was games. Yes, games-- which to me is a total waste of computing power! (I realize some will disagree.) The real class work did not benefit at all from the graphics, even though graphics improve sales. As an electronics engineer, I use my 41cx daily, but virtually never have any desire that it would do graphics, let alone color. I use the PC graphics for printed circuit board CAD and looking at data sheets and product info, jobs that would be quite impractical on a 2" screen.

In my experience, the calculators were bought not for the "wow" factor, but because the "required materials" list included "TI-83/84" graphing calculator. My precalc class actually uses the graphing calculators often, for simple things, such as linear regression, and max/min/inflection. And yes, everyone has games, so much, that the schools' math department circulated a rumor that "MirageOS", which is a popular shell for games, was a virus that destroyed your calculator. It worked.

Re: Couldn't Disagree More

*Message #13 Posted by **Stephen Easterling** on 27 Oct 2005, 4:21 p.m.,*
in response to message #7 by I, Claudius

In my personal experience, it's hard to beat a PC for real-world problems, including graphing. However, compared to a laptop, a new HP 49G+ (wtih ROM 2.00) is very hard to beat (and there is no more keypad problems with this update). I never use mine for graphing anything, but enjoy the larger screen for viewing more information, larger equations, matrices, etc. For those who use it primarily for games, what a waste! They're okay for airport terminals, etc. when you need to pass the time. For anyone interested only in a full-on effecient calculator experience, I believe that it's hard to beat one 49G+ and one 33S (or other Pioneer suited to your work or preference, e.g., 20S, 21S, 22S, 27S, 32S, 42S, etc). The "stretch" Pioneers (48 series) may have been on top for a long time, but I believe the 49G+ will be a better model in the long run due to sheer speed, memory, and better CAS, oh, and not to mention far better screen resolution.

My First HP!

*Message #14 Posted by **Samuel Heddle** on 27 Oct 2005, 4:45 p.m.,*
in response to message #13 by Stephen Easterling

> Quote:

> In my personal experience, it's hard to beat a PC for real-world problems, including graphing. However, compared to a laptop, a new HP 49G+ (wtih ROM 2.00) is very hard to beat (and there is no more keypad problems with this update). I never use mine for graphing anything, but enjoy the larger screen for viewing more information, larger equations, matrices, etc. For those who use it primarily for games, what a waste! They're okay for airport terminals, etc. when you need to pass the time. For anyone interested only in a full-on effecient calculator experience, I believe that it's hard to beat one 49G+ and one 33S (or other Pioneer suited to your work or preference, e.g., 20S, 21S, 22S, 27S, 32S, 42S, etc). The "stretch" Pioneers (48 series) may have been on top for a long time, but I believe the 49G+ will be a better model in the long run due to sheer speed, memory, and better CAS, oh, and not to mention far better screen resolution.

I don't think graphing calculators are meant to replace PCs; their meant to be a portable, durable (droppable) math tool, unlike a laptop, which would be a pain to haul around. I have no experience with the 48s and 49s, (I'm thinking of a 48GII, how is it?) but I do have a TI86 and TI89TI, which are excellent at calculating, assuming you don't mind algabraic. Obviously, something like Mathmatica is going to beat it, but that's like saying an Indycar is better than a pickup truck. They're not meant to compete.

Re: My First HP!

*Message #15 Posted by **Stephen Easterling** on 27 Oct 2005, 7:59 p.m.,*
in response to message #14 by Samuel Heddle

I think we're saying the same thing. For the working professional that needs something small, portable, powerful, and programmable, it's hard to beat something like a new 49G+ compared to a laptop.

Re: Couldn't Disagree More

*Message #16 Posted by **I, Claudius** on 27 Oct 2005, 10:10 p.m.,*
in response to message #13 by Stephen Easterling

How nice you have no more keyboard problems with ROM 2.0! How recent is your hardware, ie, serial number of your 49+? After several bad units, I'm very hesitant to buy one again until I'm sure build quality is as it should be with the 49+.

Re: An argument for simple rpn non-graph in university

*Message #17 Posted by **Frank Boehm (Germany)** on 27 Oct 2005, 3:19 p.m.,*
in response to message #1 by ECL

a "basic" calculator would have been like being in hell; the 48GX saved me more than one time when doing thermodynamics (talking about units) and everything else as well - trying to find some zero values in functions could be a pain - or you could just draw a graph

any student without such a "beast" is either a genius or plain stupid

(I agree you probably won't need it during pure math studies, but as soon as you need "numbers" you can't beat these calcs...)

And: they really fit into a pocket or onto your desk; using a laptop is possible (with Mathematica e.g.) but impractical for quick access.

(Funny sidenote: a simple 4-banger does everything I need now, but, heck, I *could* ;))

Re: An argument for simple rpn non-graph in university

*Message #18 Posted by **Ed Look** on 27 Oct 2005, 9:00 p.m.,*
in response to message #17 by Frank Boehm (Germany)

Hee hee hee, Herr Boehm!

We used to do that stuff with the HP-34C; units were science fiction for calculators in those days.

Anyway, I use a combination of the 48G and 33S on the job and at home, where I know they are safe, I use the 48G+ (sometimes the 49G+) and 32SII. The pure scientific programmables I use for quick calculations and even some simpler (I mean VERY simple) programs (cheapie stuff like coverting eV to nm, etc.), but for some more involved things that require a bit more memory, or programming lines (something that might help index a x-ray powder pattern) but not so pressing that I need to go to the PC or mainframe, I use the graphing calculators...

... but I do not graph anything on any calculator! I use them as glorified, bigger, slightly more powerful scientific programmables.

Besides, graphing stuff uses up the batteries faster! ;)

Re: An argument for simple rpn non-graph in university

*Message #19 Posted by **Ben Salinas** on 27 Oct 2005, 11:31 p.m.,*
in response to message #1 by ECL

Personally, I use Matlab and/or Mathematica and/or Maple just about every day, but I still find myself reaching for my 49g+ and very often I find myself wishing for my 33s (or other generic scientific calculator... my 33s is at home:( )

CAS software is nice for doing big things, but it is almost always quicker and easier to do arithmetic and to solve numeric equations involving lots of inputs (I am really loving the numeric equation solver on the 49g+) on a calculator. As straightforward as programming in Matlab, I have been wishing for keystroke programming for some quick stuff from time to time.

I don't think the calculator is ready to die just yet, but it's time will probably come eventually.

Re: An argument for simple rpn non-graph in university

*Message #20 Posted by **John Limpert** on 28 Oct 2005, 8:51 a.m.,*
in response to message #1 by ECL

What about cost? Even with academic licensing, the bill for the computer and the software can be excessive. If you aren't eligible for academic licensing, the cost can be very high.

Re: An argument for simple rpn non-graph in university

*Message #21 Posted by **Chan Tran** on 28 Oct 2005, 11:13 a.m.,*
in response to message #20 by John Limpert

Although the cost of software and computer are quite high, if you can afford to pay tuition and book you should be able to afford computer and software.

Re: An argument for simple rpn non-graph in university

*Message #22 Posted by **I, Claudius** on 28 Oct 2005, 6:49 p.m.,*
in response to message #21 by Chan Tran

Not necessarily. The best argument for this would be a CAD class, where the hardware needed, 2 GB of memory on up, a top flight chipset and graphics card make the computer alone very expensive. The student editions of the two most popular CAD programs aren't cheap, and the professional versions being many thousands of dollars. Here, obviously the student is going to use school computers to complete his assignments, and not buy a $3000 pc, unless he's wealthy.

In the case of most math programs, they will run just fine on lesser and older cheap computers. Unless the machine is a laptop, it's just not portable. And almost every engineering professor I ever knew had a rule: no computers allowed on tests, calculators were OK. Some math professors go so far as to allow no calculator, but that's the pure math hoop we all had to jump through at some point or another.

So what is the first choice of technology purchase for a math / engineering student on a budget? He'll buy a calculator from the cheapest place possible, eBay, Walmart, etc. and use it almost exclusively. And that's just how TI has cashed in big time, by providing good quality high end graphing calculators, which have become the standard. HPs are a true rarity in education now.

Re: An argument for simple rpn non-graph in university

*Message #23 Posted by **Les Bell** on 28 Oct 2005, 8:08 p.m.,*
in response to message #21 by Chan Tran

If you are a student, you can usually obtain an academic licence. And, if the evidence of p2p file-sharing networks is to be believed, most students aren't too fussed about licences anyway.

On the other hand, I occasionally dabble in physics and maths as an intellectual exercise, mainly revisiting things I studied at university thirty years ago. For occasional use, tools like Mathcad and Mathematica are simply too expensive. So I get by with a drawerful of calcs and open-source tools like Octave.

Best,

--- Les
[http://www.lesbell.com.au]

Re: An argument for simple rpn non-graph in university

*Message #24 Posted by **I, Claudius** on 28 Oct 2005, 9:02 p.m.,*
in response to message #23 by Les Bell

I have several math programs. For money spent, the best is Scientific Workplace, from Mackichan Software. They also have a version called Scientific Notebook, which I think is available to anyone for a mere $200, $100 for a student. These programs are terrific for What You See Is What You Get typesetting plus the CAS, MuPad 3.1, isn't Mathematica but is still quite good. By the way, I've tried MathCad, found it to be quite lacking, almost a joke.

Re: An argument for simple rpn non-graph in university

*Message #25 Posted by **Les Bell** on 28 Oct 2005, 11:58 p.m.,*
in response to message #24 by I, Claudius

Hmmm. I almost had a heart attack when I saw Scientific Workplace as $A1240 here, but

Scientific Notebook is only $A345. Still, for the roughly 1 hour a week I get to play with this stuff, I think I'll just stick with my calcs, etc. I'm always wary of people whose tools outclass their abilities (e.g. crap guitarists with expensive stratocasters) and wouldn't want to make my position any worse with regard to mathematical toys. ;)

Best,

--- Les
[http://www.lesbell.com.au]

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MoHPC *The Museum of HP Calculators*

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71B HP-IL module

*Message #1 Posted by **Tomas Fischer** on 26 Oct 2005, 7:22 p.m.*

Anyone has a tip on how to remove the HP-IL module from 71B without scratching the calculator? I've been fighting with it for an hour now and it moved about 1/32 " :) Thanks for your help.

Re: 71B HP-IL module

*Message #2 Posted by **Vieira, L.C. (Brazil)** on 26 Oct 2005, 9:17 p.m.,*
in response to message #1 by Tomas Fischer

Hi, Tomas;

I have an HP71 with an IL module and it is not that hard to remove. I simply use my thumb and pull it out. Are there any chances that some corrosion in the contact surfaces is making it difficult to remove it?

Just an idea.

Luiz (Brazil)

Re: 71B HP-IL module

*Message #3 Posted by **Howard Owen** on 26 Oct 2005, 10:27 p.m.,*
in response to message #1 by Tomas Fischer

I've had an easy time with some, and a harder time with others. Normally, grasping the computer with both hands and pressing outward on the module with both thumbs is enough to get it started. You can apply significant force that way without marring anything. If that doesn't work, try applying the force at slight angles to "straight out." If the module is slightly out of line in the slides, that could help. One machine I tried to remove an HP-IL module from resisted all such attempts. I finally pried it out, without marring the back, by starting with a thin exacto blade and exerting very little force on the seam farthest from the back of the calculator. I then moved up to a larger knife blade when the space permitted. This one got the module loose to the point I could slide it out all the way. The key to avoiding damage was going slow and applying minimum force.

Hope that helps, and good luck!

Re: 71B HP-IL module

*Message #4 Posted by **Raymond Del Tondo** on 27 Oct 2005, 8:28 a.m.,*
in response to message #1 by Tomas Fischer

Hi,

you could also remove one of the front port covers near the IL module,
then you'll see the other end of the HP-IL module.
Then VERY CAREFULLY apply a thin screwdriver or similar to

push the IL module out of it's position.
If you're careful enough you won't even have a scratch on the module housing.
However it may be safer to remove the batteries first,
since the screwdriver will go very near along the sensitive pcb.

HTH

Raymond

Re: 71B HP-IL module

*Message #5 Posted by **Tomas Fischer** on 27 Oct 2005, 10:33 a.m.,*
in response to message #1 by Tomas Fischer

Thank you all for your help. The module is OUT without any scratches. I use small flat screwdriver to carefully pry the module left and right. This managed to pull it out far enough to fit larger screwdriver between the module and 71B. Then applying fair amount of pressure finally popped the module out.
Thanks again
Tomas

Edited: 27 Oct 2005, 10:33 a.m.

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External power for 41C

*Message #1 Posted by **ivan** on 26 Oct 2005, 7:04 p.m.*

I notice that there are 2 little round gold contacts behind a small knockout in the side of the battery compartment.

Did HP make an external power supply that would contect to those contacts?

I have a 41C - with card reader, math pac and 2 memory modules.

Thanks

Re: External power for 41C

*Message #2 Posted by **Vieira, L.C. (Brazil)** on 26 Oct 2005, 9:10 p.m.,*
in response to message #1 by ivan

Hi, Ivan;

I´ve been using these external connections for many years, and for me, they are a very good way to power the HP41 with external batteries. At the time I decided to use it, I cut a small piece of unused PCB and simply removed a small track of copper from the middle, to separate the poles. Then I checked the polarity and built (soldered) a small bar with standard terminals, the same used in computer mainboards. To connect the external battery pack I use a regular connector that is normally used as POWER LED (three connecting points, only two used) in standard IBM_PC compatible computers.

I'll add a picture later with polarity marks.

In time: halfnuts have the small holes, but their keyboard PCB has no matching connection points. To use these connectors in a halfnut it would be necessary to add thin, isolated connecting pads aligned with the holes.

Cheers.

Luiz (Brasil)

Edited: 26 Oct 2005, 9:13 p.m.

Re: External power for 41C

*Message #3 Posted by **Vassilis Prevelakis** on 27 Oct 2005, 2:18 a.m.,*
in response to message #2 by Vieira, L.C. (Brazil)

```
Vieira, L.C. (Brazil) wrote:
> I´ve been using these external connections for many years, and for
> me, they are a very good way to power the HP41 with external
> batteries. [...]
```

If you look at the HP-41C circuit diagram in the service manual (hp41srvc.pdf), pages 4-17/4-18 you will see that the J4 connector (one of the gold ball connectors) is Vbat (the other is GND).

This is not the same as the Vin connection to the +ve contact in the battery assembly.

Vin is connected to Vbat via the CR5 diode, while the J4 connector is sent directly to the Vbat bus line.

What this means is that if you use Vin and get the battery polarity wrong, you will simply lose the contents of the memory, if you use the J4 connector, you can kiss your 41 good bye.

Many years ago I asked a friend at the local HP repair shop about using the J4 - J5 connectors and he told me to stay away from them (giving me the above explanation). He also gave me a photocopy of the service manual so that I could check the schematics. Really nice guy.

**vp

Re: External power for 41C

*Message #4 Posted by **db (Martinez, Ca.)** on 27 Oct 2005, 12:17 a.m.,*
in response to message #1 by ivan

I read that HP intended to market an adapter to plug into that port but never did. That's why the gold contacts (but not the holes) disappeared on the later models. We will all regret that decision the day that N cells become unavailable. It's a good thing that Luiz has found a fix. That should hold us till "dilithium crystals" come online.

Re: External power for 41C

*Message #5 Posted by **donald wallace** on 27 Oct 2005, 2:22 a.m.,*
in response to message #4 by db (Martinez, Ca.)

Hi all.

This may not interest anyone but...(at least it's on topic...)

Vassilis is indeed correct in that the ext. power connector goes straight to the V+ regulator input. Wrong polarity will kill the calc.

I got a really messed up 41c recently... For experimental purposes I soldered wires direct to the pads on the keyboard pcb after removing the gold balls and springs in my 1980 vintage 41c from Ebay. The wires exit the holes where the springs and balls were. I run the darn thing from a battery pack of four AA cells. I am going to fix the hopelessly destroyed battery connector with conductive silver from a pen applicator when I feel the need. THERE'S a HOT TIP for d-i-y repairers for free...

A switching regulator using a reference zener diode does step-up regulation and one could tweak this diode down a little to ease interfacing to 5 volt logic if one desired. The factory part is a 6.2 volt zener and I should imagine (given the incredibly generous margins in the hardware) that a 5.1 volt diode would be fine.

The BAT annunciator kicks in at about 3.6 volts on the battery buss.

When picking up from ebay/wherever you may occasionally encounter really messed up machines. Suggestion: If you get them, just use a current limited power supply to check them first as that way you won't cook the switching regulator. Some of these machines come with all sorts of highly conductive contamination in addition to the usual corrosion problems.

If running the machine from a low current supply with say a clonix module or very certainly a card reader but even a timer module (remember I have very old c/cv stuff, guys) you will find the ssytem won't boot due to voltage dips on the power buss due to transient current demands in the tens of milliamp range or

hundreds for the card reader. You may get very strange displays from it though...

Anyone interested in more info please feel free to write me.

donwallace63@yahoo.com.au

Edited: 27 Oct 2005, 3:53 a.m. after one or more responses were posted

Re: External power for 41C

*Message #6 Posted by **donald wallace** on 27 Oct 2005, 3:06 a.m.,*
in response to message #5 by donald wallace

Addendum: please note there's a schematic on the DVD which has a number of serious erros in it. he schematic to rely on is in the service manual. That one is correct. For more info write to me if you wish.

DW

Re: External power for 41C

*Message #7 Posted by **Chan Tran (USA)** on 27 Oct 2005, 2:41 p.m.,*
in response to message #4 by db (Martinez, Ca.)

I don't think the N cells will disappear because they are use for a lot more things than just calculators.

Re: External power for 41C

*Message #8 Posted by **Ricardo Guerreiro** on 27 Oct 2005, 11:48 a.m.,*
in response to message #1 by ivan

Hi:

I am using my hp-41c with 4 aa batteries. I just made an adaptor (using a block of wood), to replace the case of the batteries. So, i took the original case of the batteries, put my adaptor on the back hole , and now I am powering my Hp-41c using the battery contacts, so I am still keeping the protection against incorrect polarity. I create some contacts in my wood adaptor using some small springs and some small pieces of metal. The cables between the adaptor and the 4 aa batteries are going trough the lateral hole of the calculator.

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Comparing X with Indirect Y

*Message #1 Posted by **James F. Chumbley** on 26 Oct 2005, 5:47 p.m.*

In the HP-41CX Manual, Volume II, Page 305, under the topic "Comparisons," is given a list of six functions (X < NN?, X<=NN?, X=NN?, [X not= NN?], X>=NN?, X>NN?) which are said to compare the contents of the X register with the contents of the register whose name is contained in the Y register (Y Indirect).

The part I don't understand is this statement of HP's: Place the address from 00 through 319 OR THE SINGLE LETTER X, Y, Z, T, OR L in the Y register.

How do you put either an X, Y, Z, T or L into the Y register?

Thanks, Jim Chumbley

Re: Comparing X with Indirect Y

*Message #2 Posted by **donald wallace** on 26 Oct 2005, 6:06 p.m.,*
in response to message #1 by James F. Chumbley

Hi,

You just put the letter in "alpha" register and execute an "ASTO Y".

e.g. using Z into Y using decimal point as a stack operator signifier:

[ALPHA]Z [ASTO][.]Y {command executes} [ALPHA] {leave ALPHA mode}

DW

Re: Comparing X with Indirect Y

*Message #3 Posted by **James F. Chumbley** on 26 Oct 2005, 6:51 p.m.,*
in response to message #2 by donald wallace

Thanks, Don, I appreciate the explanation. Jim

Re: Comparing X with Indirect Y

*Message #4 Posted by **donald wallace** on 27 Oct 2005, 1:37 a.m.,*
in response to message #3 by James F. Chumbley

Hi Jim,

No worries. Anytime.

dw

Re: Comparing X with Indirect Y

*Message #5 Posted by **Geir Isene** on 27 Oct 2005, 12:08 a.m.,*
in response to message #2 by donald wallace

Interestingly pointless to put "X" or "Y" in the Y-register...

Re: Comparing X with Indirect Y

*Message #6 Posted by **donald wallace** on 27 Oct 2005, 1:40 a.m.,*
in response to message #5 by Geir Isene

Hi Geir,

How are you doin'?

x<>x is one way to get a time burning "no-op". ;-)

(used in the "old days" to check machine speed or burn up some time in a loop which didn't mess with data...)

Re: Comparing X with Indirect Y

*Message #7 Posted by **Karl Schneider** on 27 Oct 2005, 3:38 a.m.,*
in response to message #1 by James F. Chumbley

Jim --

Your question revealed to me an error in the 41CX Vol. II manual, as well as several insights about the functionality:

Functionality:

- All HP-41 models lack the X>=0? and X>=Y? comparisons, for some strange reason. This deficiency was rectified in the HP-42S. (Even the HP-15C offered X>=Y? as TEST 9.)
- The indirect comparisons you mention on p. 305 are specific to the HP-41CX, listed in the "-CX EXT FCN" catalog. They were not offered in the HP-41C or HP-41CV, and were not carried over to the HP-42S.

Error:

- The five color-coded function names under "Comparing X with Y" on p. 304 of the Vol. II HP-41CX manual (Aug 1983 version) lists the nonexistent X>=Y? in place of the actually-present X/=Y?

-- KS

Re: Comparing X with Indirect Y

*Message #8 Posted by **Doug Wilder** on 28 Oct 2005, 3:17 a.m.,*
in response to message #7 by Karl Schneider

Those missing relational functions can be had by use of another byte in program:

for X>=0? one can use

X<=0? X=0? doiftrueline

and for X>=Y?

X<=Y? X=Y? doiftrueline

Best

Edited: 28 Oct 2005, 3:36 a.m.

Synthesizing X>=0? and X>=Y?

*Message #9 Posted by **Karl Schneider** on 29 Oct 2005, 2:18 a.m.,*
in response to message #8 by Doug Wilder

Doug --

> Quote:
>
> for X>=0? one can use
>
> X<=0? X=0? doiftrueline
>
> and for X>=Y?
>
> X<=Y? X=Y? doiftrueline

Yes -- this is an elegant solution. Maybe the designers of the HP-41 knew about it, and figured that it wasn't a big problem for users to program one additional instruction in order to effect a certain conditional test. However, I'm still a bit surprised that X>=0? and X>=Y? were omitted in the first place, even if lack of ROM space was an issue.

During the same era, the HP-10C and HP-12C had only two of the twelve possible conditional tests; the HP-34C, HP-11C, and HP-16C had eight; only the HP-15C had all twelve. With GOTO-dependent logic, it's a hassle to synthesize conditonal tests in this manner.

-- KS

Re: Synthesizing X>=0? and X>=Y?

*Message #10 Posted by **Doug Wilder** on 31 Oct 2005, 1:48 a.m.,*
in response to message #9 by Karl Schneider

Hi Karl,

I'm agreeing except i believe the problem was that the byte table was full!

There are five lines for single byte functions, 80 of them, and no extras. Probably this is because the 41 has an Alpha register and needs a few slots to support it (CLA,PROMPT,AVIEW,AON,AOFF,ASHF).

A couple of functions would have had to be left out, SDEV and MEAN possibly? I never use these yet the financial types around here would want E^X-1 and LN1+X left out i suppose.

There are a couple of spares (AF&B0) yet they are in the two byte area of the byte table (would make the mainframe flowchart look all weird).

Best

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HP41 battery contacts

*Message #1 Posted by **Bob** on 26 Oct 2005, 3:59 p.m.*

I hesitate to ask this question, but since I am not offering anything for sale, here goes. If I should post it in the classifieds let me know.

Theoretically, if I found several original battery contacts for the 41C series, what are they worth ? Let's say that most are new and a couple look very lightly used.

My question is, someone has asked what I might want for one. (Theirs are shot, like mine was, er, is.) I have no idea, and checked EBay for comparison but did not find anything there.

I thought I would ask here. If someone knows or has a way to find out, please post.

Re: HP41 battery contacts

*Message #2 Posted by **Ivan** on 26 Oct 2005, 6:52 p.m.,*
in response to message #1 by Bob

Bob, I have do idea what they are worth, but this afternnon I was trying to repair contacts in my 41C. I have not turned it on in 18 or 19 years. Other thant hecontacts it is pristine.

So, please drop me a note. I would love a set.

Thanks, Ivan

Re: HP41 battery contacts

*Message #3 Posted by **donald wallace** on 27 Oct 2005, 3:09 a.m.,*
in response to message #2 by Ivan

Hi Ivan.

One can repair the contacts using conductive pcb repair pen. This is metallic silver in a volatile solvent. he pens are about $A30 but one can patch up a machine pretty easily this way.

There other ways you can do the repair also of course.

DW

Re: HP41 battery contacts

*Message #4 Posted by **David Smith** on 27 Oct 2005, 10:05 a.m.,*
in response to message #1 by Bob

I have seen replacement contacts sell for more than you can buy a replacement calculator for... go figure. Real price should be around $30.

Re: HP41 battery contacts

*Message #5 Posted by **.** on 27 Oct 2005, 5:33 p.m.,*
in response to message #1 by Bob

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=5821551951 just for comparison. I've seen them go as high as $60.00 in new condition.

Re: HP41 battery contacts

*Message #6 Posted by **David Smith** on 28 Oct 2005, 12:34 p.m.,*
in response to message #5 by .

I have seen some blithering idiots pay over $125... A fair price based upon what a parts calculator sells seems to me to be around $30. That was what Iqbal was selling them for before somebody bought all that he had and then tried to resell them for $100+

Re: HP41 battery contacts

*Message #7 Posted by **The REAL .** on 28 Oct 2005, 9:22 p.m.,*
in response to message #5 by .

PLEASE STOP USING MY NAME. THANK-YOU.

Re: HP41 battery contacts

*Message #8 Posted by **The other dot** on 29 Oct 2005, 4:02 p.m.,*
in response to message #7 by The REAL .

The REAL . didn't provide an email address. The REAL . is not a registered user.

How do I know you're not me?

Re: HP41 battery contacts

*Message #9 Posted by **A random dot** on 30 Oct 2005, 6:12 a.m.,*
in response to message #8 by The other dot

I don't. Maybe I am?

Re: HP41 battery contacts

*Message #10 Posted by **Bob** on 28 Oct 2005, 8:07 a.m.,*
in response to message #1 by Bob

Thanks for the information and assistance. I appreciate the help.

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MLDL 2000

*Message #1 Posted by **GE** on 26 Oct 2005, 12:11 p.m.*

Recently Meindert Kuipers sent me a copy of his incredible brainchild, the MLDL 2000. At the risk of wasting bandwidth, I MUST say that this is an incredible achievement. Mine is not assembled yet, but the feature set is impressing, as well as the component quality (everything is screaming "nicely engineered"). Also very impressing is the packaging, very friendly communication with the author, and many surprise goodies included in the package. M.Kuipers is willing to run the extra mile to please us amateurs. This is a work of the brain, and the heart. A big thank you, I'm eager to see this marvel at work.

MLDL2064.

Re: MLDL 2000

*Message #2 Posted by **Matthias Wehrli** on 26 Oct 2005, 3:03 p.m.,*
in response to message #1 by GE

I share GE´s word. My MLDL2001 has arrived today, after 2 days of shipping!!! Although I do not understand all it´s preferences yet, I´m fascinated of the technique and the fast communication with the PC.

Maybe there is also another german speaking user of the MLDL2000 which I can share words.... feel free to contact me.

Matthias

Re: MLDL 2000

*Message #3 Posted by **Vieira, L.C. (Brazil)** on 26 Oct 2005, 4:23 p.m.,*
in response to message #1 by GE

Hi, all;

I'm waiting for my MLDL2000 as well, and I have been reading many stuff about the HP41 guts. I was fortunate enough having the MoHPC DVD and one particular book seems to be the very starting point: **HP41 internals**. There are some very interesting, practical examples there on how to create custom add-ons for the HP41.

to Matthias: verzeihen Sie, bitte; Ich spreche kein Deutsch d8^((but I am studying, be sure...d8^), but I'd greatly appreciate knowing about what others are doing and their developments with Meindert´s MLDL2000. I do not know if it sounds too much enthusiastic for now, but what about a decicated MLDL2000 developers forum? I am not suggesting out of MoHPC boundaries, this could be discussed with Dave Hicks, but I'd like to contribute and read about others achievements with MLDL2000. As an example, we can mention the impressive HP41Z, the complex calculator by Ángel Martin, with the best example of documented ROM code (I do not know if Ángel used an MLDL2000 to develop teh HP41Z, and if he mentioned this fact I honestly do not remember, but this is one of the first custom ROM I'll download and delve into studying). I'd vote for keeping his coding form as a standard coding, unless better suggestions arise. Please, these are just suggestions of mine in order to concentrate this sort of activity in one chunk of space, wherever it could be. Any ideas

about this?

Well, I'm just waiting to have mine in hands. Also, I'm contacting Diego Diaz and I'm definitely going to add a Nov32 to my 41 family soon...

Who, at HP HQ, in his own conscience, would dare dreaming of predicting that in 2005 would exist new designs and final, brand new products for a ~30 Y.O. calculator? Daring and true! I am not sure, but I remember that at the time I had my HP41C, I used to see guys playing with the first Apple Computers, and IBM PC were running D.O.S. 3.3®... Sounds strange, ahn?

Cheers.

Luiz (Brasil)

Edited: 26 Oct 2005, 4:27 p.m.

Wrong reference in my last post (was: MLDL 2000)

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 26 Oct 2005, 4:45 p.m.,*
in response to message #3 by Vieira, L.C. (Brazil)

Hi, all;

sorry, I wrongly wrote **HP41 internals** (have no idea where this came from) instead of **HP-41 MCode for Beginners**, by Ken Emmery.

Cheers.

Luiz

Re: MLDL 2000

*Message #5 Posted by **Meindert Kuipers** on 27 Oct 2005, 3:45 a.m.,*
in response to message #3 by Vieira, L.C. (Brazil)

Guys, many thanks for your kind words. I have always wanted to make my own MLDL since I started a professional career and the HP41 was phased out by HP. With todays technology this is now possible and I am more than happy to share the results with all the good friends who like the '41. Being able to edit individual words in an HP41 ROM from my PC is a dream come true .....

I am considering to setup a mailing list for the MLDL2000 users (with google groups for example), but this Forum is a better place. Even those without an MLDL2000 or Clonix/NoVRAM can contribute with their knowledge. Now that most MLDL2000 units are shipped and a new production batch of Diego's tool available we can expect more and more questions (and answers) about mcode and the HP41 internals. It is better to share this with the whole community and make our activities visible rather than create our own little corner on the web.

And Matthias, I do speak German, Skype is a good way to communicate if you want.

Meindert

Re: MLDL 2000

*Message #6 Posted by **chic** on 28 Oct 2005, 5:56 a.m.,*
in response to message #1 by GE

Indeed it is an awesome little piece of kit. Mine arrived safely and rather than throw it together and start playing with it, I am taking my time and documenting each step. I'll probably post a review and some photos here eventually. It is just wonderful, in the truest sense of that word.

Chic MLDL 2074

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hp-49G+ better manuals

*Message #1 Posted by **Miguel** on 26 Oct 2005, 8:25 a.m.*

Dear friends,

I´m an old HP calculator user (since 1972) but novice on RPL language. The HP manuals do not explain every function and don't have a good index containing all them.

Do anyone know somewhere I could download explanation for all functions?

Thanks a lot!

Miguel

Re: hp-49G+ better manuals

*Message #2 Posted by **Marcus von Cube, Germany** on 26 Oct 2005, 10:06 a.m.,*
in response to message #1 by Miguel

Miguel,

the Advanced Users Guide can be found here:

http://www.hpcalc.org/hp49/docs/misc/49g_aug.zip

Marcus

Re: hp-49G+ better manuals

*Message #3 Posted by **Miguel** on 26 Oct 2005, 12:07 p.m.,*
in response to message #2 by Marcus von Cube, Germany

Dear Marcus,

Thank you very much!

Regards,

Miguel

Re: hp-49G+ better manuals

*Message #4 Posted by **I, Claudius** on 26 Oct 2005, 12:26 p.m.,*
in response to message #1 by Miguel

A great introduction to RPL is given in the book "An Easy Course in Using & Programming the HP48GX" which got me started in programming:

http://www.read-gpi.com/

A description of the 49 CAS commands are detailed here:

http://www-fourier.ujf-grenoble.fr/~degraeve/

hp-49G+ better manuals

*Message #5 Posted by **Miguel** on 26 Oct 2005, 1:02 p.m.,*
in response to message #4 by I, Claudius

Thank you all!

Regards,

Miguel

Re: hp-49G+ better manuals

*Message #6 Posted by **Ed Look** on 26 Oct 2005, 3:40 p.m.,*
in response to message #5 by Miguel

I don't know if they are cheap or easily available anymore, but the 48G series manual and advanced users' guide was pretty good at presenting RPL. Even I learned how to use it. I'm not a programmer or systems guy or engineer.

I think www.calcpro.com might still have them.

Re: hp-49G+ better manuals

*Message #7 Posted by **I, Claudius** on 26 Oct 2005, 9:11 p.m.,*
in response to message #6 by Ed Look

Eric Rechlin, webmaster of the program archive at www.hpcalc.org, has copies of the 48 manual. I don't know offhand where to find an AUR, I guard mine like gold. Supplemental books, which often have lots of programs, are the best way to learn to program. Change the code of a program you like, play with it, have it crash, correct it, and you're on your way.

Re: hp-49G+ better manuals

*Message #8 Posted by **Ed Look** on 27 Oct 2005, 11:04 p.m.,*
in response to message #7 by I, Claudius

You know, if it is totally unavailable new... even used, then it's a safe guess the AUR is completely out of print. While HP might still own the copyrights pertaining to it, it may be allowable to make an online version available, say here, or even on HP's calculator site.

Re: hp-49G+ better manuals

*Message #9 Posted by **James M. Prange (Michigan)** on 27 Oct 2005, 2:34 a.m.,*
in response to message #1 by Miguel

I found Bill Wickes's "Insights" series particularly valuable. Scanned PDFs of them are available on the Museum DVD/CD set. To be sure, they're written for earlier models, but still very helpful.

The newsgroup comp.sys.hp48 is very helpful with any RPL questions; these days, most discussions are about

the 49 series.

Useful links include: http://www.hpcalc.org/, http://www.engr.uvic.ca/~aschoorl/, http://page.mi.fu-berlin.de/~raut/, and http://m.webring.com/hub?ring=hp48.

Regards,
James

Edited: 27 Oct 2005, 2:35 a.m.

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thermal printer HP

*Message #1 Posted by **Pierre Dutoit** on 26 Oct 2005, 7:04 a.m.*

Where can I get my HP thermal printer 82162A repaired in Europe? Thanks

Re: thermal printer HP

*Message #2 Posted by **Doug Wilder** on 28 Oct 2005, 3:57 a.m.,*
in response to message #1 by Pierre Dutoit

Never heard of someone fixing these anywhere. I suppose that if someone does it, he will be here.

Recently my 82162A blew it's print head (dropping one element), and because i have a few old 43A's, i used the print head from one of those and it worked!

Only thing about removing the thermal print element: use a cut down credit card to release the connector (slide it in next to it), i distroyed one before figuring that out. The manual (43A) don't explain it; just says "use tool #322393-BF2 to remove the cable".

Best

Re: thermal printer HP

*Message #3 Posted by **Tony Duell** on 29 Oct 2005, 6:25 a.m.,*
in response to message #2 by Doug Wilder

I have taken the 82162 apart (there's a schematic on the HPCC CD-ROM, and on the web IIRC), I've never had to repair one.

To remove those flexiprints (also used in the Topcats), I find a couple of HP41-size magnetic cards slipped under the contacts will do it. The correct tool, I believe, was a thin metal blade, I have thought about trimming down one of the stainless steel plastering tools from the local DIY shop. If I do that, I'll let you know how I get on.

What is the the problem with your printer? I can give you some initial tests to do. I would be happy to look at it if you can get it to an HPCC meeting in London (that is Europe, but probably not a lot of use for you ;-)).

Re: thermal printer HP

*Message #4 Posted by **David Smith** on 29 Oct 2005, 10:44 a.m.,*
in response to message #3 by Tony Duell

I use a piece of thin (10 mil) stainless steel spring stock. A piece of Venitian blind slat also works great. I have it trimmed to that you can do a printhead on one end or a HP97 card reader on the other. Most plastering tools are at least 20 mils thick... too fat for this application.

Re: thermal printer HP

*Message #5 Posted by **Pierre Dutoit** on 31 Oct 2005, 10:32 a.m.,*
in response to message #3 by Tony Duell

Thank you Tony. I got battery pack adapted to the printer from Piscera Salvaore, Italy (4 GP rechargeable NiCd 1.2V 2000 mA). I have a good original HP charger 82066A 220V~ 3VA 8V~. Once the batteries charged, the printer has difficulty to work. Sometimes paper advance works, sometimes not. I live in Montreuil, close to Paris. Pierre

---

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HP35 HP45 battery charger. Random display values.

*Message #1 Posted by **Charles Esson** on 26 Oct 2005, 12:53 a.m.*

People have posted with the problem before but none of the replies deals with the issue properly. I'm posting this in the hope it goes into the archives and the next searcher finds the solution faster than I did.

The problem is cause by the electrolytic capacitor (400uf 15volts) found in the battery charger drying out.

Replace the capacitor and the problem goes away.

Thanks for a great site.

Charles Esson

Re: HP35 HP45 battery charger. Random display values.

*Message #2 Posted by **Arnaud Amiel** on 26 Oct 2005, 3:56 a.m.,*
in response to message #1 by Charles Esson

I have several chargers, does this mean I should make a rota so that they are each used in turn? Does this only affect Classics chargers?

Thanks,

Arnaud

Re: HP35 HP45 battery charger. Random display values.

*Message #3 Posted by **Bernhard** on 26 Oct 2005, 2:19 p.m.,*
in response to message #2 by Arnaud Amiel

Drying out is the fate of every non-hermetically sealed electrolytic capacitor. Some last 20 years, some 30 years, but their death is inevitable.

My experience with Classics chargers is that if they are used, and the seal of the electrolytic capacitor is already a bit deteriorated, then the heat produced by the charger will quickly finish them.

Dying electrolytic capacitors can make quite a mess. Best mode to handle this problem is perhaps to exchange them against new ones as a routine precaution, even if the charger still appears to work.

Woodstock chargers contain only a transformer and no electrolytic capacitors.

Regards, Bernhard

Re: HP35 HP45 battery charger. Random display values.

*Message #4 Posted by **Thomas Radtke** on 26 Oct 2005, 10:13 a.m.,*

in response to message #1 by Charles Esson

Thanks for bringing up this topic. I was asking (at multiple places) a question regarding an old C= calc and irregularities when charging it. Thanks to the good people on the usenet, I was able to resurrect it by exchanging the capacitors.

Thomas

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28S Question

*Message #1 Posted by **Samuel Heddle** on 25 Oct 2005, 7:27 p.m.*

Does the presence of any crack or fracture near the battery casing of an HP28S indicate a serious problem in development? Thanks

Re: 28S Question

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 26 Oct 2005, 2:03 a.m.,*
in response to message #1 by Samuel Heddle

Hi, Samuel;

I had an HP28S that was stolen about two years ago. Thanks to a fortunate moment, I was able to buy another one in about a month after acceptin g the fact it was stolen. The one I had was bought new in the box, and I took as much care as possible when changing batteries. The battery door was perfect, no cracks, no visible sign of wearing. The one I have have now seems to be carefully taken as well, but the compartment door seems a little 'flaky', if this is the correct word. I'm affraid it will crack due to the surface aspect.

So, it seems to me that, sometimes, the HP28S battery door suffers from a weak, somehow thin design. I should say that the design itself is not the main issue, instead the material used. I'd go for the newer design seen in the HP19BII, with a big door and a safer interlock.

Cheers.

Luiz (it seems to me I did not answer to your question...)

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Copyright Infringement ..?

*Message #1 Posted by **Mike T.** on 25 Oct 2005, 7:27 p.m.*

http://cgi.ebay.co.uk/Hewlett-Packard-HP-11C-calculator-case-manual_W0QQitemZ5821723511QQcategoryZ3284QQrdZ1QQcmdZViewItem

Re: Copyright Infringement ..?

*Message #2 Posted by **Arnaud Amiel** on 26 Oct 2005, 6:31 a.m.,*
in response to message #1 by Mike T.

What is more the seller has a picture of the actual 11C which looks everything but new...

Arnaud

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HP71B <-> HP 41CX (HP-IL)

*Message #1 Posted by **Gileno** on 25 Oct 2005, 4:59 p.m.*

How do I send a string of a 71B for a hp41CX through HP-IL? Thank's

Re: HP71B <-> HP 41CX (HP-IL)

*Message #2 Posted by **J-F Garnier** on 26 Oct 2005, 6:56 a.m.,*
in response to message #1 by Gileno

```
HP-71B side:
CONTROL OFF
OUTPUT LOOP; A$


HP-41C side:
INA
```

J-F

Re: HP71B -> HP 41CX (HP-IL)

*Message #3 Posted by **Gileno** on 26 Oct 2005, 8:46 a.m.,*
in response to message #2 by J-F Garnier

I have a HP41CX, HP9114B and a connected HP71B for HPIL. How do I record files in HP9114B using HP71B?

Re: HP71B -> HP 41CX (HP-IL)

*Message #4 Posted by **Vassilis Prevelakis** on 26 Oct 2005, 1:25 p.m.,*
in response to message #3 by Gileno

```
Gileno wrote:
> I have a HP41CX, HP9114B and a connected HP71B for HPIL. How do I
> record files in HP9114B using HP71B?
```

For accessing the diskette drive from the HP-71B, it needs to be the loop controller. Since you cannot have two loop controllers and the software on the 41C assumes that *it* is the loop controller, you have to remove the 41C from the loop. Then you can save files on the 9114B from your 71B. You can then reconnect the 41C and either place the 71B in slave mode or (even better) remove it from the loop.

Read the HP-IL Interface Owner's Manual, file 82401a.pdf in the MoHPC DVD.

**vp

Re: HP71B -> HP 41CX (HP-IL)

*Message #5 Posted by **gileno** on 26 Oct 2005, 3:53 p.m.,*
in response to message #4 by Vassilis Prevelakis

But I didn't want to remove HP71 of HPIL. :-(

And for save one HP 41CX program into HP71B ?

*Message #6 Posted by **Artur - Brasil** on 26 Oct 2005, 2:45 p.m.,*
in response to message #1 by Gileno

Hi, and for saving my programs in the 71B, what should I do, as there is one week I'm trying to do this?

Thanks! Artur

Re: And for save one HP 41CX program into HP71B ?

*Message #7 Posted by **J-F Garnier** on 26 Oct 2005, 3:21 p.m.,*
in response to message #6 by Artur - Brasil

Hi,

You need the X-I/O module and use the INP/OUTP functions. You may have to write a few lines of code on the HP-71B side.

Without X-I/O, you will just be able to print programs (with PRP) to the HP-71B as text files, but not reload them back into the 41C.

J-F

Re: And for save one HP 41CX program into HP71B ?

*Message #8 Posted by **Achim Buschendorf** on 26 Oct 2005, 3:59 p.m.,*
in response to message #6 by Artur - Brasil

Hi Artur,

you may take a look at ftp://ftp.hpmuseum.org/lif/swap/swap10/xfer4171.txt

Regards, Achim

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41 vs 67 card reading

*Message #1 Posted by **Jim Creybohm** on 25 Oct 2005, 1:13 p.m.*

Hi all.

I have a 67 that has cards that are original, but may be in need of re-recording due to age related de-gaussing. I don't yet know if this is the case, but we are speaking somewhat hypothetically here. The reason I ask is that my 67 card reader is not quite functioning yet, but my 41 is working perfectly (when the batteries are fresh).

So, my question is:

As long as no non-native(i.e., 41 specific) functions are used, can a 41 card reader **record** the cards so that a 67 can read them? I would think that this would be the reverse to what most users do.

Appreciate any and all responses.

Re: 41 vs 67 card reading

*Message #2 Posted by **Etienne Victoria** on 25 Oct 2005, 2:14 p.m.,*
in response to message #1 by Jim Creybohm

Hi Jim,

Unfortunately : No.

Cards written by an Hp-41C won't be readable neither an Hp-67 nor an Hp-97 even if you only use the 67' compatibility instructions.

The only way to achieve your goal is to read/rewrite them in an 67/97.

Sorry!

Etienne

Re: 41 vs 67 card reading

*Message #3 Posted by **Jim Creybohm** on 25 Oct 2005, 3:30 p.m.,*
in response to message #2 by Etienne Victoria

Thank you Etienne.

I am not sure of what additional header information might get written, but I was afraid that this was the case.

Ah well. Time to get the magnifying glasses and soldering iron out...

Re: 41 vs 67 card reading

*Message #4 Posted by **Etienne Victoria** on 25 Oct 2005, 3:46 p.m.,*
in response to message #3 by Jim Creybohm

... and your wife's hair dryer to remove the calc back sticker properly!

IMNSHO, the 67 is one of the last well constructed calcs of PCE (Pre-Crap Era).

Real screws, soldered components, no petty money saving with "pressure connectors"....

Good luck, I'm sure you'll succeed!! Keep us updated!

Cheers from France!

Etienne

Re: 41 vs 67 card reading

*Message #5 Posted by **Bernhard** on 25 Oct 2005, 4:31 p.m.,*
in response to message #4 by Etienne Victoria

Hi Jim,

I've ***never*** seen a HP65 or HP67 card fail due to "degaussing". Neither I have never seen any diskette fail due to "degaussing".

And believe me - I have a lot. Including 25 year old disks and even older cards. I do even have 30 year old 8" disks that still read OK.

The physics behind this is hysteresis of the magnetic particles. It takes a certain field strength to flip them. And even if one particle is flipped by thermodynamic accident, zillions of other particles still wait for the same strong field to be flipped. The HD (high density) media used in the PC even takes much much higher fields to flip. They are almost impossible to erase of write to in old Apple II disk drives, for instance, because the magnetic flux of those drives is too low to flip them.

The bottom line is, in magnetic media there is no effect like "degaussing" - if this means flipping of magnetic domains just by ageing without strong external magnetic fields.

What really happens is that the softening agents gass out and the magnetic particles start to separate from the plastic carrier. This is not "degaussing" but "drop out".

I do have some HP65 / HP67 cards that won't read anymore, but under magnification, it is possible to see those damage spots where the magnetic particles have gone away.

The only cure is to COPY you old cards to newer cards. But do do try to "refresh" the old cards - it is futile - as long as they read OK and don't fall apart mechanically (as described above) they are good. And if they start to lose magnetic coating, well, the they are finished and no attempt to write on them will fix that.

best regards, Bernhard

Re: 41 vs 67 card reading

*Message #6 Posted by **Crawl** on 25 Oct 2005, 5:45 p.m.,*
in response to message #5 by Bernhard

> Quote:
>
> They are almost impossible to erase of write to in old Apple II disk drives, for instance, because the magnetic flux of those drives is too low to flip them.

I'm confused about what you're saying here. However, in my experience, I have lost data on Apple II floppies. I mistakenly put them on top of the disk drive... The next time I tried them, every one was wiped.

I don't think it was a coincidence. They were fine for years (when stored far from the drive), then they all died at once. And I know of a separate occasion where the same thing happened.

Of course, this was due to the field created by the drive, not by random thermal flipping over time.

Re: 41 vs 67 card reading

*Message #7 Posted by **Jim Creybohm** on 25 Oct 2005, 6:48 p.m.,*
in response to message #6 by Crawl

OK, I inadvertently used the phrase "degaussing", when perhaps it appears I should have said "degassing" or drop out. I had a middle aged moment when I wrote that because I knew it wasn't right, but I knew that someone would correct me on it and then give me an answer - and thanks BTW. This continues to be one of the reasons that I hang around this board.

But, I still don't understand, all I did was hold them on the refridgerator door with little flower magnets.....

(really, truly, honestly, kidding)

Re: 41 vs 67 card reading

*Message #8 Posted by **bernhard** on 25 Oct 2005, 7:43 p.m.,*
in response to message #6 by Crawl

I don't think it was magnetic fields from the Apple II disc drive. It would not work if it own fields would corrupt data in a disk that's inserted. Same reasoning most likely applies to disks placed on top of the drive. Maybe your diskettes catched some field from the degaussing coil of a nearby color monitor, who knows. All Apple II disc drive I know of have a metal case which should shield mag fields anyway. But in any case, none of my properly stored diskettes ever have lost data except those who decompose mechanically (literally). I do have some candidates which I don't dare to read until I have the hardware ready to capture them forever - and of course, the head will only step ONCE through the disc.

Regards, Bernhard

Re: 41 vs 67 card reading

*Message #9 Posted by **David Smith** on 26 Oct 2005, 10:18 a.m.,*
in response to message #8 by bernhard

The sure fire way of erasing an Apple diskette was to put it on the Graphics Tablet.

As the bit densities of modern hard drives has increased we are approaching the limit

where random thermal noise and adjacent bit flux coupling can cause bits to flip. Curses Dr. Boltzman...

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HP-49G+ - Where is the "last x" key / function?

*Message #1 Posted by **Miguel** on 25 Oct 2005, 12:49 p.m.*

Dear friends, I´ve just got a new 49G+ and realized it does not have the "last x" key / function. Is it true?

Regards, Miguel

Re: HP-49G+ - Where is the "last x" key / function?

*Message #2 Posted by **Jeff O.** on 25 Oct 2005, 1:09 p.m.,*
in response to message #1 by Miguel

You are correct, there is no "Last X" key or function that replicates or closely mimics that function of the RPN calculators. You have to write a program to mimic the functionality. I have one which I am pretty sure was posted here (or perhaps at comp.sy.hp48) by James M. Prange. If you search the archives, you might find more information. The program I use is as follows:

```
<< DEPTH -> n
  << LASTARG DEPTH n - DUP -> s
    << ROLLD s 1 - DROPN DUP DROP
    >>
  >>
>>
```

Type the above in, and save to a variable named “LAST x”. The program seems to work fine.

Re: HP-49G+ - Where is the "last x" key / function?

*Message #3 Posted by **Miguel** on 25 Oct 2005, 1:20 p.m.,*
in response to message #2 by Jeff O.

Dear Jeff, thank you very much for the program. I´ll try it right now! Regards, Miguel

Re: HP-49G+ - Where is the "last x" key / function?

*Message #4 Posted by **Miguel** on 25 Oct 2005, 1:31 p.m.,*
in response to message #2 by Jeff O.

Dear Jeff, I was thinking a litle more: why not use the "lastarg" function only, assigned to some key?

Regards, Miguel

Re: HP-49G+ - Where is the "last x" key / function?

*Message #5 Posted by **Gene** on 25 Oct 2005, 2:08 p.m.,*
in response to message #4 by Miguel

LastARG returns the last arguments! That may be more than just one.

Example: In approximate mode, 25 ENTER 6 divide.

LASTX would return a "6".

LASTARG returns 25 to the second level of the stack and 6 to the first level of the stack.

Re: HP-49G+ - Where is the "last x" key / function?

*Message #6 Posted by **Miguel** on 25 Oct 2005, 2:21 p.m.,*
in response to message #5 by Gene

Got it! Thank you! The program works, but for "33 alpha 'a1' sto>" , it returns a1.

Regards, Miguel

Re: HP-49G+ - Where is the "last x" key / function?

*Message #7 Posted by **Gene** on 25 Oct 2005, 3:57 p.m.,*
in response to message #6 by Miguel

That's because when you do ... 'a1' STORE the 'a1' is the last argument in the first level of the stack.

It is the "lastx".

Gene

Re: HP-49G+ - Where is the "last x" key / function?

*Message #8 Posted by **James M. Prange (Michigan)** on 25 Oct 2005, 11:00 p.m.,*
in response to message #2 by Jeff O.

Thanks for the credit, Jeff. I may well have posted that program somewhere, sometime, but it's not my preferred version. My only problem with it is in the case of an empty last arguments buffer, it errors out instead of returning 0.

Here are three programs that handle the empty last arguments buffer case better.

Note that in the programs, I'm using exact integers (type 28) for the 49 series. "Real" numbers (type 0) also work, but of course the results from the BYTES command will be different.

This first one both returns 0. (as a real number) to the stack and leaves it in the buffer if the last arguments buffer was empty.

```
%%HP: T(3)A(D)F(.);
@ Download (or enter) in exact mode on 49 series.
@ Results from the BYTES command:
@ 49 series checksum: # 2C67h
@ 49 series size:         69.
@ 48 series checksum: # ECA9h
@ 48 series size:          69
\<<
  DEPTH \-> d
  \<<
    LASTARG DEPTH d -
    IF
      DUP
    THEN
      DUP2 2 + ROLLD DROPN
    END
```

```
    DUP DROP
  \>>
\>>
```

This second one returns 0. (as a real number) to the stack and leaves the buffer empty if the last arguments buffer was empty:

```
%%HP: T(3)A(D)F(.);
@ Download (or enter) in exact mode on 49 series.
@ Results from the BYTES command:
@ 49 series checksum: # B2D2h
@ 49 series size:        90.5
@ 48 series checksum:  # F5Dh
@ 48 series size:        94.5
\<<
  DEPTH \-> d
  \<< LASTARG DEPTH d -
    IF
      DUP
    THEN
      DUP2 2 + ROLLD DROPN DUP DROP
    ELSE
      -55 DUP SF CF
    END
  \>>
\>>
```

This last one doesn't return anything to the stack and leaves the buffer empty if the last arguments buffer was empty.

```
%%HP: T(3)A(D)F(.);
@ Download (or enter) in exact mode on 49 series.
@ Results from the BYTES command:
@ 49 series checksum: # 8C85h
@ 49 series size:         93.
@ 48 series checksum: # D527h
@ 48 series size:          97
\<<
  DEPTH \-> d
  \<< LASTARG DEPTH d -
    IF
      DUP
    THEN
      DUP2 2 + ROLLD DROPN DUP DROP
    ELSE
      DROP -55 DUP SF CF
    END
  \>>
\>>
```

If system flag -55 is set (No last args), then these programs will error out.

Note that after some commands that don't take any arguments, like CLEAR, DROP, and MEM, these programs don't return what was the last object in level 1.

In the 49 series, LASTARG is invoked by LeftShift ANS (over the ENTER key), at least in RPN mode. I've never used ALG mode, so won't offer any advice for that.

For similar programs for the 28 series, change LASTARG to LAST, and (in the last two programs) change -55 DUP SF CF to 31 DUP CF SF.

Even in the 48 and 49 series, LAST can be used as a synonym for LASTARG, to maintain backwards compatibility.

Personally, I prefer the first program that I've posted here best.

Just out of curiosity, which one do users of "Real RPN" models prefer?

Regards,

James

Edited: 25 Oct 2005, 11:04 p.m.

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NiMh 500mah 'N' Cell Source

*Message #1 Posted by **Donald Leonard** on 25 Oct 2005, 12:32 p.m.*

For those of you looking for the highest capacity 'N' cells, here is a source I just found:

[url]http://www.tnccustomproducts.com[/url]

Click on the "Battery" heading on the left. They also have the highest quality 'N' cell to 'AA' battery adapter for charging I have found. I own two different adapter types, and these (my third) are by far the best. They are worth buying even if you already have a set.

These batteries took 3 full hours to charge on my 5 hr. NiMh fast charger that came with my 2300mah 'AA' battery set. I expect that it will take about 1 1./2 - to 2 hrs. with subsequent charges.

PLEASE - no more warnings about corrosion doom from you experts out there. It has been published over and over. I personally don't buy the claim. ALL BATTERIES can cause corrosion - even the highly touted alkaline. NO BATTERIES should be stored in the '41. This 'heads-up' is not for the nay sayers - it is ment for those who ARE trying to find the highest capacity and best quality 'N' cells available. These will do nicely.

Donald

Edited: 25 Oct 2005, 12:35 p.m.

Re: NiMh 500mah 'N' Cell Source

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 25 Oct 2005, 8:11 p.m.,*
in response to message #1 by Donald Leonard

Thanks Donald: I just bought 12 batteries and 4 adapters.
Greetings,
Massimo

Edited: 25 Oct 2005, 8:12 p.m.

Re: NiMh 500mah 'N' Cell Source

*Message #3 Posted by **sjthomas** on 26 Oct 2005, 12:59 a.m.,*
in response to message #2 by Massimo Gnerucci (Italy)

They have all of **one** battery left in stock.

Re: NiMh 500mah 'N' Cell Source

*Message #4 Posted by **Massimo Gnerucci (Italy)** on 26 Oct 2005, 2:23 a.m.,*
in response to message #3 by sjthomas

When I first visited the site I only found **two** batteries available so I wrote to Chris and asked if he

planned to have new cells coming.
He reset the amount to 17 and when I left there were 5 available to the next one... seems like someone came before you.

Sorry,
Massimo

Re: NiMh 500mah 'N' Cell Source

*Message #5 Posted by **sjthomas** on 26 Oct 2005, 2:53 p.m.,*
in response to message #4 by Massimo Gnerucci (Italy)

Hi Massimo,

Please post a note when you receive these. I'm a bit cautious as almost all products in the flashlight/battery section are sold out, and the website seems a bit out of date.

Regards,

sjthomas

Re: NiMh 500mah 'N' Cell Source

*Message #6 Posted by **Donald Leonard** on 27 Oct 2005, 4:29 a.m.,*
in response to message #5 by sjthomas

As of the moment of this post, he is out of stock. His business is about 5 miles down the road from my home, so I personally visited his machine shop. Chris is a great guy and has a complete machine shop. Part of the reason many of his items are currently out of stock is because he has heavy orders from Japan and other countries, and he has to fill those orders/committments before he has stock for his web site. Currently he has flashlite shipments schedualled for Feb. 2006.

Since his NiMh 'N' cell stock was reduced to two (2) when I picked up my order and many of his other products were 'out of stock', I asked him if he was discontinuing his flashlite and battery line. He assured me that he was not - that he had just placed a rush order for more batteries, that these are still the highest capacity 'N' cells he could find. Nothing bigger is known.

I have been using them only for about 4 days, so my experience with them is limited - but I would not have concerns about their availability. They will be in stock soon.

Donald

Edited: 27 Oct 2005, 4:37 a.m.

Re: NiMh 500mah 'N' Cell Source

*Message #7 Posted by **sjthomas** on 27 Oct 2005, 9:35 a.m.,*
in response to message #6 by Donald Leonard

Thanks for the info, Donald.

Re: NiMh 500mah 'N' Cell Source

*Message #8 Posted by **Donald Leonard** on 2 Nov 2005, 5:51 a.m.,*

in response to message #2 by Massimo Gnerucci (Italy)

As of the time of this post, there are 8 'N' cells available for sale. They must be going fast as he usually buys them by the case.

Donald

Re: NiMh 500mah 'N' Cell Source

*Message #9 Posted by **sjthomas** on 2 Nov 2005, 8:00 p.m.,*
in response to message #8 by Donald Leonard

> Quote:
>
> As of the time of this post, there are 8 'N' cells available for sale. They must be going fast as he usually buys them by the case.

Donald, since you live near him, you could probably make a few bucks by buying his stock and them re-selling them with reasonable shipping rates.

Re: NiMh 500mah 'N' Cell Source

*Message #10 Posted by **Donald Leonard** on 3 Nov 2005, 2:16 a.m.,*
in response to message #9 by sjthomas

Unfortunately my recent experience with shipping costs have demonstrated that most companies get a volume discount of up to 50% on shipping. As an example, I recently purchased a piece of electronics equipment with a shipping cost to me of $19. I had to pay $38 return shipping with the same shipper to ship the equipment back due to defective operation.

Believe me - I'm better off as an information source than a hardware source.

There are now 17 'N' cells in stock.

Donald

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Spice for HP48GX and HP48SX

*Message #1 Posted by **David Houston Thompson** on 24 Oct 2005, 9:43 p.m.*

Hello, I am a novice user of HP's RPL calculators. I was amazed to discover that "cards" are available to perform Spice simulations on the 48GX and 48SX. Has anyone any experience of simulating an electronic circuit on an HP? As a regular user of Spice, I'd love to read how an HP calculator manages to perform such simulations. Best wishes.

Re: Spice for HP48GX and HP48SX

*Message #2 Posted by **HrastProgrammer** on 25 Oct 2005, 2:37 a.m.,*
in response to message #1 by David Houston Thompson

Where did you found cards with Spice simulations for 48SX/GX? I didn't know they exist ...

Edited: 25 Oct 2005, 7:41 a.m. after one or more responses were posted

Re: Spice for HP48GX and HP48SX

*Message #3 Posted by **Raymond Del Tondo** on 25 Oct 2005, 7:14 a.m.,*
in response to message #2 by HrastProgrammer

Hi,

there exists a SPICE48 card from Sparcom.
Very nice thing.

Regards

Raymond

Re: Spice for HP48GX and HP48SX

*Message #4 Posted by **HrastProgrammer** on 25 Oct 2005, 7:43 a.m.,*
in response to message #3 by Raymond Del Tondo

Ah, that SPICE ... I thought he meant "Spice series" HP calculator simulations (such as HP-34C) on HP-48GX/SX. My mistake, haven't read carefully ...

Re: Spice for HP48GX and HP48SX

*Message #5 Posted by **donald wallace** on 25 Oct 2005, 7:17 a.m.,*
in response to message #2 by HrastProgrammer

Hi guys,

I am really VERY into this as a (freelance) engineer. I purchased "circuits" for the 41 when it came out

('81) and found it very slow.

I am interested in getting a 48 if it will do this stuff. Please, please let me know what you find... In the meantime I'll do some trawling of my own and report back.

e-mail:donwallace63@yahoo.com.au

don wallace

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A Worthwhile Strategy?

*Message #1 Posted by **I, Claudius** on 24 Oct 2005, 9:41 p.m.*

This article from CNN's tech page discusses consumers filing a class action lawsuit over defects in the new iPod:

http://www.cnn.com/2005/TECH/ptech/10/24/apple.nano.reut/index.html

On this and other calculator newsgroups, there have been many complaints regarding HP calcs on a variety of issues, from nonfunctioning hardware to buggy software to questionable design.

The question I have is this: if enough people (HP calc users) were so disgusted with the current state of affairs, would it be a worthwhile strategy to consider some sort of class action lawsuit? The idea would not be to try 'break' HP or collect a zillion bucks, but rather to simply get their attention that they need to produce machines that loyal users want and that these machines function as they should.

I'm not a legal type of any kind. Indeed, I personally hate lawyers, especially the new breed of sleazy, ambulance-chasing types who continually broadcast ads starting with "Have you been injured in an accident?" And that's why I've posted this question, those of you who may have legal experience can possibly give some good insight here.

Edited: 24 Oct 2005, 9:43 p.m.

Re: A Worthwhile Strategy?

*Message #2 Posted by **Mike Sebastian** on 24 Oct 2005, 10:53 p.m.,*
in response to message #1 by I, Claudius

I would expect that such a suit would result in the dissolution of the calculator business unit. Many large businesses are very risk adverse when it comes to potential litigation. The only conclusion that HP would arrive at after being threatened by a class action suit surrounding their calculators is that the potential liability is not worth the minuscule income they derive from calculators.

(BTW, there are several attorneys which frequent this forum.)

Re: A Worthwhile Strategy?

*Message #3 Posted by **Howard Owen** on 24 Oct 2005, 11:20 p.m.,*
in response to message #1 by I, Claudius

I doubt a single lawsuit, even a class action, would cause HP to abandon the calculator market. But IANACE (I Am Not A Corporate Executive 8) so what do I know?

But I do think that Apple iPods and HP calculators are different in several respects. iPods are hot sellers that have lifted Apple from the brink of bankruptcy to a solidly profitible company. (Macintoshes? They make computers? 8) Calculators are a niche market for HP. A related point: Apple is a smaller company that has a large share of their success tied up in iPods. HP's got to care about calculators .. a little, at least. Apple's installed base and annual sales in units and dollars probably surpasses similar metrics for HPs's calculators.

Given all that, which company do you suppose will react to a consumer class action lawsuit by actually fixing the problems?

Edited: 25 Oct 2005, 12:22 a.m.

Re: A Worthwhile Strategy?

*Message #4 Posted by **donald wallace** on 25 Oct 2005, 8:49 a.m.,*
in response to message #3 by Howard Owen

Hi all.

Yeah that ipod thing really surprised me. Someone was asleep at the wheel and then tried to bluff it through. I feel that people would want to sue Apple Corps.... donkey ;-)

HP, though... Come on. Poor HP. Great company. Very old and solid. Very hard to continuously adapt in a world with markets that change so fast. In a new field as the product life cycle runs, profit margins start big and end up ephemeral.

Always...

Also, firmware bugs in computing equipment are a real pain but it's really hard to make a computing item totally bug free as we all know (you guys perhaps better than me, I am no programmer). Same with hardware bugs. That was why micros were invented, you could modify the design in firmware rather than at the logic gate level.

I notice a lot of you guys are quite cranky at this or that model but there is also some genuine personal preference stuff in there too, which of course is totally cool. We are all "selfish human beings" who want it just our own way, me included.

I can't help wonder whether the bugs are as bad as you all say. I guess they must be. I am confused about what modern machine I would buy (I'd like a graphing calc to muck around with but don't need one).

I have made my peace that the golden era of Western Civilization is well and truly gone and from now on I'll be happy to dodge the H5N1, fallout from petrol/oil prices going nuts and the odd cyclone...

I for one have much more serious, pressing issues to worry about rather than calculators.

But I sure enjoy seeing people helping each other chewing the fat and poling their resources. What an interesting forum. Thanks guys.

DW

Re: A Worthwhile Strategy?

*Message #5 Posted by **bernhard** on 25 Oct 2005, 4:46 p.m.,*
in response to message #4 by donald wallace

Hi Don,

you are right. More important things to do than to put lawsuits on companies that make mediocre and / or faulty products. Pay with peanuts, work with monkeys. Today's silicon technology places zillions of transistors to the fingertips of everyone, for a bargain price, but alas, most of those "everyone" people are VHDL wielding monkeys, and not true adepts of that obscure art of real chip design.

H5N1 is of no concern as it only kills people in close contact with those birds. The dreaded killer

disease which might become the next plague (after politicians and lawyers - and will get them, too) may occur by fusing H5N1 with human flu viruses.

Anyone who is no lawyer nor politician may contact me for my ten cents on which medication might help. Tamiflu most likely won't.

regards, Bernhard

Re: A Worthwhile Strategy?

*Message #6 Posted by **Ben Salinas** on 25 Oct 2005, 11:20 a.m.,*
in response to message #1 by I, Claudius

I too would have to say that this would simply knock HP out of the calculator business. Why would HP keep making calculators when they make (relatively) little money on them, and get sued.

The ipod one (might) work because everyone knows about ipods, and everyone expects certain things of them.

I wouldn't bite the hand that feeds me, even if it is feeding me bad food. Especially if it is the only hand I can eat from.

Re: A Worthwhile Strategy?

*Message #7 Posted by **Howard Owen** on 25 Oct 2005, 12:35 p.m.,*
in response to message #1 by I, Claudius

> Quote:
>
> The idea would not be to try 'break' HP or collect a zillion bucks, but rather to simply get their attention that they need to produce machines that loyal users want and that these machines function as they should.

The problem with this is, if the lawsuit won't collect a zillion bucks, then no law firm is going to take it on contigency. That means the class would have to bear the cost of the litigation. And as I think many HP calculator fans would (rightly) avoid suing HP, that would leave a small pool of folks on the hook for .1*Zillion bucks in litigation costs.

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MoHPC *The Museum of HP Calculators*

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41c weak display segments

*Message #1 Posted by **Hal** on 24 Oct 2005, 7:00 p.m.*

Hi folks. Is there a known issue with a 41c which causes display segments to be weak / faint. Mostly the upper segments on the left side. Thanks for any ideas, Hal

(deleted post)

*Message #2 Posted by **deleted** on 24 Oct 2005, 7:21 p.m.,*
in response to message #1 by Hal

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

Re: 41c weak display segments

*Message #3 Posted by **Tony Duell** on 25 Oct 2005, 6:28 a.m.,*
in response to message #2 by deleted

What is the problem (other than very static-sensitive chips) in dismantling the display module of a fullnut?

You would have to desolder the connections from the keyboard PCB, then unclip the clamps (top and bottom) and seperate the hybrid board from the display. Yes, I've read the service manual, and I know HP say you can't re-use the zebra strips, but having repaired many other similar display modules, I don't understand why you can't (now that replacements are unobtainable) you can't clean everything with propan-2-ol and put it back together.

Weak segments does not sound like the driver mis-initialisation problem. It sounds like a bad contact in the zebra strip, or a defective driver (I have had that on both a halfnut 41 and on a 16C).

I've got half a mind to pull a display from a mangled 41CV apart and put it together just to prove it can be done and see what the real problems (if any) are.

(deleted post)

*Message #4 Posted by **deleted** on 25 Oct 2005, 7:26 a.m.,*
in response to message #3 by Tony Duell

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

Re: 41c weak display segments

*Message #5 Posted by **Tony Duell** on 25 Oct 2005, 8:02 a.m.,*
in response to message #4 by deleted

I have had a lot of success in repairing missing segments _in other devices_ by cleaning the zebrastrips. One trivial example. I saw a second-hand Fluke 85 multimeter in a second-hand tool shop. When I tried it, some of the segments were weak, but there. _In the shop_ (with the seller's permission, of course), I openied it up, unclipped the display, cleaned the edges of the display on my shirt (!), put it back, and it was fine. I did not attempt to clean the PCB there and then, as I was worried about static damage to the IC. The seller took \pounds 10.00 off the price anyway, since there was a possible fault...

I always intended to clean it properly when it failed again. But it's been fine for well over a year.

I cured one Voyager (original series, with the seperate logic module on the flexible PCB) by taking it apart and cleaning it. Another one did have a defective R2D2 chip, though.

I will admit I have never taken a fullnut HP41 display, but unless I can find good evidence that taking one apart _will_ ruin it, I would give it a go if other cures failed. Yes, I'd power down for a long time first (this is documented in Wlodek's book which every HP41 hacker should have read). Yes, I'd resolder the connections to the keyboard PCB (I've had dry joints there). But I would not assume that taking the unit apart would necessarily ruin it.

After all, the HP manual does give an official procedure for doing this. And my experience of all service manuals is that they err on the side of caution. I've had considerable success with dismantling and repairing modules that the official manuals (HP and others) regarded as not field repairable. On the other hand, there are some things that are almost impossible to repair in the field (hard disk HDAs and dot matrix printheads being examples of things I wouldn't take apart unless there was really no alternative, and with the assumption that I probably wouldn't get them going again).

Which brings me back to my original question. If there is something odd about this display where dismantling it will do serious damage, then I would like to know about it. If there is nothing known like that, I probably will take an old 41CV (the most common 41 in my experience, I have a few with cracked posts, etc) apart and see how I get on. I'll report here anything that I find out.

Re: 41c weak display segments

*Message #6 Posted by **David Smith** on 25 Oct 2005, 10:55 a.m.,*
in response to message #5 by Tony Duell

I would not take apart a 41C display unless I aboslutey had to. It can definitely make things worse. It can also make things better. The Zebra strips can easily be damaged by removing and reinstalling them. I have over a dozen 41C display modules. I'd say it helped 1/3 of the time, made no difference 1/3 of the time, and make things worse 1/3 of the time. If the display module is definitely bad, you have nothing much to lose by opening it, you just don't want to open a good module.

Of the ones that got worse, one failure mode that seems to occur is the zebra strips seem to have a light adhesive on one edge that helps keep them in place. This adhesive does not restick and after a while the replaced strips shift and the contacts flake out again. Cleaning the strips with alcohol can spread the adhesive residue over the contact areas and also lead to intermittent contacts.

As far as weak segments, I'd first try cleaning everything with 91%+ isopropyl alcohol. Start with the back of the LCD and the LCD contacts. Keep it off the display window or it will leave white stains behind (which can be poslished off). Also clean the back of the keyboard and the CPU board and the CPU contacts.

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Hi definition images of the HP-19C decimal dot

*Message #1 Posted by **Vassilis Prevelakis** on 24 Oct 2005, 6:48 p.m.*

The HP-19C and HP-10 had a unique feature, the decimal dots in their displays had the HP logo on them. Given the size of the dot and its high contrast wrt the background, taking a good picture of the dot has so far proven to be almost impossible.

Now ji (of http://www.tla.org) has taken some excellent pictures showing the dot, and also revealing that the display had another dot allowing it to display a : (why?)

**vp

http://www.series80.org/Misc/HP-19C/hp19c-dot2.jpg

http://www.series80.org/Misc/HP-19C/hp19c-dot1.jpg

Edited: 24 Oct 2005, 11:55 p.m.

Re: Hi definition images of the HP-19C decimal dot

*Message #2 Posted by **Les Bell** on 25 Oct 2005, 12:26 a.m.,*
in response to message #1 by Vassilis Prevelakis

Why? At a guess, for use in timepieces.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Hi definition images of the HP-19C decimal dot

*Message #3 Posted by **JI** on 25 Oct 2005, 2:59 p.m.,*
in response to message #1 by Vassilis Prevelakis

note that the letters "hp" and the circle appear dark red because of red light reflected from the display window. The actual emitting surface appears pinkish, as it has saturated the sensor.

/ji

Re: Low definition images of the HP-19C decimal dot

*Message #4 Posted by **Etienne Victoria** on 25 Oct 2005, 3:54 p.m.,*
in response to message #1 by Vassilis Prevelakis

Waow!

Great pictures, Ioannis!!

I feel a little bit ashamed to propose my own Low definition pics:

In the Led Eye

Don't forget to click on "Slideshow".

Well done again, yours are beautiful!!

Etienne

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HP 1 Watch

*Message #1 Posted by **Ralph Bennett** on 24 Oct 2005, 3:52 p.m.*

I have a HP-1 watch and want to find out the spec's for the batteries. Can anyone help?

Re: HP 1 Watch

*Message #2 Posted by **ned** on 24 Oct 2005, 7:04 p.m.,*
in response to message #1 by Ralph Bennett

um, you went here right? www.hpmuseum.org/hp01.htm

enjoy your watch, quite the uber-gadget with plenty of nerd appeal.

I believe it would take 3 SR-44 aka LR-44, you can get them a a kmart watch dept.

-ned

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How to open a HP32SII

*Message #1 Posted by **Karl-Ludwig Butte** on 24 Oct 2005, 10:52 a.m.*

Hi all,

I got a dead HP32SII. Does anyone know a description of how to open it without damaging the internals and the cabinet ? Any hint will be very much appreciated. Thank you very much in advance.

Re: How to open a HP32SII

*Message #2 Posted by **Mike H** on 24 Oct 2005, 12:06 p.m.,*
in response to message #1 by Karl-Ludwig Butte

Hi Karl,

The pioneers are quite easy to open. Here is a link Pioneer Observations to an article by Paul Brogger.

I have had success opening and reclosing, but not so much repairing :(

Good luck Mike

Edited: 24 Oct 2005, 12:14 p.m.

Re: How to open a HP32SII

*Message #3 Posted by **Karl-Ludwig Butte** on 25 Oct 2005, 2:52 a.m.,*
in response to message #2 by Mike H

Hi Mike,

thank you very much - that was exactly what I was looking for.

Regards

Karl

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hp49g+ help with infrared printer

*Message #1 Posted by **Josef** on 24 Oct 2005, 10:43 a.m.*

Can anybody please tell me if it is possible to use the old infrared printer 82240A with the hp49g+? I have tried the PRLCD and PRSTC command which always worked on my hp48s but nothing happened. The manual isn't very comprehensive about this topic. Or is there some trick to enable the infrared port?

PS. Since I have upgraded to the new ROM I haven't had any missed keystrokes or keybounces, so it seems to work at last (My serial No. is CNA 434... in case anybody is interested).

Re: hp49g+ help with infrared printer

*Message #2 Posted by **Arnaud Amiel** on 24 Oct 2005, 10:58 a.m.,*
in response to message #1 by Josef

You need a slightly more modern 82240B which can be had (with a bit of luck)for peanuts on ebay. This would cope with backward compatibility of older calcs. Otherwise, other brands of printer work (even better?) with the 49g+ but I can't find the list now.

Arnaud

Re: hp49g+ help with infrared printer

*Message #3 Posted by **Tom Scott** on 24 Oct 2005, 7:54 p.m.,*
in response to message #2 by Arnaud Amiel

Also, the printer has to be very close to the 49G+ (within 5 cm I think) because the IR range is much less than for the 48.

Tom

Re: hp49g+ help with infrared printer

*Message #4 Posted by **James M. Prange (Michigan)** on 25 Oct 2005, 3:01 a.m.,*
in response to message #2 by Arnaud Amiel

Actually, the 82240A printer does work with the 49g+ (and 48 series), but uses a different character set (Roman 8 only) for the non-ASCII characters. Executing OLDPRT changes the remapping string in the reserved variable PRTPAR so that much of the 48 (and 49) series' (modified) ECMA 94 character set prints correctly with the 82240A's Roman 8 character set. To change back to printing to an 82240B, edit PRTPAR to make an empty remapping string, that is, simply "".

The 82240B has two character sets; Roman 8 is the default, so older calculators work just fine with it. With the 48 series, 49g+, and 48gII, any printing via IR starts out by sending an escape string to switch the printer to using the ECMA 94 character set; this escape sequence is simply ignored by the older 82240A.

As for getting the 49g+ to print to the 82240A or 82240B, make sure system flag -34 is clear (Print via

IR), and, as Tom said, make sure the calculator is very close to the printer.

Also, when transferring or printing via IrDA, don't have the 82240 within range, as some IrDA signals will be misinterpreted by the 82240A/B printer.

Note that for "screen captures" with HPComm or Conn4x, flag -34 must be set (Print via wire).

The flags on the calculator are a little confusing (especially for printing), so here's a table.

flag -33	flag -34	transfer	print
clear (Transfer via wire)	clear (Print via IR)	via wire	via RedEye IR
clear (Transfer via wire)	set (Print via wire)	via wire	via wire
set (Transfer via IR)	clear (Print via IR)	via SIR or IrDA	via RedEye IR
set (Transfer via IR)	set (Print via wire)	via SIR or IrDA	via SIR or IrDA

For the 48 series or 49G, "via wire" means RS-232 compatible signals. For the 48gII, a level shifter (built-in to the cable and powered by a real RS-232 device) is used to make the signal RS-232 compatible. For the 49g+, "via wire" means via USB.

Of course, the 49G doesn't have the IR hardware, so attempting to transfer or print via IR won't work with it.

"RedEye" is for printing to the 82240A/B.

"SIR" (Serial IR) is the format used for transferring via IR between 48 series; not available in the 49 series (including the 48gII). Note that the 48 series can also print in this format.

"IrDA" is used on the 49g+ and 48gII for transfers with or printing to any other IrDA capable device; not available on the 48 series.

Any "via wire" printing (even if it's really SIR or IrDA) respects the character translation mode set in IOPAR, except that LineFeed characters are translated to the line termination string (by default, CarriageReturn LineFeed) set in PRTPAR.

Regards,
James

Re: hp49g+ help with infrared printer

*Message #5 Posted by **James M. Prange (Michigan)** on 25 Oct 2005, 3:09 a.m.,*
in response to message #4 by James M. Prange (Michigan)

P.S.

Some printers from Martel Instruments are supposed to work anywhere that the 82240A/B works.

Of course, with the 49g+ and 48gII, any IrDA capable printer **should** work.

Note that although the 49g+ has a USB port, it's a "device" port, not a "host" port, so won't work with any other USB "device", including a USB printer.

Regards,
James

Re: hp49g+ help with infrared printer

*Message #6 Posted by **josef** on 25 Oct 2005, 5:50 a.m.,*
in response to message #5 by James M. Prange (Michigan)

Sorry, I forgot to include Tom.

Josef

Re: hp49g+ help with infrared printer

*Message #7 Posted by **josef** on 25 Oct 2005, 5:47 a.m.,*
in response to message #4 by James M. Prange (Michigan)

Thank you James and Arnaud for your quick and encyclopedic answer. I think everything has been covered although I haven't understood everything in the first run. But I will make a printout and put it into my manual for further reference.

Anyway it worked at the first try with the combination of the changed flag and the lower distance. So a lot of thanks again to both of you. This has really saved my day.

Josef

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HP33S simulator/emulator

*Message #1 Posted by **Valentin Albillo** on 24 Oct 2005, 6:46 a.m.*

Hi all,

I'm thinking of porting a number of my programs of old for such classics as the HP-67/97, HP-34C, and such to the new HP33S, with the idea of making them available in the new, easily affordable HP33S for people who might need them. I'm thinking in such programs as linear systems of up to 7 linear equations in 7 unknowns, tridiagonal systems up to 12x12, matrix operations, complex operations, non-linear systems, etc, etc, in the fields of applied mathematics and engineering, perhaps even including the odd game or two.

This idea crossed my mind after reading the HP33S manual (PDF format) and having a look at HP's pathetic 3x3 system solving example. Imagine, including such a *puny* program for a 32Kb machine, when you could do a 7x7 system in a 224-byte HP-67/97 ! I know it's intended to be an example, but even so ...

Then I thought that it could probably help a number of people interested in those fields if I were to make versions of said programs of mine for the HP33S, which people can take to exams, and while I'm at it, I could also write some articles for publication in Datafile or posting here, maybe even a 'challenge' or two.

The problem is, I do not have an HP33S in my HP collection nor do I intend to get one in the near future. But if any of you would be kind enough to provide me with an HP33S simulator/emulator, that would do, as long as it *faithfully* emulates/simulates the workings of an HP33S, so I could test my programs on it and rest assured that they'd also run in an actual, physical HP33S. I wouldn't want to publish/post untested software, that would be utterly unacceptable to me.

Can anyone help ? :-)

Best regards from V.

Re: HP33S simulator/emulator

*Message #2 Posted by **bill platt** on 24 Oct 2005, 10:53 a.m.,*
in response to message #1 by Valentin Albillo

I can send you a 33S in the flesh. Emulating it is tricky--there are bugs to be emulated!

Re: HP33S simulator/emulator

*Message #3 Posted by **Valentin Albillo** on 24 Oct 2005, 11:14 a.m.,*
in response to message #2 by bill platt

Hi, Bill:

Bill Posted: *"I can send you a 33S in the flesh. Emulating it is tricky--there are bugs to be emulated! "*

Why, thank you, you're extremely kind. But it's not a matter of money, though the HP33S is more than twice as costly here in Spain than in the US, say.

It's more that I completely disapprove of HP's decisions regarding this product, from its manufacture (KinHPo) to its keyboard to its size to its style to its LCD to its memory management to ... to everything, actually.

So, while I'm perfectly glad to try and help others by making available potentially useful programs for it, I definitely do not want to spend a single cent on it (doing that would be tantamount to me endorsing this HP product, which I absolutely don't), nor would I want other generous people like yourself spending their hard-earned money on my behalf.

Thanks anyway, perhaps some kind MoHP contributor will offer a suitable simulator/emulator.

Best regards from V.

Re: HP33S simulator/emulator

*Message #4 Posted by **Arnaud Amiel** on 24 Oct 2005, 1:50 p.m.,*
in response to message #3 by Valentin Albillo

Valentin, I believe you should try the 33s. I find it is actually a very useful replacement to the 32sii. The more I use it the more I like it. I wouldn't swap my 33s for a 41C or CV, maybe CX and not sure...

Arnaud

Re: HP33S simulator/emulator

*Message #5 Posted by **Gene** on 24 Oct 2005, 4:07 p.m.,*
in response to message #4 by Arnaud Amiel

Valentin, making your programs available for the 33S would increase its relative value, thereby potentially increasing sales of the machine you so dislike.

Isn't that inconsistent? :-)

(And, unless you did huge amounts of very bad programming, I don't think there is a hope of doing a 7x7 on the 33S...and, wasn't a 5x5 the largest ever done on the HP67/97? anyone know?)

Re: HP33S simulator/emulator

*Message #6 Posted by **Namir** on 24 Oct 2005, 4:40 p.m.,*
in response to message #5 by Gene

Gene,

I agree with you. The number of registers in the HP33s limit the number of linear equations. Systems of 7x7 are not doable on the 33s.

Namir

Re: HP33S simulator/emulator

*Message #7 Posted by **Valentin Albillo** on 25 Oct 2005, 6:08 a.m.,*
in response to message #6 by Namir

Hi, Namir:

Namir posted: *"The number of registers in the HP33s limit the number of linear equations. Systems of 7x7 are not doable on the 33s."*

Why, thank you !!

Your clever advice has saved me from countless frustrating hours stubbornly struggling to

achieve the impossible !!

Thanks, O sage one! ;-)

("Eppur si muove")

Best regards from V.

Re: HP33S simulator/emulator

*Message #8 Posted by **Marcus von Cube, Germany** on 25 Oct 2005, 6:37 a.m.,*
in response to message #7 by Valentin Albillo

Hi Valentin,

> Quote:
>
> Namir wrote in a previous post:
>
> The number of registers in the HP33s limit the number of linear equations. Systems of 7x7 are not doable on the 33s.

A quick look in the manual (page 13-21) reveals what can be indirectly addressed using (i):

```
If i contains:      Then (i) will address:
---------------------------------------
+/- 1               variable A or label A
. . .
+/- 26              variable Z or label Z
+/- 27              variable i
+/- 28              n register
+/- 29              SIGMA x register
+/- 30              SIGMA y register
+/- 31              SIGMA x^2 register
+/- 32              SIGMA y^2 register
+/- 33              SIGMA xy register
<=-34, >=+C34 or 0  error: INVALID (i)
---------------------------------------
```

So there are 32 registers plus the index. That might be enough for a 5x5 system.

Edited: 26 Oct 2005, 3:54 a.m. after one or more responses were posted

Re: HP33S simulator/emulator

*Message #9 Posted by **Valentin Albillo** on 25 Oct 2005, 12:06 p.m.,*
in response to message #8 by Marcus von Cube, Germany

Excuse me, Marcus, but the way your message is posted, i.e., in direct reply to one of mine and then quoting some text, makes it seem as if you're quoting me and thus said text is mine, which it isn't, it's Namir's.

Please edit your posting to reflect that, I wouldn't appreciate your message being archived with that highly inaccurate line being misleadingly attributed to me, even if by mistake.

Thanks in advance and best regards from V.

Quote is now clarified

*Message #10 Posted by **Marcus von Cube, Germany** on 26 Oct 2005, 3:56 a.m.,*

in response to message #9 by Valentin Albillo

Hi Valentin,

you are right! I've corrected my post.

Marcus

Thanks a lot. Best regards [NT]

*Message #11 Posted by **Valentin Albillo** on 26 Oct 2005, 4:10 a.m.,*
in response to message #10 by Marcus von Cube, Germany

[NT]

Re: HP33S simulator/emulator

*Message #12 Posted by **.** on 25 Oct 2005, 6:39 a.m.,*
in response to message #7 by Valentin Albillo

If it were possible, I'd be very interested in seeing the result.

I have to ask: why would anyone want to solve a 7 by 7 system of equations on a lowly HP33s? This type of task is far more suited to a PC or a graphical calculator. Entering over 50 numbers on a HP33s sounds painful.

Thanks,

.

Re: HP33S simulator/emulator

*Message #13 Posted by **Crawl** on 25 Oct 2005, 11:53 a.m.,*
in response to message #6 by Namir

I just mused over the subject for a couple of seconds, and have thought that you don't really need 49 + 7 registers for a 7x7 equation, IF you solve it in real time as you enter the terms.

This is how I'd sketch it out.

First, you enter the first row (7 + 1 terms). You need to store all of these terms.

Say the first two rows are like this

```
[a1 a2 a3 a4 a5 a6 a7] = [b1]
[c1 c2 c3 c4 c5 c6 c7] = [b2]
```

You would not actually store the numbers c1, c2, etc. Instead, you store c2 -a2/c1, c3 - a3/c1, etc. In the process, you've also saved one register! C1 would not be needed to be stored at all; it has become zero.

So, you could use Gaussian elimination as you go. In each row, you save one additional register.

Ultimately, you'd only need to store 35 terms. And you if reduce the first term of each row to one, by dividing by the first term in each row, you'd only need to store 28 terms.

So, yes, it can be done.

Pivoting would be a tricky issue, I'd guess, without having thought about it much.

Edited: 25 Oct 2005, 11:55 a.m.

Re: HP33S simulator/emulator

*Message #14 Posted by **Valentin Albillo** on 25 Oct 2005, 4:25 a.m.,*
in response to message #5 by Gene

Hi, Gene:

Gene posted: *"Valentin, making your programs available for the 33S would increase its relative value, thereby potentially increasing sales of the machine you so dislike. Isn't that inconsistent? :-)"*

I'm not doing it for the 33S or for HP, I'm doing it for the people. It is my understanding that this 33S is the only RPN model allowed in certain very important US exams, so lots of people use it for that purpose and would welcome having good math & engineering software for it. That's why I wanted to contribute to the community by porting such potentially useful software of mine to this machine. My HP-71B, HP-15C, 41C, 34C, or whatever-C programs will be of no use to people taking said exams, right ?

"(And, unless you did huge amounts of very bad programming, I don't think there is a hope of doing a 7x7 on the 33S..."[and, wasn't a 5x5 the largest ever done on the HP67/97? anyone know?)"

Yes, I know. You're wrong. But who am I to discuss with such geniuses as you and Namir (*"Systems of 7x7 are not doable on the 33s"*) ? ;-)

Thanks for your interest in my plea and

Best regards from V.

Re: HP33S simulator/emulator

*Message #15 Posted by **.** on 25 Oct 2005, 6:47 a.m.,*
in response to message #14 by Valentin Albillo

Hi,

> Quote:
>
> I'm not doing it for the 33S or for HP, I'm doing it for the people. It is my understanding that this 33S is the only RPN model allowed in certain very important US exams, so lots of people use it for that purpose and would welcome having good math & engineering software for it.

I guess you are referring to the NCEES exams. No-one needs to solve a 7 by 7 system of equations on this exam. These type of questions are just not asked. When the new policy was introduced I remember reading *many* comments from test-takers, saying while a HP48 is handy, a normal scientific calculator is all that is required.

While it may be an interesting programming challenge, I doubt such a solver will help anyone.

Re: HP33S simulator/emulator

*Message #16 Posted by **Valentin Albillo** on 25 Oct 2005, 7:20 a.m.,*
in response to message #15 by .

Hi, .

. posted:*"I guess you are referring to the NCEES exams. No-one needs to solve a 7 by 7 system of equations on this exam."*

C'mon, ., it's just an example of what's available, man ! Would you like me to post a comprehensive list when I can't even get a #@$&!# 33S simulator/emulator to begin with ? :-)

Anyway, perhaps it was a bad idea on my part, noone seems too interested so it may be the case I'm trying to cater for a nonexistent need. Seemed a fair use for good programs written for classic machines at the time, though.

Nah, forget it.

Best regards from V.

Re: HP33S simulator/emulator

Message #17 Posted by **.** *on 25 Oct 2005, 8:22 a.m.,*
in response to message #16 by Valentin Albillo

Hi,

Please don't let me discourage you! I just picked on the the 7x7 equation solver as an example. I'm sure many other old programs could have a new life on the HP33s. I just don't think porting a 7x7 solver is worth the effort :-)

.

Re: Valentin A. - HP33S simulator/emulator

Message #18 Posted by **ECL** *on 25 Oct 2005, 3:19 p.m.,*
in response to message #16 by Valentin Albillo

Valentin,

I support your effort to provide/port useful programs for the 33s. While I agree with you that it should not have been released in the form it was, it is the only RPN calc that you can walk into a store and replace new. More importantly, it is, like you said the only programmable/RPN permitted on the NCEES exams.

Personally, I enjoy the challenge of a programming task that may/may not be possible! :) For example, I found a x-section moment of inertia for composite sections developed for the 49g+. By composite, I mean a cross-section composed of varying rectangular segments (imbalanced I-beam for example).

I really enjoyed writing my own version for my 33s. It provided the same ouput: X-sect I, and Ybar (y-centroid). And it fit in my pocket :)

It is too bad that I can go into Fry's Electronics and still find *NEW* HP 12C AND 12CPlatinum, yet they can't re-release a run of the classic 32sii w/ more memory. Especially after reading the solicitation for a 12C Anniversary wish-list on this board! How many versions of the 12C are required?

I have finally accepted using my 33s after my 32sii expired this summer. I have already suffered on a numerical methods exam due to poorly visible display and hitting the corner of buttons at the same time.

Regards, ECL

Largest matrix program for the 67/97 - Mr. 5x5 from 1978?

*Message #19 Posted by **Gene** on 25 Oct 2005, 4:02 p.m.,*
in response to message #14 by Valentin Albillo

Gene: "[and, wasn't a 5x5 the largest ever done on the HP67/97? anyone know?)"

Valentin: Yes, I know. You're wrong.

Gene again: The program I know of for the HP67/97 that solved the largest matrix work was the "Mr. 5x5" from late 1978 in the PPC Journal.

I do not believe it is possible to solve a problem of higher order on that calculator, unless one puts restrictions on the size of the elements. There are only 26 registers available on the 67/97 and the 5x5 system takes up 25 of them of course.

Valentin, prove me wrong! :-) I'd love to see a link to a 67/97 program allowing the solution of a 7x7 matrix (and, I'll be amazed (once again) if it allows for 7-10 digit values).

Gene

Re: Largest matrix program for the 67/97 - Mr. 5x5 from 1978?

*Message #20 Posted by **Crawl** on 25 Oct 2005, 9:04 p.m.,*
in response to message #19 by Gene

I explained this above. You do not need to store all 7 x 7 elements and use Cramer's rule (by solving with the determinate) once all the terms have been entered. You can store the problem as

```
[1 a1 a2 a3 a4 a5 a6 ] [x1]       [y1]
[0 1  b1 b2 b3 b4 b5 ] [x2]       [y2]
[0 0   1 c1 c2 c3 c4 ] [x3]       [y3]
[0 0   0  1 d1 d2 d3 ] [x4]   =   [y4]
[0 0   0  0  1 e1 e2 ] [x5]       [y5]
[0 0   0  0  0  1 f1 ] [x6]       [y6]
[0 0   0  0  0  0  1 ] [x7]       [y7]
```

(My best attempt to write a matrix expression with text)

This is the Gaussian elimation method, and it actually takes fewer computation steps than Cramer's rule, too. It also can be solved as you go (eg, the third line can be reduced to [0 0 1 c1 c2 c3 c4] before you even enter the fourth line), which saves on registers.

x1, x2, etc. is the solution column and doesn't need to be stored. You could write a program that leaves it up to the user to write those down when they're output. So, if you count, you'll see you only need to store 29 elements.

Depending on how you implement the method exactly, you might need a couple of other variables (eg., loop counters for entering the terms), and you'll have to store the first term in each row until all the terms have been entered and divided by that term.

But the HP33s's 32 registers should be enough wiggle room for that. (Plus, of course, you have the four elements of the stack, too, and towards the end you won't need to store variables - like in the above example, y7 - long before they're output to the user)

With 25 registers, could a 7x7 be done? Without working through the nitty-gritty details, I don't know, but it should be enough to do a 6 x 6 system, which only needs 21 stored terms.

If the code is general enough (if it uses loops and indirect addressing), I'd guess the code for a 6x6 system could be ported to a calculator with more registers to solve a 7x7 (or however large) system.

Re: Largest matrix program for the 67/97 - Mr. 5x5 from 1978?

*Message #21 Posted by **Gene Wright** on 26 Oct 2005, 12:06 a.m.,*
in response to message #20 by Crawl

It would be an interesting test. :-)

As I recall, the "Mr. 5x5" did a determinant and inverse.

And, I'm pretty certain the technique you describe was known to the PPC'ers at the time, so I'm not sure why certain methods were chosen.

Gene

Re: Largest matrix program for the 67/97 - Mr. 5x5 from 1978?

*Message #22 Posted by **Valentin Albillo** on 26 Oct 2005, 4:25 a.m.,*
in response to message #19 by Gene

Hi again, Gene:

Gene posted: *"Prove me wrong"*

Let's make this clear, Gene. I'm stating that I *do* have a 7x7-system solving program for the HP-67, which works, which is a real programming marvel to make it work in 224 bytes/26 registers, and which was written not by me but by my best friend Fernando del Rey, 20 or so years ago. It uses no magnetic card tricks or such, just very clever programming techniques.

So, unless you're plainly stating that I'm lying, I'd expect you to take my word for it, because I'm neither writing down the 200-step listing by hand for you to see, nor can provide a link to it, because web links still do not reach old paper listings.

Further, I'd expect a little more respect from you in the future, as I think I've never done or said anything to you that turned out to be intentionally false or misleading. In other words, if I say that something can be done, you can bet your house that it *can* be done, and more, I've done it or seen it with my very own eyes or else I wouldn't be claiming it's possible.

Thanks for your comments and best regards from V.

Edited: 26 Oct 2005, 4:27 a.m.

Re: Largest matrix program for the 67/97 - Mr. 5x5 from 1978?

*Message #23 Posted by **Gene** on 26 Oct 2005, 8:18 a.m.,*
in response to message #22 by Valentin Albillo

Valentin, if you're going to get offended, perhaps you could at least do me the favor of reading my post more closely?

I quote: "Valentin, prove me wrong! :-) "

In internet circles, emoticons indicate a teasing or non-literal interpretation of something

said.

Which, of course, you just ignored.

What I said was that the largest I know about is Mr. 5x5 from the PPC Journal.

You stated you had (or had seen) one that could do a 7x7 the HP67. I said "Show me :-)"

If you take offense at that, then methinks you were your feelings too close to your sleeves.

I'd still like to see such a program, of course.

Re: Largest matrix program for the 67/97 - Mr. 5x5 from 1978?

*Message #24 Posted by **Valentin Albillo** on 26 Oct 2005, 8:35 a.m.,*
in response to message #23 by Gene

Gene posted: *"you were your feelings too close to your sleeves"*

What !? Oh I see, you mean "wear" instead of "were", right ?

We non-native English speakers are sometimes quite bemused to try and understand native English speakers when they do not know their spelling ...

I guess such a person has no trouble with "its" versus "it's", "wear" versus "were", and a miriad other usual misspellings but for non-natives like myself, it can be rather puzzling at first, IMHO.

:_)

:=$

P:(/

Enough emoticons for you ?

Best regards from V.

Edited: 26 Oct 2005, 8:39 a.m.

Re: Largest matrix program for the 67/97 - Mr. 5x5 from 1978?

*Message #25 Posted by **Howard Owen** on 26 Oct 2005, 11:54 a.m.,*
in response to message #24 by Valentin Albillo

I don't recognize any of those.

Perhaps they stand for various forms of sneer? 8)

Re: Largest matrix program for the 67/97 - Mr. 5x5 from 1978?

*Message #26 Posted by **Gene Wright** on 26 Oct 2005, 4:23 p.m.,*
in response to message #24 by Valentin Albillo

I do find it sad that you chose not to acknowlege the misunderstanding of my original post.

Instead, you point out a word misspelled in haste. What's the point? Perhaps this is the most telling phrase in your reply "Further, I'd expect a little more respect from you in the future..." Are we interacting here or out to seek praise and adulation?

My post was not hostile by any means of ordinary internet usage. You misunderstood. Your reply points out a spelling mistake.

Guess the intent of your reply is lost in translation as well.

Let me restate my original point: Mr. 5x5 is the highest level determinant and inverse program I know of to be published for the HP67/97.

Gene

(P.S. If there happen to be any grammatical or spelling mistakes in this post, please allow me to find them on my own.)

Re: Largest matrix program for the 67/97 - Mr. 5x5 from 1978?

*Message #27 Posted by **A careful reader** on 28 Oct 2005, 1:15 p.m.,*
in response to message #26 by Gene Wright

Is it just me, or does Valentin need professional help?

Re: Largest matrix program for the 67/97 - Mr. 5x5 from 1978?

*Message #28 Posted by **Massimo Gnerucci (Italy)** on 28 Oct 2005, 1:37 p.m.,*
in response to message #27 by A careful reader

> Quote:
>
> Is it just me, or does Valentin need professional help?

Careful readers, when they become posters, usually sign their thoughts with full name.

Re: Largest matrix program for the 67/97 - Mr. 5x5 from 1978?

*Message #29 Posted by **A careful reader** on 28 Oct 2005, 6:43 p.m.,*
in response to message #28 by Massimo Gnerucci (Italy)

No problem. My name is Jordi Hidalgo.

Re: Largest matrix program for the 67/97 - Mr. 5x5 from 1978?

*Message #30 Posted by **Werner** on 26 Oct 2005, 10:23 a.m.,*
in response to message #22 by Valentin Albillo

Now, Valentin - without keying in the 200 lines, you might just lift the tip of the veil and tell us *how* it is done? Curiosity killed the cat, and it's killing me, too. Cheers, Werner

Re: Largest matrix program for the 67/97 - Mr. 5x5 from 1978?

*Message #31 Posted by **Valentin Albillo** on 26 Oct 2005, 11:05 a.m.,*
in response to message #30 by Werner

Hi, Werner:

Werner posted: *"Now, Valentin - without keying in the 200 lines, you might just lift the tip of the veil and tell us *how* it is done? Curiosity killed the cat, and it's killing me, too."*

There's no mystery at all, Werner, Crawl's post explained the proper way to do it. Fernando had the key idea at the time, which I think it's brilliant indeed, and cleverly managed to make it all work in as little as 224 steps or less for the program itself, and using just 26 registers. He didn't use magnetic cards to store intermediate values but simply diagonalized on the fly.

The whole process was suitably fast and smooth, and amazingly, there were still enough program steps available to include both an output routine and an error correction routine as well ! :-)

This program is ideal for the 33S, because of its extremely reduced number of addressable registers (but still larger than the 26 the HP-67 had), better instruction set (RCL arithmetic, for instance) and vastly superior speed when compared to the HP-67. So I thought it would make a worthwhile contribution to port it to this ungainly machine. But ... :-(Thanks for your interest and

Best regards from V.

Re: Largest matrix program for the 67/97 - Mr. 5x5 from 1978?

*Message #32 Posted by **Ron Ross** on 26 Oct 2005, 11:36 a.m.,*
in response to message #31 by Valentin Albillo

I just took the last NCEES exam offered this spring. And while I would have loved to use my Hp48G as I had earlier when I took the FE exam (mostly for the great units features, solver with long variable names, ease of overall use and for the real horsepower to tackls some of the advanced math ie Fourier analasys), nothing tougher than a 3x3 (or a 4x4 with an obvious reduction eq) was needed for any of the problems with 3 unknowns. If you needed a 4x4 or greater, you were racing away from the real solution.

I think the posters who gave you negative feedback where just trying to save you wasted effort on a needless exercise. That you can do this was not questioned by me if you triangalize the matrix. In reality though a circuit with complex arguements with a 3x3 is probably impossible to handle with the lowly Hp33s (unless you state otherwise B^O).

Since the Hp33s is 3-5 times better than any other calculator allowed to use on these exams, they ain't going to be any super complex number crunching challenges. It just so happens to be my calculator at work (so I can leave my more valuable 42s at home, I suspect you would agree with THAT philosphy).

I appreciated your offer, and I do prefer to crunch my numbers with a calculator over a PC, but when I have to do any complex sophisticated number crunching, I do it with a PC for a record as well as the ease and save the results with the

projects.

Re: Largest matrix program for the 67/97 - Mr. 5x5 from 1978?

*Message #33 Posted by **Valentin Albillo** on 26 Oct 2005, 12:05 p.m.,*
in response to message #32 by Ron Ross

Hi, Ron:

Ron posted:

"I think the posters who gave you negative feedback where just trying to save you wasted effort on a needless exercise."

However, let me insist in that solving 7x7 systems was but an example. The nucleus of the thing is, I have many, many quite decent programs for the HP-67/97, HP-34C, and HP-41C, among others, and I thought it would be a real contribution to port some of these to the 33S, where they'd run perfectly Ok, and which seems to be in need of them.

"In reality though a circuit with complex arguements with a 3x3 is probably impossible to handle with the lowly Hp33s (unless you state otherwise B^O)."

Would you believe that the 0.5 Kb HP-15C can manage circuits requiring a 4x4 complex system (as demonstrated in its HP-supplied manuals) ? It's somewhat laborious but can be done.

"It just so happens to be my calculator at work (so I can leave my more valuable 42s at home, I suspect you would agree with THAT philosphy)."

Certainly, certainly. Though for work I do use a SHARP PC-1350, suitably programmed. It's not that I don't care for it, but rather that I own six or seven, mostly mint, and so I don't mind (carefully) using one of the not-so-mint as a workhorse.

Thanks for your input and

Best regards from V.

Have a look here

*Message #34 Posted by **Valentin Albillo** on 27 Oct 2005, 4:41 a.m.,*
in response to message #30 by Werner

Hi again, Werner:

The 7x7 sytem solution's program for the HP-67/97 is still unpublished, as far as I recall, but it actually was submitted at the time (1980) to PPC Journal, for publication.

However, despite it being a real breakthrough in its genre (only 5x5 program were available at the time, without the recourse to multiple uses of magnetic cards to store intermediate results), Richard Nelson declined to publish it, because he was more keen in articles for the just recently introduced HP41C, which more or less meant the death of interest in 67/97-related materials.

That being so, Fernando and I decided to rewrite it for the new machine, taking advantage of its advanced features such as labeled prompts, multiple registers for indirect addressing and such, but essentially implementing the very same 'diagonalize on the fly' technique used in the 67/97 program.

We submitted the resulting article to PPC Journal and this time it got published, so you can find it there. Details:

```
   Linear Equations - Gaussian Elimination

       by Valentin Albillo (4747) & Fernando del Rey (4995)

   PPC Calculator Journal - V7 N5 Page 63 & 64 - June 1980
```

This 'on the fly' technique allowed for an enormous increase in the size of the systems which could be solved. For instance:

```
    HP-41C + 1 memory module:  up to 14x14
           + 2      id.     :  up to 20x20
           + 4      id.     :  up to 30x30
```

Frankly, being able to solve a 30x30 system of equations on a small, handheld calculator back in 1980 was absolutely amazing, and most people we showed it to wouldn't believe their eyes ! :-)

By the way, the unpublished 67/97 program is exactly 221 steps long, uses all 26 registers and all labels except D and E, and contrary to what I said, it doesn't include an output routine, you simply recall each unknown from its own register (R1-R7). For the record, the instructions look like this:

```
_____________________________________________________________________
         /
|
        /                   7x7 System of linear equations
|
       /
|
       |    Start     Restart
/
       |     row        row          Reset
/
|_____[A]________[B]___________[C]_____________________________________/

Instructions:

Start:  [C]

Enter equations:

a11 [A] a12 [R/S], ..., b1 [R/S]
a21 [A] a22 [R/S], ..., b2 [R/S]
          ...
a71 [A] a72 [R/S], ..., b7 [R/S]

Recall solution:

RCL 1 -> x1
RCL 2 -> x2
   ...
RCL 7 -> x7

Example:
```

```
  x1 +  x2 +  x3 +  x4 +  x5 +  x6 +  x7 = 7
 2x1 - 3x2 +  x3 -  x4 +  x5 -  x6 +  x7 = 0
 5x1 + 5x2 - 4x3 - 6x4 + 2x5 - 3x6 +  x7 = 0
 4x1 + 3x2 + 2x3 +  x4 - 5x5 -  x6 - 4x7 = 0
 3x1              + 3x4 - 3x5 - 2x6 -  x7 = 0
 2x1 - 6x2 -14x3 + 2x4 + 6x5 + 5x6 + 5x7 = 0
  x1 -  x2 -  x3 -  x4 -  x5 -  x6 + 4x7 = 0


Exact solution: x1 = x2 = x3 = x4 = x5 = x6 = x7 = 1


Computed solution:  x1 = 1 +24e
                    x2 = 1 -  e
                    x3 = 1 +10e
                    x4 = 1 + 8e  where e = 1E-9
                    x5 = 1 - 6e
                    x6 = 1 +16e
                    x7 = 1 +  e
```

That's all. Best regards from V.

Re: HP33S simulator/emulator

*Message #35 Posted by **Valentin Albillo** on 25 Oct 2005, 4:16 a.m.,*
in response to message #4 by Arnaud Amiel

Hi, Arnaud:

Arnaud posted: *"Valentin, I believe you should try the 33s. I find it is actually a very useful replacement to the 32sii."*

Thanks for the advice, Arnaud, but I own several HP32S and HP32SII, which offer approximately the same programming paradigm as the 33S, in a far better form factor and ergonomics. And, as for programming power and usability, any of my vintage SHARPs can run rings around the 33S, also with much better ergonomics.

My point is, I see this 33S being used a lot as it's the one RPN model allowed in some important US exams, and having a lot of software potentially useful to such users, which could be converted to this model, I was willing to help and contribute by doing so. But I'm not in the least interested in the machine, I dislike its physical incarnation profoundly (*not* it's programming paradigm, mind you: it's the same as the 32S/32SII, which I like), so that's why I'm aiming for an emulator/simulator.

Thanks again for your interest and

Best regards from V.

Re: HP33S simulator/emulator

*Message #36 Posted by **Ed Look** on 24 Oct 2005, 5:17 p.m.,*
in response to message #1 by Valentin Albillo

Wow, I'd love to have my Windows calculator work like my 34C!!

Re: HP33S simulator/emulator

*Message #37 Posted by **Eric Smith** on 25 Oct 2005, 2:22 a.m.,*
in response to message #36 by Ed Look

> Quote:
>
> I'd love to have my Windows calculator work like my 34C!!

You're in luck, there's a 34C simulator that runs on Windows. It's not very polished yet, and there isn't yet a user-friendly installer. (Someone contributed one, but I haven't yet got it merged into the distribution.) Anyhow, you can find it here.

I hope to make a new release available by the end of the year. In addition to the Windows installer, it should look nicer thanks to a lot of work by Maciej Bartiosak, who also had created a port for MacOS.

Re: HP33S simulator/emulator

*Message #38 Posted by **Ed Look** on 28 Oct 2005, 4:10 p.m.,*
in response to message #37 by Eric Smith

Hey Mr. Smith!

Thanks for the tip!

My real 34C is now in a 25C case (don't ask... long story) zipped up and in my drawer. If I have my home PC on, chances are there'll be a 34C on the screen!

Wow. I thought it was just a program that works like a 34C; well it has the skin, too!

But truth to tell, the 32SII and 33S both are "34C-like" enough that I've come to be fond of both, more the former than the latter, but the latter is gaining, mainly because of slightly larger programming space and the inclusion of a constants table. Boy; if the 34C had a constants table back then... it might have saved more program lines and even more time!

Re: HP33S simulator/emulator

*Message #39 Posted by **Ed Look** on 5 Nov 2005, 12:24 a.m.,*
in response to message #38 by Ed Look

Ah, I've installed HP's HP33S simulator/emulator on my PC.

It *DOES* work like a real 33S, except you can use mouse clicks to your keypressing...

... and no, the equation for the volume of a solid cylinder is not preloaded in this emulator! ;)

Now, I don't like using Powerpoint or PC based projections for lectures, but I will, for HP's sake, try to keep the 33S emulator on the computer screen especially when students are wont to come by.

I'll use it when I'm too lazy to actually reach over and whip out the real 33S, which is more often than I had admitted to myself.

Too bad it doesn't have a "right hand rule" preprogrammed key! LOL!!

Re: HP33S simulator/emulator

*Message #40 Posted by **Richard Z.** on 5 Nov 2005, 4:49 p.m.,*
in response to message #39 by Ed Look

I have thought about trying out HP's 33s simulator, but I didn't think I could justify putting it in my syllabus that my students must purchase that specific calculator. Especially when they are being required to purchase a TI-84 for earlier courses, and the local Walmart isn't re-stocking any HPs.

Apparently HP wants to see that syllabus statement before they'll let you have the simulator. How strong of a statement did you have to word?

RZ

Re: HP33S simulator/emulator

*Message #41 Posted by **Ed Look** on 6 Nov 2005, 3:24 p.m.,*
in response to message #40 by Richard Z.

I do not put calculator requirements on my syllabi, especially for advanced courses; for the introductory levels, I just say get *ANY* scientific, not necessarily a programmable calculator.

I merely posted for HP on their site a text copy of the real syllabus which dos not mention a calculator requirement. (At the level of that particular course, if they don't have the common sense to obtain a workable machine... well, there's the first F of the season...) Some of the advanced students may even use Maple, Origin, etc. on a PC.

But as I said here and they did not ask, I do not like using prepared-in-advance Powerpoint files on a laptop with a projector, nor slides with an overhead.

What I do, however, is to let them watch me crank through a calculation with my 33S or sometimes, 48G. If they ask, and some do, I show them and let them try my 33S and try to explain RPN and its glories of elegance and ease (they don't get to touch the 48G). So far, in many years, only a few takers. The world is sold on algebraic TIs. The more budget conscious go for the no-names in drug stores or discount shops (in which places you can get a fairly fully featured scientific, even if not programmable, for around $10 USD).

But the few who have taken an interest in RPN HP calcs are among the better and more serious students.

Re: HP33S simulator/emulator

*Message #42 Posted by **Howard Owen** on 6 Nov 2005, 3:52 p.m.,*
in response to message #41 by Ed Look

> Quote:
>
> But the few who have taken an interest in RPN HP calcs are among the better and more serious students.

There you go: RPN makes you smarter!

I'm guessing it's the exceptional student that is curious enough to get the 33s demo. And of of these, only the very exceptional ones who are willing to adopt what seems to most a contrarian approach to calculation. So the choice of RPN may reflect a "think outside the box" type of intellectual curiosity that would map well onto exceptional math ability.

But I'm also guessing you have other exceptional students that don't get bitten by the RPN bug. Otherwise my lead above would not only make a great ad slogan, it would also stand up to FTC scrutiny for truth in advertising!

Re: HP33S simulator/emulator

*Message #43 Posted by **Ed Look** on 6 Nov 2005, 10:19 p.m.,*
in response to message #42 by Howard Owen

> Quote:

> There you go: RPN makes you smarter!...
>
> ... Otherwise my lead above would not only make a great ad slogan, it would also stand up to FTC scrutiny for truth in advertising!
>
> ---

Hee hee hee... or is it the smart ones in their smartness choose RPN?!

Re: HP33S simulator/emulator

*Message #44 Posted by **ECL** on 6 Nov 2005, 8:34 p.m.,*
in response to message #41 by Ed Look

Ed,

Are you a professor of engineering? I am a senior undergrad M.E., and I've been doing quite well with my 32sii/33s combo (well, just a 33s at this point).

It would be interesting (if you are in engineering) to hear your opinion on the programmable (no graph capability) vs. full-blown 49g+ in the upper-undergrad to grad work curriculum.

I am beginning to run out of variables on my 33s (no shortage of ram though :)). I have been tempted to make an official switch to the 49g+ (I own one, and have done some basic things with it).

The two interests in converting are: backup capability, & multicharacter variables. However, the seemingly infinite opportunities for customization and program development are not so appealing to me as it could be a distraction that would be fun to entertain.

Thoughts? BTW, I do plan to continue with graduate work as well. Thanks, ECL

Re: HP33S simulator/emulator

*Message #45 Posted by **Ed Look** on 6 Nov 2005, 10:13 p.m.,*
in response to message #44 by ECL

You flatter me.

I am a professor of chemistry.

It turns out that the calcs, HP or otherwise, to most chemists are more useful in teaching than research, as the synthetic guys (total potboilers) need only rather basic calculations generally doable on the back of an envelope like G. N. Lewis did and the theorists (complete numbercrunchers) either go the back of the envelope route or rely heavily on PCs or mainframes.

To me, the involvement in actual research calculation has been of the light duty type (quick and dirty short programs in a 33S to convert eV to wavenumber and vice versa, etc.), but the heavier (for us) usage has been in teaching. A bulk of this is in the basic statistical handling of grades, but also in use as a light, small, convenient, and highly portable machine to execute handy programs like ones to help index x-ray patterns, etc. in a classroom or teaching lab. Yes, this is normally done very efficiently in a computer, but in teaching it, not all areas have computer access and some that do don't have the right software.

Now having said all this... and from a chemist's vantage point, I personally DON'T LIKE graphing calculators... well, let me take that back a bit... I don't like the graphing aspect:

I think a student, especially an undergrad, should go through the motions of plotting whatever functions or curves he needs ON PAPER, aided by the output of a trusty HP RPN scientific programmable, to truly get the total feel and significance of the plot.

I have found that, especially for high school aged kids, but still significantly for college students, having the instant gratification of a visual output on a screen on a calculator robs the student of full understanding of the (chemical, physical, biological, statistical) meaning of the curve. Of course, you guys are obviously bright folk and won't have this problem, so for you all, it's probably okay. But for your more average performer, I hate it.

The only time I use my 48G, 48G+, or 49G+ is as a glorified scientific programmable; i.e., more programming capability and bettery equation or constants library (not necessarily faster; I once mimicked some FORTRAN programs that calculated some figures given some chemical or algebraic restrictions for convergence and it took literally overnight). For instance, that homemade powder pattern indexing program I mentioned above just CAN'T be done in a 33S or 32SII or equivalent- there just isn't the program or variable memory space available in them.

But aside from applications that demand more power, I find myself always reaching back most often for my 33S (at work) or 32SII (at home) as they are truly, the most convenient powerful machines (the others are more powerful, but bulkier and thus harder to carry, put on a cluttered surface, etc.)

Ah, look what you made me do... a ten mile long post... :p

Re: HP33S simulator/emulator

*Message #46 Posted by **ECL** on 7 Nov 2005, 2:51 a.m.,*
in response to message #45 by Ed Look

Ed,

Thanks for the response, very nice insights indeed.

I agree on the ease of use / un-clutteredness of the 33/32 series. Also, I noticed today, (obviously) I can access any program via only two keystrokes (XEQ & LABEL), which is certainly not true for deeply hidden progs in an obscure directory on my 49g+ :)

ECL

Re: HP33S simulator/emulator

*Message #47 Posted by **Ed Look** on 8 Nov 2005, 12:27 a.m.,*
in response to message #46 by ECL

Still, just a bit more RAM for program lines and memory registers in the 33S would be fabulous.

Re: HP33S simulator/emulator

*Message #48 Posted by **Jeff O.** on 25 Oct 2005, 12:50 p.m.,*
in response to message #1 by Valentin Albillo

To (at least attempt to) answer Valentin's question about the availability of a simulator/emulator for the 33S. As far

as I know, and I would welcome correction, there is no freely available simulator/emulator for the 33S. An emulator (their term) is available directly from HP, but it is not freely available to anyone. It is only available to "educators." Valentin, I don't believe that your occupation is known to this community, but perhaps you may qualify as an educator (your posts to this Forum are certainly educational.) If you do qualify, information is available here.

Re: HP33S simulator/emulator

*Message #49 Posted by **Valentin Albillo** on 26 Oct 2005, 4:15 a.m.,*
in response to message #48 by Jeff O.

Thanks for the info, Jeff, but I don't qualify as an educator.

Well, at least I tried ... Let's forget about this.

Thanks and best regards from V.

Re: HP33S simulator/emulator

*Message #50 Posted by **HrastProgrammer** on 28 Oct 2005, 4:58 a.m.,*
in response to message #49 by Valentin Albillo

Valentin,

If HP cannot provide an HP-33S emulator to YOU giving all your activities in this forum and further (but can provide it to some middle school teacher) then they are making a terrible mistake (in the absence of stronger words).

Best regards.

Re: HP33S simulator/emulator

*Message #51 Posted by **Valentin Albillo** on 28 Oct 2005, 5:44 a.m.,*
in response to message #50 by HrastProgrammer

Hi, HrastProgrammer:

Hrastprogrammer wrote:

"If HP cannot provide an HP-33S emulator to YOU giving all your activities in this forum and further [...] then they are making a terrible mistake [...]"

Thanks a lot for your kind, supportive words but I don't think anybody at HP gives a damn about what I may or may not do in this forum or elsewhere, and if someone actually does, I doubt they can pull the necessary strings to accomplish even such a minor feat as letting me have an HP33 simulator.

Nevertheless, it's probably the case that there's actually not much public interest in my proposal, as I know for sure there are a number of posters in this forum that do have said software, yet noone has said a word to me regarding this matter, either publicly or in private e-mail.

So it's best to forget about it; it would mean a lot of work for me and if there's no interest, I'd rather spend my time and efforts in more worthwhile endeavors.

Thanks again for your support and best regards from V.

Edited: 28 Oct 2005, 5:52 a.m.

Re: HP33S simulator/emulator

*Message #52 Posted by **HrastProgrammer** on 28 Oct 2005, 5:59 a.m.,*
in response to message #51 by Valentin Albillo

So it's best to forget about it; it would mean a lot of work for me and if there's no interest, I'd rather spend my time and efforts in more worthwhile endeavors.

I think you have a lot of MUCH (and I mean MUCH) better machines to deal with than HP-33S :-)

BTW, I enjoyed reading all your articles so I am keen on the next one ...

Re: HP33S simulator/emulator

*Message #53 Posted by **Valentin Albillo** on 28 Oct 2005, 6:40 a.m.,*
in response to message #52 by HrastProgrammer

Hi again, Hrastprogrammer !

Hrastprogrammer wrote: *"I think you have a lot of MUCH (and I mean MUCH) better machines to deal with than HP-33S :-)"*

Certainly, I was doing it for the people, not the machine, HP, or my own enjoyment ...

"BTW, I enjoyed reading all your articles so I am keen on the next one ..."

Thank you very much. Which are the latest you read ? Are you missing any of these ? :

```
HP-71B Math ROM Baker's Dozen Vol. 1
HP-71B Math ROM Baker's Dozen Vol. 2
HP-71B Fantastic Four
HP-71B Short & Sweet Sudoku Solver
HP-71B Sudoku Solver Sublime Sequel
Mean Matrices
HP-71B Minimax Polynomial Fit
```

If so, let me know and I'll send them to you in PDF format. "Mean Matrices", in particular, would probably interest you for sure !

Thanks again and best regards from V.

Re: HP33S simulator/emulator

*Message #54 Posted by **HrastProgrammer** on 28 Oct 2005, 6:49 a.m.,*
in response to message #53 by Valentin Albillo

It seems that I don't have the last three articles: "HP-71B Sudoku Solver Sublime Sequel", "Mean Matrices" and "HP-71B Minimax Polynomial Fit". So, you know my e-mail address ;-)

Re: HP33S simulator/emulator

*Message #55 Posted by **Werner** on 28 Oct 2005, 7:55 a.m.,*
in response to message #54 by HrastProgrammer

I'd like them, too! Werner

(deleted post)

*Message #56 Posted by **deleted** on 28 Oct 2005, 8:13 a.m.,*
in response to message #55 by Werner

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Re: Valentin's Articles - where to find them?

*Message #57 Posted by **Marcus von Cube, Germany** on 28 Oct 2005, 8:24 a.m.,*
in response to message #53 by Valentin Albillo

Quote:

```
HP-71B Math ROM Baker's Dozen Vol. 1
HP-71B Math ROM Baker's Dozen Vol. 2
HP-71B Fantastic Four
HP-71B Short & Sweet Sudoku Solver
HP-71B Sudoku Solver Sublime Sequel
Mean Matrices
HP-71B Minimax Polynomial Fit
```

I'd love to read them all. Were are they published? (I assume in Datafile, but I don't know were to find the publication.)

I would be glad, if you could point me to a source.

Marcus

Re: Valentin's Articles - where to find them?

*Message #58 Posted by **Valentin Albillo** on 28 Oct 2005, 9:08 a.m.,*
in response to message #57 by Marcus von Cube, Germany

Hi, Marcus:

Marcus posted:

"I'd love to read them all. Were are they published? (I assume in Datafile, but I don't know were to find the publication.) I would be glad, if you could point me to a source."

Thanks for your interest in my articles. They are indeed 'premiered' (published) in Datafile, and you can get this publication by following this link.

Once an article's been published in Datafile, I usually let six months or so pass by, then make it available at my web site, and it also usually spreads to other sites as well. After the six-months period has elapsed, you can easily find any available article by using Google, for instance:

Keywords: *"math rom baker dozen"*

immdiately returns a number of links, and the very first of them will already get you a PDF copy of that article.

Thanks again and best regards from V.

Re: HP33S simulator/emulator

*Message #59 Posted by **Marcus von Cube, Germany** on 28 Oct 2005, 8:20 a.m.,*
in response to message #51 by Valentin Albillo

Valentin,

> Quote:
>
> Nevertheless, it's probably the case that there's actually not much public interest in my proposal, as I know for sure there are a number of posters in this forum that do have said software, yet noone has said a word to me regarding this matter, either publicly or in private e-mail.

As the kind of collector who isn't interested in nice looking (probably broken) exhibits behind glass, I recently acquired a brand new 33s. My intend is to understand what are the specifics of this machine. I'm mainly interested in how calculators work and what can be done with them; this includes new machines as well as old ones.

If you were so kind to publish your software, either in their original form or in a revised version for the new calc, I would be delighted to play around with it, just out of curiosity! (I don't really need any of my calculators, for me they are just interesting toys.)

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HP Forum Archive 15

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HG48GX cable plug : where can I get it repaired ?

*Message #1 Posted by **Antoine M. Couëtte** on 24 Oct 2005, 4:47 a.m.*

Hello to all !

Problem with one of my HP48GX's : its cable plug (4 pin connector located next to IR transmitter / Receiver) no longer works . It went loose and some of its four pins show a different lenght as usual : one seems (very) short and two are (quite) long . After spending over one half hour on HP site, I have been unable to check whether there is technical support in France or even in Europe (seems there is some in the US) .

What are the options to get it repaired ?

Thanks for your help

Antoine M. Couëtte

antoine.m.couette@club-internet.fr

Re: HG48GX cable plug : where can I get it repaired ?

*Message #2 Posted by **HrastProgrammer** on 24 Oct 2005, 6:11 a.m.,*
in response to message #1 by Antoine M. Couëtte

Antoine, what have you done to the poor connector? :-)

Personally, I would try to correct the pins using thin pliers, pincers or something like that (while calculator is turned off, of course).

Best regards.

Re: HG48GX cable plug : where can I get it repaired ?

*Message #3 Posted by **I, Claudius** on 24 Oct 2005, 10:01 a.m.,*
in response to message #1 by Antoine M. Couëtte

Antoine: HP should hire you to test equipment, if it survives your usage, it should work for the general user ;-)

Probably the best solution is simply to order another cable from (since you're in Europe) Cynox:

http://www.cynox.de/eng/index.html?det=48G-Int

Re: HG48GX cable plug : where can I get it repaired ?

*Message #4 Posted by **HrastProgrammer** on 24 Oct 2005, 10:14 a.m.,*
in response to message #3 by I, Claudius

As I understood, the problem is not with the cable but with the connector on HP-48GX ...

Re: HG48GX cable plug : where can I get it repaired ?

*Message #5 Posted by **Antoine M. Couëtte** on 24 Oct 2005, 1:14 p.m.,*
in response to message #4 by HrastProgrammer

Thanks to both of you I, Claudius and Hrastprogrammer for your replies.

As Hrastprogrammer indicates, the problem is not with cables - I have a few which work quite well - but with the HP48GX connector itself.

As it is no longer firmly attached (glued ?) to the HP48GX, the cable connector - should I write cable plug ? - can move around a little but still seems to be (fully ?) connected to the machine itself. I attempted to make the 4 pins look " of reasonable lenght " because with thin pliers I can rather easily make them - one by one - stick out more or less from their support : if I "push" on one, I can insert it more deeply into its support and conversely the other way around . Apart from that the pins do no seem do be bent and I feel nothing different when I attempt connecting a four hole cable .

Still my HP48GX desperately remains "cable deaf". Any other idea ?

Thanks again for your kind attention.

Antoine

Re: HG48GX cable plug : where can I get it repaired ?

*Message #6 Posted by **Tony Duell** on 24 Oct 2005, 2:33 p.m.,*
in response to message #5 by Antoine M. Couëtte

It sounds as though the 4 pin plug has broken away from the PCB. If it's just come unsoldered, then the repair is possible, if you've ripped the PCB pads off as well, it's going to be a lot harder.

Remember that the 48 is not intended to be taken apart. Much has been written here about opening up the later HPs, basically there are heat-stakes under the IR/card cover, and more under the metal overlay on the front. I generally carefully peel off the overlay, then drill off the tops of the heatstakes.

You can then attempt to re-solder the connector to the PCB.

Since these machines are not intended to be taken apart, HP never _repaired_ them. They did offer a replacement service at one point, but I suspect that's long since ended.

Re: HG48GX cable plug : where can I get it repaired ?

*Message #7 Posted by **Antoine M. Couëtte** on 24 Oct 2005, 3:25 p.m.,*
in response to message #6 by Tony Duell

Thanks Tony - we have the same first name :-) - for your very valuable advice and information.

As I feel TOTALLY unable to attempt repairing my HP48GX myself, I am left with 2 options : - either find somebody of confidence who can repair it for me, - or leave it as it is . The IR data transfer works fine, but as I happen to need data transfer in excess of 2 mb, it DOES take time with IR whether it be through XSEND/XRECV or through KERMIT .

Thanks anyway for confirming me - a very important point to me - that HP does not maintain these wonderful machines - actually WONDERFUL to me since I am mostly using them as

super/duper HP41's thanks to the fantastic HP41 X/Y/Z Emulator by Hrastprogrammer - more comments on this later and soon !!!

Best Regards from Antoine (some people keep calling me "Tony" now and then :-))

(deleted post)

*Message #8 Posted by **deleted** on 24 Oct 2005, 9:50 p.m.,*
in response to message #7 by Antoine M. Couëtte

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Re: HG48GX cable plug : where can I get it repaired ?

*Message #9 Posted by **James M. Prange (Michigan)** on 25 Oct 2005, 3:22 a.m.,*
in response to message #8 by deleted

I think Don meant: FixThatCalc.com.

Regards,
James

Re: HG48GX cable plug : where can I get it repaired ?

*Message #10 Posted by **Antoine M. Couëtte** on 25 Oct 2005, 5:41 a.m.,*
in response to message #9 by James M. Prange (Michigan)

Thanks to you James and Don for your kind information on how I can get HP48GX repaired. I will shortly make my decision to get it repaired or leave it as it is.

Best Regards from

Antoine

Re: HG48GX cable plug : where can I get it repaired ?

*Message #11 Posted by **Tony Duell** on 25 Oct 2005, 6:33 a.m.,*
in response to message #7 by Antoine M. Couëtte

It's a pity there's no active HP calculator club in France any more, this was the sort of thing that some club members would have at least looked at.

I do do some repairs for HPCC members and their guests _but only if I meet the person face to face at a club meeting_. Sorry about that, but there have been misunderstandings (relating to condition mostly) in the past, maybe my fault, maybe the other chap's (I don't want to start a flamewar), and I don't want it happening again. Actually being able to talk to the person, show him the problem in the machine and discuss the possible repairs helps a lot.

(deleted post)

*Message #12 Posted by **deleted** on 25 Oct 2005, 7:37 a.m.,*
in response to message #11 by Tony Duell

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with followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: HG48GX cable plug : where can I get it repaired ?

*Message #13 Posted by **Tony Duell** on 25 Oct 2005, 8:07 a.m.,*
in response to message #12 by deleted

To be honest, SMD repair is not that hard when you've done it a few times. And the pins on this connector are at 2mm spacing, so it's not even that fine a pitch (compared to some of the ICs I've hand soldered). Of course if the pads on the PCB are damaged, it's a lot harder.

If you can find somebody who does SMD rework, it would be literally a few minutes job to re-solder the connector.

If you do decide to open the machine up, of course be aware that the chips are easy to damage by static. Don't touch anything inside when you get the cover off. If you're going to let somebody else do the soldering, then when you've got the machine apart, put the cover back over the board and take the whole lot to him. Do NOT remove the PCB from the keyboard, getting it aligned with the display connections is a nasty job.

I've found the best tool to remove the stakes is a 3.5mm (or sometimes 4mm) twist drill bit held in my fingers. Yes, it's slower than a power tool, or even a hand wheelbrace, but it's a lot more controllable.

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41Notes (New Version - Search)

*Message #1 Posted by **Gileno** on 23 Oct 2005, 9:13 a.m.*

41Notes (HP-41CX or HP-41C/CV with X-Function)

My small contribution to store small notes

```
01 LBL "41NOTES"
02 "NOTES"
03 RCLPTA
04 FIX 0
05 CF 29
06 CF 21
07 LBL 52
08 "A:F:I:P:V?   " '3 spaces
09 ASROOM
10 ARCL X
11 AVIEW
12 GETKEY
13 X=0?
14 GTO 15
15 CLD
16 XEQ IND X
17 GTO 52
18 LBL 11
19 CLA
20 AON
21 PROMPT
22 AOFF
23 APPREC
24 RTN
25 LBL 24
26 SF 25
27 "NOTES"
28 20 ' Modify for large number of notes
29 PURFL
30 CRFLAS
31 RTN
32 LBL 15
33 CLD
34 FIX 2
35 STOP
36 LBL 62
37 CLX
38 SEEKPT
39 SF 25
40 LBL 61
41 GETREC
42 AVIEW
43 PSE
44 "-:+:D:R:S?"
45 FC? 25
46 GTO 52
47 AVIEW
48 GETKEY
49 X=0?
50 GTO 52
51 XEQ IND X
52 GTO 61
53 LBL 51
54 CLX
55 SEEKPT
56 RCLPT
57 INT
58 1
```

```
59 -
60 SEEKPT
61 GTO 61
62 LBL 14
63 DELREC
64 GTO 61
65 LBL 43
66 CLX
67 SEEKPT
68 SF 25
69 LBL 00
70 GETREC
71 FC? 25
72 GTO 52
73 AVIEW
74 FS? 55
75 PRA
76 GTO 00
77 LBL 53
78 "SRC?"
79 AON
80 PROMPT
81 AOFF
82 CLX
83 SEEKPT
84 POSFL
85 INT
86 SEEKPT
87 GTO 61


Instructions


XEQ "41NOTES"


First time: press I 'Initialize "NOTES" file in X-Memory


Option


A ' Add Notes (Max 24 bytes) R/S
E ' End
I ' Initialize (First time or Clear all Notes !!!)
P ' Print or View Records
V ' View ------ + ' Next Record
                - ' Previous Record
               D ' Delete Present Record
               R ' Return
S ' Search a string


* In the main menu if there is not any key pressed in 10 seconds the program concludes.
* In the visualization way if there is not any key pressed in 10 seconds returns for the main
menu
```

Edited: 23 Oct 2005, 6:03 p.m. after one or more responses were posted

Re: 41Notes (New Version - Search)

*Message #2 Posted by **Karl Schneider** on 23 Oct 2005, 3:12 p.m.,*
in response to message #1 by Gileno

Gileno --

A few questions about your program:

1. Line 75: What is **PRA**?

2. Line 78: Should **SRC?** be a text string in quotes?

3. Line 87: **GOTO** should be GTO.

-- KS

Re: 41Notes (New Version - Search)

*Message #3 Posted by **Gileno** on 23 Oct 2005, 6:03 p.m.,*
in response to message #2 by Karl Schneider

Line 75:PRA = Contents of the ALPHA register is printed. Line 78: Should SRC? be a text string in quotes? Yes Line 87: GOTO should be GTO. Yes

Re: 41Notes (New Version - Search)

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 23 Oct 2005, 11:56 p.m.,*
in response to message #3 by Gileno

Hi, Gileno;

just to add a suggestion about PRA. What about mentioning that PRA can be found in, at least, three standard HP ROM? Meanning the 82143A standard HP41 printer, the HPIL module (when printer is active through the small mode key) and in the 82242A (IR printer module). These three modules offer PRA.

Cheers.

Luiz (Brazil)

Re: 41Notes (New Version - Search)

*Message #5 Posted by **Gileno** on 24 Oct 2005, 11:44 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

In any one of the described manners the use of the instruction PRA it is identical. Send for printer of the content of the alpha register.

Re: 41Notes (New Version - Search)

*Message #6 Posted by **Howard Owen** on 24 Oct 2005, 6:58 p.m.,*
in response to message #5 by Gileno

Your description is correct, as far as it goes. I think the suggestion may have been to include more informaton in the documentation of your program. You could also explain that flag 55 is the "printer existence flag." For the IR printer module and the non-HP-IL pronter, the flag is on if the module is present, regardless of whether the printer is on or in range as the case may be. With the HP-IL module, flag 55 (and flag 21) are set if there is an active loop with a printer or display device on it.

Re: 41Notes (New Version - Search)

*Message #7 Posted by **Geir Isene** on 25 Oct 2005, 2:09 p.m.,*
in response to message #1 by Gileno

And for better readability with my VIM highlight plugin:

```
001 *LBL "41NOTES"
```

```
002  'NOTES
003  RCLPTA
004  FIX 0
005  CF 29
006  CF 21
007  LBL 52
008  'A:F:I:P:V?   "
009  ASROOM
010  ARCL X
011  AVIEW
012  GETKEY
013  X=0?
014  GTO 15
015  CLD
016  XEQ IND X
017  GTO 52
018  LBL 11
019  CLA
020  AON
021  PROMPT
022  AOFF
023  APPREC
024  RTN
025  LBL 24
026  SF 25
027  'NOTES
028  20
029  PURFL
030  CRFLAS
031  RTN
032  LBL 15
033  CLD
034  FIX 2
035  STOP
036  LBL 62
037  CLX
038  SEEKPT
039  SF 25
040  LBL 61
041  GETREC
042  AVIEW
043  PSE
044  '-:+:D:R:S?
045  FC? 25
046  GTO 52
047  AVIEW
048  GETKEY
049  X=0?
050  GTO 52
051  XEQ IND X
052  GTO 61
053  LBL 51
054  CLX
055  SEEKPT
056  RCLPT
057  INT
058  1
059  -
060  SEEKPT
061  GTO 61
062  LBL 14
063  DELREC
064  GTO 61
065  LBL 43
066  CLX
067  SEEKPT
068  SF 25
069  LBL 00
070  GETREC
071  FC? 25
072  GTO 52
073  AVIEW
074  FS? 55
075  PRA
076  GTO 00
077  LBL 53
078  'SRC?
079  AON
080  PROMPT
081  AOFF
082  CLX
```

```
083  SEEKPT
084  POSFL
085  INT
086  SEEKPT
087  GTO 61
```

Re: 41Notes (New Version - Search)

*Message #8 Posted by **Geir Isene** on 26 Oct 2005, 2:26 a.m.,*
in response to message #1 by Gileno

How about alarms for notes?

Re: 41Notes (New Version - Search)

*Message #9 Posted by **Gileno** on 26 Oct 2005, 8:59 a.m.,*
in response to message #8 by Geir Isene

Maybe in the next version :-)

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HP39G+ Bug - CN408905807

*Message #1 Posted by **Eddie Shore** on 23 Oct 2005, 9:05 a.m.*

If I put the words ERASE FREEZE consecutively, and with no other commnads between them, the calculator turns off.

Re: HP39G+ Bug - CN408905807

*Message #2 Posted by **GE** on 24 Oct 2005, 4:38 a.m.,*
in response to message #1 by Eddie Shore

It doesn't turn off, only the screen is blanked and 'frozen' in this state. I think any key press should revive your calc. If not, that is a real bug.

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Weird, Unintentional "XEQ" out to PPC ROM (HP-41CX)

*Message #1 Posted by **James F. Chumbley** on 23 Oct 2005, 3:14 a.m.*

OK, It was my fault, and I know what I did to cause it. I pressed XEQ ALPHA CK ALPHA, and the -41CX must have executed a "jump" out to the PPC ROM and begun execution of the "CK" function (clear key assignments). What I really wanted to do was to execute the internal CLKT function, but I pressed the wrong keys by mistake. The problem is that I don't know how to reliably stop execution of the PPC's CK function (the -41CX just kept on running and running and running somehow) and eventually terminated with the "Memory Lost" error message! Well this certainly stopped execution of CK all right, but it seems to me that the program pointer was still pointing to the PPC ROM.

Here's the question: Assuming that I go back in, reload from magnetic card the now-erased program (which was erased as a result of the "Memory Lost" condition), and reassign the also now-erased user key assignment, which was only one function assigned to the "A" or 11 key, when I now press the "A" key in User mode, will the -41CX begin searching for the executable global label from within Main Memory or from within the PPC ROM?

Also, is this documented anywhere in the -41CX's manual set or within the PPC's very extensive manual? I have not quite yet completely memorized all 492 pages of the PPC manual, but I want to assure everyone that I do take it to bed with me every night.

(Sure I do.)

Thanks, Jim Chumbley

Re: Weird, Unintentional "XEQ" out to PPC ROM (HP-41CX)

*Message #2 Posted by **Eric Smith** on 23 Oct 2005, 9:36 p.m.,*
in response to message #1 by James F. Chumbley

If you got a "MEMORY LOST", the program pointer should be left pointing into the (now empty) RAM.

AFAIK, the search order for alpha labels is not different based on whether the program pointer is in ROM or RAM.

The key assignment functions in the PPC ROM are incompatible with any use of time module/41CX alarms. The routines were written before the time module was introduced, and the user community had never seen "buffers" in the 41 memory before that, so it was assumed that the key assignments would always start at address 0xc0, which unfortunately is not true if there are any buffers such as alarms.

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HP15C - differences in displays

*Message #1 Posted by **Artur - Brasil** on 22 Oct 2005, 9:51 p.m.*

Hi to everyone!

I was very surprised when I was trying to replace one 15C bad display for an HP12C display and they were not the same.

The 15C has a higher serial number than 12C: 2901B17387 versus 2534B96550.

Note the contacts in both displays and PCBs. The old ones are thin and compared to the newest model.

Old HP-12C

http://www.elibertas.com.br/Artigos/Eletronica/LastModels/Old_disp.gif
http://www.elibertas.com.br/Artigos/Eletronica/LastModels/Old_pcb.gif

Newest HP-15C

http://www.elibertas.com.br/Artigos/Eletronica/LastModels/New_disp.gif
http://www.elibertas.com.br/Artigos/Eletronica/LastModels/New_pcb.gif

Re: HP15C - differences in displays

*Message #2 Posted by **Eric Smith** on 22 Oct 2005, 10:08 p.m.,*
in response to message #1 by Artur - Brasil

Could you please post the part numbers of the chips in both calculators, as well as the part numbers of the circuit boards (typically 5180-xxxx, 00xxx-600xx, or 00xxx-800xx)? If it's not too much trouble, high-res photos of both sides of both boards would be nice. I'm collecting info for my Voyager internals web page, and would like to link each entry to example photos.

I'm guessing that your 15C has the 1LQ9-0325 processor and uses a 4:1 multiplexed display instead of the older 2:1. The 4:1 mux only needs about 29 contacts (25 segments x 4 backplanes), vs. about 52 for 2:1 mux. The drawback of the higher mux ratio is that the contrast isn't quite as good.

Unfortunately the displays aren't interchangeable, as I's sure you've realized. But it shouldn't be too hard to find a 12C of comparable vintage to the 15C, which should then have the 4:1 muxed display.

Best regards,
Eric

Edited: 22 Oct 2005, 10:57 p.m.

Re: HP15C - differences in displays

*Message #3 Posted by **Artur - Brasil** on 25 Oct 2005, 8:30 a.m.,*

in response to message #2 by Eric Smith

Hi, Eric

On the weekend I'll take the pictures, ok? Best regards Artur

---

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33s - If a wish-list were solicited..

*Message #1 Posted by **ECL** on 22 Oct 2005, 8:51 p.m.*

I'd suggest the following improvements:

1. Multichar variables (even limited to 3 would help) 2. Eqn editing w/out having to backspace (the direction key) 3. GTO for equations lib (jump to any eqn), or basic directories. 4. Ability to call on a stored equation from within a program. 5. Slightly smaller keys (more space between them).

I'd have no need for a bulky graph calc if the aformentioned were incorporated in a future model. ECL

Re: 33s - If a wish-list were solicited..

*Message #2 Posted by **Karl Schneider** on 22 Oct 2005, 10:06 p.m.,*
in response to message #1 by ECL

ECL's HP-33S wish list:

1. *Multichar variables (even limited to 3 would help)*
2. *Eqn editing w/out having to backspace (the direction key)*
3. *GTO for equations lib (jump to any eqn), or basic directories.*
4. *Ability to call on a stored equation from within a program.*
5. *Slightly smaller keys (more space between them).*

Regarding item 1: This would be very useful in certain situations, but would likely require a change of paradigm, and result in some inconsistency how variables are handled. Such things must be thought completely through. (Would one really want to introduce the complexity of the 42S?)

Item 2: Agreed. I would add "support of implicit multiplication" to make equations more compact -- e.g., 2(X+Y) instead of 2*(X+Y).

Items 3 and 4: Also agreed, but this would require the ability to assign an identifier to each stored equation. Maybe an "EQN" command that would work similar to the flexible "MATRIX" on the HP-15C? (e.g., RCL MATRIX A", "MATRIX 9").

Item 5: Not entirely agreed. I would advocate a return to the colors and form factor similar to the original 32SII.

I would also ask for good and complete complex-number mathematical functions, at least as good as those in the 15C and 42S. The functions that are present -- besides being incomplete -- are quite helpful for programming, but are cumbersome for inteactive calculations.

-- KS

Edited: 22 Oct 2005, 10:09 p.m.

Re: 33s - If a wish-list were solicited..

*Message #3 Posted by **Eddie Shore** on 23 Oct 2005, 9:03 a.m.,*
in response to message #1 by ECL

Wish list of 33S:

1. Multivariable names 2. Numerical label numbers, steps are included with each program 3. Classic HP colors, I really like the 48S series color scheme 4. Derivative and summation function (although they can easily be programmed) 5. Input Equation prompt

Re: 33s - If a wish-list were solicited..

*Message #4 Posted by **Wayne Brown** on 23 Oct 2005, 9:44 a.m.,*
in response to message #1 by ECL

Wish list: An HP-41 style keyboard and color scheme.

Re: 33s - If a wish-list were solicited..

*Message #5 Posted by **I, Claudius** on 23 Oct 2005, 9:00 p.m.,*
in response to message #4 by Wayne Brown

Yours is the best wish of all, almost any old HP case and keys would be better than what it currently is.

Re: 33s - If a wish-list were solicited..

*Message #6 Posted by **brian healy** on 24 Oct 2005, 9:39 a.m.,*
in response to message #1 by ECL

Agree with your suggestions, I would also like to see a large enter key again, and a return to the classic colors. I can handle the green secondary functions on the aluminum face plate, but I don't like the purple. Also, to my eyes, the dark purple gets lost on the dark right-shift key. I want rectangular keys again, I think they should abandon the "chevron" layout. I don't like styling gimmicks, so I would prefer something similar to the voyager or pioneer series.

What I hope they keep on future models (hopefully there will be future models) are the 2 line screen, a cursor key, and the separate buttons for solve, modes, and display. And it goes without saying, but I'll say it anyway, KEEP RPN!!! I also like the large memory, though it's hampered by the single character variable names. It allows me to put messages in my programs, however.

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** HELP ** Need HP-67 Card Reader Alignment

*Message #1 Posted by **Mike DiGirolamo** on 22 Oct 2005, 4:31 p.m.*

Hi Gang,

I've replaced a few deterioriated "gummy wheels" in the drives of HP-67's, one HP-97 and one in an external drive of an HP-41CX. In all cases of HP-67 replacement's I get a "error" message when feeding a card through after making the wheel fix. Ultimately, upon taking those units apart again and giggling things a bit, the problem has gone away. The giggle fix has always been a mystery to me. Now I'm working on an especially nice one and nothing I do seems to correct the problem. I've checked continuity sequencing for the "leaf contacts," and I don't see any wires that have come loose. Still when I feed the "Diagnostic Card" through, the "error" message presents.

1. Is there something I'm overlooking here? 2. Is there an alignment procedure for the leaf contacts/head? 3. Is there a manual or CD of alignment procedures for the 67/97 series available?

Any and all suggestions are welcomed..

Help please!

Mike DiGirolamo

Re: ** HELP ** Need HP-67 Card Reader Alignment

*Message #2 Posted by **Jon** on 22 Oct 2005, 4:56 p.m.,*
in response to message #1 by Mike DiGirolamo

Hi Mike:

First look at the magnetic head. You should read aprox 50 ohms in the orange-blue wires and also in the red-yellow. If that is not ok you need a replacement part.

Good luck

Jon

Re: ** HELP ** Need HP-67 Card Reader Alignment

*Message #3 Posted by **Mike DiGirolamo** on 22 Oct 2005, 6:02 p.m.,*
in response to message #2 by Jon

Jon,

Thanks for your post.

Is the stated resistance with the head in-line or removed?

Mike

PS Where does one find a replacement head, if needed :(

Re: ** HELP ** Need HP-67 Card Reader Alignment

*Message #4 Posted by **Mike DiGirolamo** on 22 Oct 2005, 6:32 p.m.,*
in response to message #2 by Jon

Jon,

I measure 50 - 58 ohms when head is disconnected.

Any other thoughts? Alignment?

Mike

Re: ** HELP ** Need HP-67 Card Reader Alignment

*Message #5 Posted by **Jon** on 23 Oct 2005, 5:10 a.m.,*
in response to message #4 by Mike DiGirolamo

Next step is the tantalum capacitor. You should replace the one at the top of the card reader´s circuit. 6 to 10uF will work fine. Take care with the polarity. If you send a photograph I will indicate which one must be replaced.

Good luck

Jon

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Airforce Modules

*Message #1 Posted by **Matthias Wehrli** on 22 Oct 2005, 12:28 p.m.*

Hi,

Trying to update my HP-41 Module Database I want to look for some manuals of some modules made for the US Airforce. I know there are websites with downloadable manuals of US Army material, but I do not know their URL. Maybe someone can help me (and us) finding manuals of these modules (arrount 8 different modules).

Matthias

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newer hp33

*Message #1 Posted by **david bowers** on 22 Oct 2005, 11:44 a.m.*

hi i called hp in the states from taiwan, they said they only ship models made after august 05, does that mean i will get the latest where the digit spacing seems further apart as someone claimed last week, this is on top of the extra pixels in the comma or whatever, can anyone else confirm that. cheers david

Re: newer hp33

*Message #2 Posted by **John Smitherman** on 24 Oct 2005, 10:02 p.m.,*
in response to message #1 by david bowers

> Quote:
>
> hi i called hp in the states from taiwan, they said they only ship models made after august 05, does that mean i will get the latest where the digit spacing seems further apart as someone claimed last week, this is on top of the extra pixels in the comma or whatever, can anyone else confirm that. cheers david

David, I have a 524... built 33s with:

o Improved display

o Better keypad

o Bug fixes

I hope that this helps. The 33s is not a bad machine but as we have discussed on this forum it could have been better. One thing is for sure - it's got a face that only a mother could love.

Regards,

John

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41CV Back from the Dead

*Message #1 Posted by **Les Bell** on 22 Oct 2005, 1:49 a.m.*

A few days ago, I thanked HrastProgrammer for posting the story of his successful 48G repair; as I mentioned, I like "happy ending" stories.

This motivated me to drag out a 41CV which had been languishing in my desk drawer - it had long ago suffered from corrosion damage, and while I'd screwed in a small piece of bent metal with a soldered connection to the expansion connector block, that fix hadn't "taken" and it subsequently failed again. So, feeling inspired by HrastProgrammer, I dragged it out and disassembled it. There was a small bit of either corrosion damage or wear of some kind where the expansion block contacted the main board, so I cleaned that up, reassembled the calculator, inserted batteries and was rewarded with a "MEMORY LOST" message. A simple fix, really.

I'm left with one, slight, cosmetic problem, though. In peeling off the rubber feet, a couple of them seem to have "delaminated" - in prying up the first foot, it left behind a thinner layer of rubbery plastic which came off separately. Rather than use a sharp knife on the second one, I used a screwdriver to pry it up, but this just "scrunched up" the thin layer in such a way that I couldn't flatten it out again. In the end, I just peeled those two feet apart and threw away the inner layer, so now they are noticeably thinner than the other two (which had peeled off successfully). They're not particularly securely stuck in place now, either.

Has anyone else encountered this? My suggested fix is just to peel apart *all* the feet, and then reattach them to the calculator with some rubber cement - the feet will be a bit thinner, but I can live with that. Any other suggestions?

Best,

--- Les
[http://www.lesbell.com.au]

Re: 41CV Back from the Dead

*Message #2 Posted by **Raymond Del Tondo** on 22 Oct 2005, 2:27 a.m.,*
in response to message #1 by Les Bell

Hi,

the old adhesive tape becomes 'greasy' after years,
you can use a short strip of normal double tape which
you cut suitable pieces for the rubber feet.

HTH

Raymond

Re: 41CV Back from the Dead

*Message #3 Posted by **Les Bell** on 22 Oct 2005, 3:24 a.m.,*
in response to message #2 by Raymond Del Tondo

Of *course!* [Slaps forehead]. It's *tape!*

Thanks, Raymond. I'll pick up some tape tomorrow, and have the calc back into good-as-new condition.

Best,

--- Les
[http://www.lesbell.com.au]

Re: 41CV Back from the Dead

*Message #4 Posted by **HrastProgrammer** on 22 Oct 2005, 3:12 a.m.,*
in response to message #1 by Les Bell

Hi Les,

I am very happy to hear about your "happy ending" story :-)

Re: 41CV Back from the Dead

*Message #5 Posted by **Les Bell** on 22 Oct 2005, 3:25 a.m.,*
in response to message #4 by HrastProgrammer

Thanks, HrastProgrammer. Now, let's hope this inspires someone else to fix an ailing calc, as you inspired me.

Best,

--- Les
[http://www.lesbell.com.au]

Re: 41CV Back from the Dead

*Message #6 Posted by **James F. Chumbley** on 23 Oct 2005, 3:18 a.m.,*
in response to message #5 by Les Bell

Yeah, yeah, I like it! But where can I get the tape, and what kind should I ask for. I feel so stupid when I go into a hardware store and don't know the right names for things. And I have a degree in Mechanical Engineering! Doesn't help.

Thanks, Jim

Re: 41CV Back from the Dead

*Message #7 Posted by **James F. Chumbley** on 23 Oct 2005, 3:20 a.m.,*
in response to message #6 by James F. Chumbley

One more thing: Have you guys ever tried "Goo Gone" to remove unwanted adhesives? The stuff's magic!

Re: 41CV Back from the Dead

*Message #8 Posted by **James F. Chumbley** on 23 Oct 2005, 3:20 a.m.,*
in response to message #6 by James F. Chumbley

One more thing: Have you guys ever tried "Goo Gone" to remove unwanted adhesives? The stuff's magic!

Re: 41CV Back from the Dead

*Message #9 Posted by **David Smith** on 23 Oct 2005, 2:20 p.m.,*
in response to message #6 by James F. Chumbley

You want carpet tape. It is a double sided adhesive tape. If you can find it use the black stuff that is for outdoor carpets. It looks really close to the original stuff.

Re: 41CV Back from the Dead

*Message #10 Posted by **donald wallace** on 24 Oct 2005, 9:29 a.m.,*
in response to message #1 by Les Bell

Hi Les, how are you?

Hey, you're kidding, right?!

Don W

Re: 41CV Back from the Dead

*Message #11 Posted by **Les Bell** on 24 Oct 2005, 11:16 p.m.,*
in response to message #10 by donald wallace

Flat out like a lizard drinking, Don.

Best,

--- Les
[http://www.lesbell.com.au]

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ThinkJet 2225B Question

*Message #1 Posted by **Tomas Fischer** on 21 Oct 2005, 7:55 p.m.*

Hi,
I have a ThinkJet 2225B printer and wonder if and where can I get the ink cartridge and does anyone know if it is possible to re-cell the battery? I never used this printer before so it is all new to me.
Any help will be greatly appreciated.
Thank you, Tomas.

Re: ThinkJet 2225B Answer

*Message #2 Posted by **Etienne Victoria** on 22 Oct 2005, 6:24 a.m.,*
in response to message #1 by Tomas Fischer

Hi Tomas,

1) To rebuild the 2225B battery, you will need : 6 Sub Cs Ni-CADs or NiMh, one picofuse if the one in the pack is burned, strength.

Choosing Ni-CADs or NiMh is a matter of use and taste. You'll find reasonable, skilled people or even ayatollahs defending opposite views. See posts and flames about this elsewhere in this Forum.

1a) Open the thing : The case is not welded but snapped, just exert enough pressure with the largest flat screw driver as the innards are tuck with very strong double-sided tape.

NOTE polarity of the existing cells connection alongwith picofuse position!!!

1b) Desolder and dispose/recycle the old cells SAVING the picofuse you'll find between them.

1c) Assemble the new cells in series with the picofuse (picofuse position & polarity not strategic)

1d) Resolder to the pack circuit, respecting polarity, and insert in pack with very strong double-sided tape ON THE BOTTOM.

1e) If you really wish to recreate new problems and stress when opening again, apply same tape to secure the cover.... Otherwise refrain...

1f) Charge outside the Thinkjet, monitoring carefully smells, gassing, funny noise....

1g) Test voltage at 7,2V loaded and use.

2) You may purchase the Thinkjet batteries...just anywhere on the Web or real world. They are still for sale new.

I think they come in black, blue or red.

Being in Europe, I did not test US Webstores but you may try Here (US) or here

Hp is now just a major paper and ink cartridge "manufacturer"/reseller and they incidentally distribute computers and printers to fit on their cartridges.

Cheers from France!

Etienne

Edited: 22 Oct 2005, 4:25 p.m.

Re: ThinkJet 2225B Question

*Message #3 Posted by **Wilson (Bill) Holes** on 22 Oct 2005, 6:19 p.m.,*
in response to message #1 by Tomas Fischer

Ink cartridges for the thinkjet are also available in the US from Carrot Ink (carrotink.com). Quick delivery and usually a bit less expensive.

Re: ThinkJet 2225B Question

*Message #4 Posted by **HANK** on 23 Oct 2005, 12:11 p.m.,*
in response to message #1 by Tomas Fischer

I was able to get new Think Jet ink cartriges from HPshopping. Batteries Plus rebuilt three battery packs for me for a reasonable price.

You will have a problem removing the pack cover because of the double sided "stickey" tape used to keep the pack sealed. Use great care and you should be able to slowly pry the cover off of the pack.

Hank

Re: ThinkJet 2225B Question

*Message #5 Posted by **Tony Duell** on 24 Oct 2005, 2:24 p.m.,*
in response to message #4 by HANK

When dismantling the 2225B battery pack, I found it helped to remove the little catch that locks it into the printer. You can easily flick the 'barb' on that part and then slide it out with the spring.

After releasing the cover on all edges (it's got clips all round), I use a flat blade to prise it from the cells

I also found it was useful to unplug the 2 connectors from the charger PCB, to remove the PCB (it's just pressed onto the pegs, but take care as you can break the pegs off), and unclip the charger plug from the back of the unit. A long, thin, screwdriver inserted through the hole for said plug helps in prising the cells from the base.

Re: ThinkJet 2225B Question

*Message #6 Posted by **Tomas Fischer** on 24 Oct 2005, 8:10 p.m.,*
in response to message #5 by Tony Duell

Thank you all for the helpfull tips. I'll order the Sub C and will try to follow your instructions. Upon completion I will report back :)
Thanks again...Tomas

Re: ThinkJet 2225B Question

*Message #7 Posted by **Garth Wilson** on 25 Oct 2005, 12:09 a.m.,*
in response to message #6 by Tomas Fischer

Many years ago when my Thinkjet's rechargeable battery pack went south, I actually operated it on a little 9V battery for a short time, until I made a power supply for it. The 9V battery would only operate the printer for six full pages before becoming unable to supply enough current, but then it still had most of its life left for other uses. The power supply I made cost me fifty cents. I had everything I needed except one diode, and the diode was fifty cents. The power supply puts out a regulated +7.8V for the printer, plus +5V and an unregulated -12V for other things I might use it for.

Re: ThinkJet 2225B Question

*Message #8 Posted by **Etienne Victoria** on 25 Oct 2005, 5:21 p.m.,*
in response to message #6 by Tomas Fischer

Hi again Tomas, all

Just to let you know that I moved the compiled posts to a small article in the appropriate museum section.

Thanks

Etienne

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HP 12C Promo Question

*Message #1 Posted by **Mary** on 21 Oct 2005, 10:39 a.m.*

Hello,a few months ago, I posted a question about the 12c model, asking what you would like to see in terms of a 25th anniversary promotion that we are working on (I work on advertising for HP and we are currently in the process of preparing for the 25th anniversary of the 12C calculator model-HP's longest and best-selling calculator). The responses were wonderful, thank you so much!

We are now looking for your positive comments/experiences you've had using the 12c model. What do you love most about the 12c and do you have any interesting or funny stories to tell? How did the 12c make an impact on your life? thank you! Mary

Re: HP 12C Promo Question

*Message #2 Posted by **blurdybloop** on 21 Oct 2005, 2:10 p.m.,*
in response to message #1 by Mary

One of the secrets of the HP-12c's success, in my opinion, is its cosmetics. It has a "professional" look to it that none of the other current production HP models, including the HP-12c Platinum, have.

Let's face it, the current line of scientific calculators *look* disposable, as do the 10bII and 17bII+. The 12c Platinum isn't as bad, but it looks like an Asian clone instead of "the real thing"....oh wait, that's what it is...

The 12c may be slow and feature-impaired by modern standards; but for the community that it serves, it is fast enough (when what is wanted is the result of a single calculation, there isn't much difference between 1 second and 1.5 seconds...) and has the needed features. Where it falters, of course, is for complex and repetitive calculations; but most of the users don't do either.

Interestingly, for a simple mortgage payment calculation, the HP-12c is *slower* than the HP-70!

I would like to echo the request for a 25th anniversary model that can have its microcode changed to become a 15c or 16c.

Re: HP 12C Promo Question

*Message #3 Posted by **Arnaud Amiel** on 21 Oct 2005, 3:20 p.m.,*
in response to message #1 by Mary

To me, the success of the 12c is of course due to the fact that it looks different and good (though dated). But also it is simple and easy to use! All of its features are directly accessible usually with one or 2 key presses. No complex menus. I have one at work. When I need to make a simple calculation, I get the result faster by taking the 12c from my drawer, then from its slip case and use it, than it takes me time to even start a calculator program on my computer.

Arnaud

Re: HP 12C Promo Question

*Message #4 Posted by **Peter Geiser** on 21 Oct 2005, 6:48 p.m.,*
in response to message #1 by Mary

Hi Mary

The look and feel of the Voyager series (all of them, from 10C to 16C) is unbeaten yet!

The keys have an excellent feeling, and even after dozens of years of wear they still work as on the first day.

The format is also great, fitting into a shirt pocket.

And finally, its use is very simple, and yet it offers a good number of features. I think in those days, an engineer had to think hard of how best to use the limited resources, and create the best possible solution.

Looking forward to a 25 years edition.

Oh: will there be other jubilee editions of calculators? Such as a 30 year anniversary edition of HP67? Or the whole Voyager series re-launched?

Regards
Peter

Re: HP 12C Promo Question

*Message #5 Posted by **Karl Schneider** on 22 Oct 2005, 4:23 p.m.,*
in response to message #1 by Mary

I'd echo the comment of "blurdybloop" that much of the enduring appeal of the original HP-12C is based on its classy appearance.

There's not much time left to develop anything significantly new for a "25th Anniversary Edition", and there's nowhere on the face to put special annotations without cheapening or cluttering the look.

A 25th AE HP-12C should be constructed to the original standards (1981-1995), though the manufacturing facilities probably are no longer in service. It should have the same look, keyboard, and functionality as the original, but run faster and contain more memory (like the latest 12C Platinum).

Perhaps if the latest 12C Platinum hardware and ROM (with ALG mode and other new functions disabled) were placed inside a high-quality "traditional" package?

-- KS

Re: HP 12C Promo Question

*Message #6 Posted by **Woody Larkin** on 22 Oct 2005, 9:14 p.m.,*
in response to message #1 by Mary

The 25th Anniverary model should have: Double Injection Keys; keys with numbers that will never wear out because the numbers are part of the keys, not decals. The keys should have the same tactile feel as the 11C, 15C and original 12C. It should retain the black and gold color scheme; with perhaps deeper and more saturated blue and gold f and g lettering. It should be RPN only. It could have a faster processor and more memory. It should have as clear and contrasty an LCD display as modern technology allows. It could command a premium price (say $129.95) as quality is a much desired quality for a product in a society that will pay $500.00 for a PDA or smartphone. That's my wish list. I'd buy one in an instant.

Re: HP 12C Promo Question

*Message #7 Posted by **Arnaud Amiel** on 23 Oct 2005, 5:06 a.m.,*
in response to message #6 by Woody Larkin

That would be a good wish list but I believe we will see the same 12C that is produced nowadays with a different logo on the top right...

Arnaud

Re: HP 12C Promo Question

*Message #8 Posted by **Peter Geiser** on 23 Oct 2005, 8:15 a.m.,*
in response to message #7 by Arnaud Amiel

... which would not be enough that I would buy one, since it would of inferiour quality than my old (1982) HP12C.

Note that Mary never said a 25th anniversary 12c would be made

*Message #9 Posted by **John** on 23 Oct 2005, 10:29 p.m.,*
in response to message #1 by Mary

All she's wanting is stories about how it made a difference, blah blah blah.

Perhaps she should ask why people still use that instead of thew newer models.

Poorly made.

And Everyone Assumes That "Mary" Is Really From HP

*Message #10 Posted by **I, Claudius** on 24 Oct 2005, 10:05 a.m.,*
in response to message #9 by John

There are valid reasons for wanting to be anonymous, but here it sounds like "Mary" is having a ball tugging at the heartstrings of calc-loving nerds.

Re: And Everyone Assumes That "Mary" Is Really From HP

*Message #11 Posted by **donald wallace** on 24 Oct 2005, 9:54 p.m.,*
in response to message #10 by I, Claudius

I STILL think she may yet turn out to be THE charming Mary from Canoga Park...

(Frank Zappa fans know what I am on about... ;-)

That kinda grrl would definitely end up in sales... ;-)

DW

Re: HP 12C Promo Question

*Message #12 Posted by **will** on 24 Oct 2005, 6:57 a.m.,*
in response to message #1 by Mary

Hi Mary..please tell them (hp guys) than a real "quality" model is the best thing they can do to celbrate this

aniversary (except to change it to remanufacturing a hp 15c like, model). In case they can´t (or don´t want it) a nice "revised" gold darker aniversary model can be OK.

Re: HP 12C Promo Question

*Message #13 Posted by **donald wallace** on 24 Oct 2005, 10:03 p.m.,*
in response to message #12 by will

Hi all.

Mary, the best thing imho is to bring back a slightly re-engineered hp41 with all the (few) mechanical engineering problems ironed out and a fair bit of software incorporated into firmware.

A ten times speed increase at the same power level would be incredibly marvellous and entirely "doable" but not expected.

Cross compatibility with the 11,12,15,16 would be required of course. Very important to all would be exact same apperance, functionality etc... with quirks and "bugs" removed, except perhaps for synthetic functions ;-)

HP would have a BIG HIT...

fwiw...

yours faithfully,

Don Wallace

(I'm too old and practical to be a "nerd"...)

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Does anyone know how to open a 38G?

*Message #1 Posted by **Joao** on 21 Oct 2005, 9:41 a.m.*

Dear All,

Following the message posted by HrastProgrammer some days ago, I decided to try to repair my 38g. Does anyone know how I can open it without damaging it? Many thanks for your help.

Joao

Re: Does anyone know how to open a 38G?

*Message #2 Posted by **Randy** on 21 Oct 2005, 9:53 a.m.,*
in response to message #1 by Joao

It's very easy. Peel off the plastic keyboard surround. You'll see six heat stakes that hold the front a back halves together. With an appropriately sized twist drill, by hand, shave down the tops of the posts. Pop the + battery contact off the case tab and seperate the front from the back. It's now open.

Re: Does anyone know how to open a 38G?

*Message #3 Posted by **Ron Ross** on 21 Oct 2005, 10:14 a.m.,*
in response to message #1 by Joao

Since its a 38G, they are cheap on ebay. Just buy another. They usually sell for around $20 plus S&H. Not worth much time unless you want the experience of repair (an experienced repairman would need 20-30 minutes if he had everything ready, many hobbyests would need 1-2 hours, and a complete novice who KNEW what he was doing could spend 2-4 hours and still wind up with a piece of junk). Just a word of warning.

The other fellows advice sounds like it is for the 48G, but there are instructions on how to open a 38G on Colin Crofts website (I don't know the address offhand, but should show up on a websearch)

Actually, you might consider upgrading to an Hp39G+. It has a few more features most importantly, a decent amount of RAM, better stat functions and lots faster (though the 38G wasn't considered slow, like the 48G series). These are often available for $50-60 on ebay also.

For any old timers that don't keep tabs on all the Hp's, the above are algebraic only graphics calculators.

Yes, I know how to aopen a 38G, do you?

*Message #4 Posted by **Randy** on 21 Oct 2005, 10:43 a.m.,*
in response to message #3 by Ron Ross

"The other fellows advice" was what the poster asked for, a 38G. The 48G has an aluminum overlay and ten heat stakes :^)

Re: Yes, I know how to aopen a 38G, do you?

*Message #5 Posted by **Ron Ross** on 21 Oct 2005, 11:01 a.m.,*
in response to message #4 by Randy

No, I confess, I have never opened a 38G as they have always been Cheap (and well made).

Re: Does anyone know how to open a 38G?

*Message #6 Posted by **Joao** on 21 Oct 2005, 11:09 a.m.,*
in response to message #1 by Joao

Hi there,

Thank you very much for your help and advice. I have followed Randy's instructions and found the six heat stakes. I'll now work on them!

Have a nice weekend.

Joao

PS: The reason I want to open this one is to learn how to do it. If it goes wrong, it is not too bad as I have another one and I got this one for free!

Re: Does anyone know how to open a 38G? IT WORKS!

*Message #7 Posted by **Joao** on 21 Oct 2005, 11:52 a.m.,*
in response to message #1 by Joao

Dear All,

You may like to know that my 38G is now safe and back to work! The problem was similar to the one described by HrastProgrammer and I am very proud of the result.

Many thanks, especially to Randy and HrastProgrammer!

Joao

Re: Does anyone know how to open a 38G? IT WORKS!

*Message #8 Posted by **Les Bell** on 21 Oct 2005, 8:08 p.m.,*
in response to message #7 by Joao

OK - I give up! How did you *close* the 38G?

Best,

--- Les
[http://www.lesbell.com.au]

Re: Closing 38G's

*Message #9 Posted by **Randy** on 22 Oct 2005, 8:45 a.m.,*
in response to message #8 by Les Bell

The case halves have snaps at the top and sides, it stays together fairly well without any further help.

You could use small flat-head screws on two the bottom posts as some 48 methods do for additional strength if desired. A piece of tape along the bottom edge works too if you want quick access and don't want to peel the surround off again to get to screws.

The 38G is the most easily opened saturn hack platform there is. That 30 pin standard memory pad screams for a custom rom.

Re: Closing 38G's

*Message #10 Posted by **Les Bell** on 22 Oct 2005, 9:30 p.m.,*
in response to message #9 by Randy

Thanks, Randy - it was the mention of heat-stakes that made me curious. My wife's HP-18C has a dead column of keys on the alpha keyboard, so I was thinking of trying to fix it - only I've heard horror stories of the machines held together with heat-stakes. . .

Best,

--- Les
[http://www.lesbell.com.au]

Re: 19C open/close

*Message #11 Posted by **Randy** on 23 Oct 2005, 10:13 a.m.,*
in response to message #10 by Les Bell

A clamshell with problems is pretty much a lost cause. Here's an old thread about 28's but 18/19C's are the same construction: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=71041#71041

Re: 19C open/close

*Message #12 Posted by **Les Bell** on 23 Oct 2005, 7:06 p.m.,*
in response to message #11 by Randy

That's what I thought, Randy. Oh, well, it was just a notion. . .

Best,

--- Les
[http://www.lesbell.com.au]

Re: 19C open/close

*Message #13 Posted by **Eric Smith** on 24 Oct 2005, 2:34 a.m.,*
in response to message #11 by Randy

I'd like to buy 18C, 19B, and 19BII units with failed keyboards, if anyone is willing to sell them cheap. I just want working electronics for the extraction of the ROM code.

I can't afford to spend the money to buy working ones, nor do I want to destroy them if they're perfectly good. But if the keyboard has already failed, they're not much good for anything else.

Also intereseted in the Pioneers for the same reason, though dumping the ROMs from

models other than the 17B, 27S, and 42S will be quite difficult.

Eric

Re: 19C open/close

*Message #14 Posted by **Les Bell** on 26 Oct 2005, 5:55 p.m.,*
in response to message #13 by Eric Smith

Eric, I've just spoken to She Who Must Be Obeyed, and she's happy to donate her dying 18C to the cause. Email me a postal address, and next time I'm going past the post office - probably Tuesday or Thursday of next week - I'll pop it in the mail.

Best,

--- Les
[http://www.lesbell.com.au]

Re: 19C open/close

*Message #15 Posted by **Tony Duell** on 24 Oct 2005, 2:36 p.m.,*
in response to message #11 by Randy

You don't mean that!. The 19C is a Sting series, and is relatively easy to take apart non-destructively -- screws on the bottom, there are 3 PCBs inside, keyboard at the top, then processor/logic, finally PSU/printer in the lower case. After removing the screws, you can seperate the case parts, the PSU/printer PCB is connected to the logic PCB by those spring contacts that HP used in all machines at that time.

The machine that's built like a 28 (Clamshell case) is the 19B (and 19BII).

Re: 19C open/close

*Message #16 Posted by **David Smith** on 25 Oct 2005, 10:59 a.m.,*
in response to message #15 by Tony Duell

But putting back together a 19C can be a little bit of a problem... getting the stake pins together undamaged is always fun.

Re: 19C open/close

*Message #17 Posted by **Tony Duell** on 26 Oct 2005, 2:51 p.m.,*
in response to message #16 by David Smith

But a lot easier than reassembling a 19B (at least if you want the latter to stay together and work).

Re: Does anyone know how to open a 38G? IT WORKS!

*Message #18 Posted by **HrastProgrammer** on 22 Oct 2005, 3:14 a.m.,*
in response to message #7 by Joao

Hi Joao,

Good work ... I am happy to see that my post motivated a few people to try to fix their calculators :-)

Does anyone know how to open a 38G?

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NiMh 'N' Batteries for the HP-41 Calculator in UK

*Message #1 Posted by **Brian Gladman** on 20 Oct 2005, 11:47 a.m.*

If anyone is looking for rechargeable NiMh 'N' batteries for the HP-41 calculator in the UK, they might like to note the following two sources:

http://cpc.farnell.com

with a search on 'GP36NH'. Another source for the same battery is:

http://www.strikalite.co.uk/

They cost about £1.80 each.

Sadly I have not yet found a source for the 1/2 N GP18NH for use in the rechargeable battery pack (even though GP Batteries lists them as available).

Brian Gladman

Re: NiMh 'N' Batteries for the HP-41 Calculator in UK

*Message #2 Posted by **Jon** on 20 Oct 2005, 1:22 p.m.,*
in response to message #1 by Brian Gladman

I have found a very good replacement made with a 1/3AAA NiMH cell (150mAh) which has the same length as the 1/2N but diameter is 10mm instead of 12mm. But I have found a tube that compensates the outer diameter. So you get 1/2N sized cells.

I am offering these in the adempertisemnt section but I can send information to anybody interested on doing it by himself

Re: NiMh 'N' Batteries for the HP-41 Calculator in UK

*Message #3 Posted by **Vassilis Prevelakis** on 20 Oct 2005, 6:15 p.m.,*
in response to message #1 by Brian Gladman

Here we go again.

Unless you want to spend a lot of time using the card reader, the consensus is that its better to use alkaline batteries with the 41C. Rechargeable batteries are a lot of pain for this machine:

a) even when fully charged they are close to the LOW BAT warning level

b) they lose their charge faster than alkalines, meaning that you have to deal with them far more frequently than with alkaline batteries.

c) I have found that the smaller the form factor the more likely the battery will leak or outgas. (Notice that HP-

97 calculators are far less likely to be suffering from corrosion than the HP-67)

d) Back in the early 80s N-size alkalines cost a lot of money, today they are cheap enough that most people can afford to replace them once a year or so.

NiMH cells are great, I use them in all sorts of electronic equipment, its just that they are not really suitable for this *particular* piece of equipment.

**vp

Re: NiMh 'N' Batteries for the HP-41 Calculator in UK

*Message #4 Posted by **don wallace** on 20 Oct 2005, 10:59 p.m.,*
in response to message #3 by Vassilis Prevelakis

Hi all.

Hi Vassilis.

For what it's worth, will the posters PLEASE listen to this man. Like myself, he is practical and knows what he is talking about...

(Sheesh!)

Anyone who wants to run rechargeables in his 41 HAS ROCKS IN THEIR HEAD. YOU WILL GET IRREVERSIBLE CORROSION PROBLEMS, particularly if you have a CX.

Don Wallace

Re: NiMh 'N' Batteries for the HP-41 Calculator in UK

*Message #5 Posted by **Randy Sloyer** on 21 Oct 2005, 8:43 a.m.,*
in response to message #4 by don wallace

Vassilias said it best, here we go again.

> Quote:
>
> Anyone who wants to run rechargeables in his 41 HAS ROCKS IN THEIR HEAD. YOU WILL GET IRREVERSIBLE CORROSION PROBLEMS, particularly if you have a CX.

So a CX is different with respect to battery corrosion? This is absolute nonsense. So the operating current is a bit higher. Big deal, so what? So the standby current might be higher, big deal, so what? You're still talking microamps.

Irreversible corrosion problems? Absolute nonsense. Alkalines destroy 41's when they leak, rechargeable out gassing and the resultant minor corrosion cleans up fine. I'd rather clean up a 41 that had an original 82120A left in it for ten years untouched than a 41 with N alkalines or worse yet old carbon zinc cells.

It is dead easy to rebuild 82120's with modern 1/3AAA nimh cells. They work fine, that's been documented here for several years. If people want to rebuild their rechargables, let them. If people want to use alkalines, let them.

Don, why do you have to shout at people and tell them they have rocks in their heads? Be civil, be

informative. You're just being rude and helping no one.

Edited: 21 Oct 2005, 10:29 a.m.

Re: NiMh 'N' Batteries for the HP-41 Calculator in UK

*Message #6 Posted by **David Smith** on 21 Oct 2005, 10:40 a.m.,*
in response to message #5 by Randy Sloyer

I have measure the "OFF" current of many HP41 calculators. 41CX machines are no different than the others. Yes, they have a clock in them that draws current but the chips in them are built on later technology and tend to draw less currrent. On the whole the standby current is the same for a 41C, CV, or CX. The batteries cannot tell the difference... unless they can read the label on the machine.

A VERY good reason to rebuild the rechargeable pack is because it is all that you have. Many machines no longer have their "N" cell holders. Also a lot of people do use the readers or HP-IL constantly.

That said, use "N" cells if you can. No need to worry about self discharge.

(deleted post)

*Message #7 Posted by **deleted** on 24 Oct 2005, 8:05 a.m.,*
in response to message #5 by Randy Sloyer

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

Climb down from your high horse, Don...

*Message #8 Posted by **Karl Schneider** on 25 Oct 2005, 2:31 a.m.,*
in response to message #7 by deleted

Excerpts from Don's post:

> Quote:
>
> ...
>
> The posters here who are experienced are readily differentiated from the "hacks" and hobbyists (who are all fine people btw).
>
> Where certain parts of this forum get (imho) quite bizarre at times is where people who do not know what they are talking about berate people who actually DO. There is no need for it.
>
> ...
>
> I have met some really remarkable people here. Maybe you are one too. So far, in your replies, I haven't seen it. Am I missing something? (I doubt it...)
>
> ...
>
> If that person wants to ignore me or pick me up on real errors then thats fine. Try as I might I can't find a (rational) reason why you insist on abusing me for helping

> someone else. If you disagree, then that's fine (even if you are in fact wrong!) But the only person in this thread who is being abusive is you, sir. And for NO GOOD REASON.
>
> ...
>
> By the way, I do not care if you are a qualified engineer or an experienced tech. But it does not sound that way to me. You don't seem to be in any way practical.
>
> I suggest: Get some experience with this hardware, real batteries and respective flaws and faults, then come back and abuse me if you want to further sully the forum. In that case, back up your comments with provable FACTS, please.
>
> ...
>
> I try to help people here from a position of very SOUND EXPERIENCE backed by SCIENCE. I DO NOT go off half cocked or abuse / berate people. Please guys, do us all a big favour and kindly follow Vassilis lead if not my own and DO THE SAME. Show us that common courtesy at least.
>
> ...
>
> In closing I want to apologise to Dave Hicks for drawing yet more "heat" from a person who may want to rag me rather than help the poster. ... Abrasive cirticism is not warranted in a forum of this generally high quality. I personally couldn't care less at being criticised (by amateurs?) but find I feel acutely embarrassed for the other readers. Sorry to you all, (except my misguided critics).

Wow, that's a lot of petulant, indignant piffle.

FYI: Randy Sloyer has plenty of sound practical experience, and has posted here regularly for at least several years. He has repaired several of my fullnut 41's that arrived "alive" but malfunctioning, and returned them to me in perfect working order. He knows what he's doing, and knows how to fix other models as well.

You can find Randy at www.fixthatcalc.com.

About the battery issue: I would tend to believe Randy (on limited evidence, admittedly) that leaking alkalines will permanently damage the battery contacts, while a leaking NiCd might not.

I've seen damaged HP-41 battery terminals (of which I'd surmise most ran on disposables, once they became available and economical). However, I've seen no terminal corrosion on any of my the three HP-34C's, even though rechargables had been used on all of them at least for a while, and I received sets of dead, "fuzzy" NiCd's with two of them.

-- KS

(deleted post)
*Message #9 Posted by **deleted** on 25 Oct 2005, 8:21 a.m.,*
in response to message #8 by Karl Schneider

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this post again to make this placeholder disappear.

Re: Climb down from your high horse, Don...

Message #10 Posted by . on 25 Oct 2005, 9:52 a.m.,
in response to message #9 by deleted

Hi,

I normally try to stay out of this kind of discussion, but what the heck.

> Quote:
>
> I am not on any horse, Karl... I get annoyed when I am abused publicly.
>
> Now I understand WHY I drew some flak from Randy et. al. People don't like competition...
>
> Aren't people interesting. I never cared for politics.
>
> I am still happy to participate here, but I won't cop abuse; it is as simple as that.

Perhaps I'm missing something, but I can't see where anyone is really abusing you? Yet in this last post, you seem to be implying that the people disagreeing with you on technical points are only doing so to 'profit from the forum'. Is that correct?

For the record I agree with Karl.

Rather then question Randy's credentials, how about we keep the debate purely on technical terms. I do not believe there is a conspiracy to pass bad technical advice for profit.

Please note that I have zero financial interest in this forum. I have never had anything to do with Randy so there is no conflict of interest.

Thanks,

.

Edited: 25 Oct 2005, 9:55 a.m.

Re: Climb down from your high horse, Don...

*Message #11 Posted by **Massimo Gnerucci (Italy)** on 25 Oct 2005, 2:02 p.m.,*
in response to message #9 by deleted

Quo usque tandem abutere, Catilina, patientia nostra?

Ad nauseam...

*Message #12 Posted by **Etienne Victoria** on 25 Oct 2005, 2:45 p.m.,*
in response to message #11 by Massimo Gnerucci (Italy)

Usque ad nauseam!!

Etienne

Edited: 26 Oct 2005, 7:26 a.m. after one or more responses were posted

Re: Ad nauseam...

*Message #13 Posted by **donald wallace** on 25 Oct 2005, 5:13 p.m.,*
in response to message #12 by Etienne Victoria

So you speak Latin... Big Deal.

Please repeat your comment in english so it's in the open.

Thanks.

DW

Re: Climb down from your high horse, Don...

*Message #14 Posted by **donald wallace** on 25 Oct 2005, 5:11 p.m.,*
in response to message #11 by Massimo Gnerucci (Italy)

What is the point in your speaking Italian?

Please repeat your comment in English, so it's in the open...

Thanks,

DW

Re: Climb down from your high horse, Don...

*Message #15 Posted by **Massimo Gnerucci (Italy)** on 25 Oct 2005, 7:42 p.m.,*
in response to message #14 by donald wallace

> Quote:
>
> What is the point in your speaking Italian?

Ahem, that's latin, indeed.
I thought it was known enough to need no translation but... since you ask:

For how much longer, Catilina, will you abuse our patience?

Marcus Tullius Cicero (January 3, 106 BC – December 7, 43 BC)

o tempora, o mores...

re: inappropriate criticism and a reaction to it.

*Message #16 Posted by **donald wallace** on 25 Oct 2005, 9:09 p.m.,*
in response to message #15 by Massimo Gnerucci (Italy)

Quote:----------What is the point in your speaking Italian? ----------

---------- Ahem, that's latin, indeed. I thought it was known enough to need no translation but... since you ask:

For how much longer, Catilina, will you abuse our patience?

Marcus Tullius Cicero (January 3, 106 BC – December 7, 43 BC)

o tempora,o mores...----------

Thanks for translating.

No shame in me not knowing latin. It's only "Old Italian" ;-) I choose to ignore your put-down. Do you like hiking?

Cicero is cool. I prefer Chomsky. He is more current and pertinent.

You guys are NOT the ones whose patience is being abused... I can assure you it's the other way round.

Anyone with a problematic 41 who wants to speak with me privately can do so. I will not bother to help anyone publicly here anymore.

No-one has backed up any criticism of my posts with solid technical fact.

I apologise for some inaccuracies in my posts. None of them are technical ones.

It's been great, I've met some interesting and pleasant people. Now I am going to leave you all to your "game"...

Tony and Randy (and Jon) are obviously now happy. Nice MO you have there, guys.

DW

Re: re: inappropriate criticism and a reaction to it.

*Message #17 Posted by **Howard Owen** on 26 Oct 2005, 2:10 a.m.,*
in response to message #16 by donald wallace

Oh for crying out loud, Don! This is the third time I know of in the last couple of months you have flounced out of here forever, only to show up again in a day or two. Grow up, why don't you?

And you might try sitting on your hands a little bit when you feel like making an angry retort. It could save you embarassment of the type you incurred in this thread.

Friendly advice, believe it or not.

Re: Climb down from your high horse, Don...

*Message #18 Posted by **Arnaud Amiel** on 26 Oct 2005, 6:54 a.m.,*
in response to message #15 by Massimo Gnerucci (Italy)

I believe the translation is not very accurate. However providing a good

translation might not be welcome by the forum moderator...

Arnaud

Re: Climb down from your high horse, Don...

*Message #19 Posted by **Etienne Victoria** on 26 Oct 2005, 7:24 a.m.,*
in response to message #18 by Arnaud Amiel

Hi Arnaud,

You're right and I'll exercise self-censorship by deleting the non-proverbial part of my post.

Merci et cordialement.

Etienne

Edited: 26 Oct 2005, 7:27 a.m.

Re: Climb down from your high horse, Don...

*Message #20 Posted by **donald wallace** on 26 Oct 2005, 7:02 p.m.,*
in response to message #11 by Massimo Gnerucci (Italy)

Te futueo et caballum tuum!

In future keep your comments on topic please.

DW

Don Wallace

*Message #21 Posted by **anonymous** on 26 Oct 2005, 9:45 a.m.,*
in response to message #8 by Karl Schneider

Please note that Don Wallace is a self-described *Asperger's* sufferer.

Please note that this syndrome can make a person appear to be highly anti-social and abrasive.

It may be best to simply ignore his annoying comments but respond only to the relevant on topic information.

Common issues with Asperger's (not all are necessarily present):

```
--no friends in school years;
- lack of physical coordination;
- unable to hold a conversation outside of a limited subject matter;
-**NOTE**  Easy to provoke and often lashes out with excessive force or
violence;
-often attempt to dominate social situations;
-often test at genius level for math;
-difficulty smiling;
-strange sense of humor, taking all statements literally--difficulty with
irony and nuance;
```

So, bear these facts in mind. To keep it civil around here, we need to understand each other :-)

Edited: 26 Oct 2005, 9:46 a.m.

Re: Don Wallace

*Message #22 Posted by **donald wallace** on 27 Oct 2005, 11:34 a.m.,*
in response to message #21 by anonymous

Anonymous,

Thanks for your post.

Actually, very few aspergers people are violent. The other points are or "appear to be" pretty accurate. For violence / callous disregard for others welfare you can't go past either pychopaths or politicians. (Think about it...)

We don't set out to dominate social situations, we just lack the subtle devious character of the average human being. Others see we are different and subconsciously resent us. Very strange dynamic that leads to "AS" sufferers being bullied. Their resulting anger can then spiral a bit. We don't like B.S. either and can smell it a mile away!

We "A.S." people have MANY really good features too, such as amazing attention to detail, reliability in relationships and friendships, an extreme degree of honesty, loyalty, reliability at work and a very strong sense of fair play. A very unusual and valuable group of totally misunderstood people often operating at a genius or for a few supergenius level of intellect in NARROW areas. Socially, we are a bit of a TRAINWRECK. Oh well, can't have everything...

We are also very unusual in our total disinterest in social "norms", political behaviour and are disinterested in manipulating others. We cannot read body language, miss social cues and have trouble with verbal sub-text sometimes. This makes us easy prey to setups and manipulation by others.

Once a sufferer learns to live with it, they can learn to behave "normally", much as a child might learn the piano, through a large amount of study and work. I had to actually study body language out of books and then study "live" subjects ;-); now I can read it like a pro and I'm doing it CONSCIOUSLY (hard work!).

Given how "normal" people behave, I would rather be an Aspergers "sufferer", but it's a hard life for many.

I value the people in this forum highly enough to come clean about my "affliction".

We also make GREAT engineers!

All the best, everyone.

DW

Re: Don Wallace

*Message #23 Posted by **HrastProgrammer** on 28 Oct 2005, 5:14 a.m.,*
in response to message #22 by donald wallace

Given how "normal" people behave, I would rather be an Aspergers "sufferer"

With all respect, but what's wrong with normal people behavior?

Re: Don Wallace

*Message #24 Posted by **James M. Prange (Michigan)** on 27 Oct 2005, 3:25 p.m.,*
in response to message #21 by anonymous

I've read that some "medical archaeologists" think that, among other famous people, Thomas Edison and Albert Einstein may well have been Asperger's syndrome people.

Well, it seems that Edison didn't always "play fair", but he certainly made a difference.

But let's keep in mind that Asperger's covers a wide range of traits, and those who have it should be treated as individuals. For some notes on Asperger's see http://news.bbc.co.uk/1/hi/health/medical_notes/a-b/1166811.stm.

For what it's worth, a student nurse reading about Asperger's told me that she thought it described most of the men she knew.

Written language has subtle nuances that are easily missed, particularly in an international setting such as this, where different dialects of English are used, and for some, English is a second language. A reader should try to "read between the lines", particularly when what he's read seems unreasonable or rude. A good (but probably unobtainable) goal for a writer is to write in a manner that not only can be understood, but can't be misunderstood.

Don, in your case, knowing that you have this condition, perhaps you should make special efforts to avoid being overly sensitive to criticism or seeming rude when you don't really want to be. Practice your empathy; that is, always try to imagine how the other person feels. Maybe write whatever you intend to post in a text file, then save it, take a break, and reread it carefully before pasting it into the Forum's text box, and even then, "preview" it before actually posting. Once posted on the Internet, it can never be totally withdrawn, even if the post is deleted.

Regards,
James

Re: Don Wallace

*Message #25 Posted by **Howard Owen** on 27 Oct 2005, 6:03 p.m.,*
in response to message #24 by James M. Prange (Michigan)

> Quote:
>
> Don, in your case, knowing that you have this condition, perhaps you should make special efforts to avoid being overly sensitive to criticism or seeming rude when you don't really want to be.

Perhaps easier said than done, of course. I would also rate it as particularly difficult in forum with lots of other prickly egos and polyglot confusion.

Naturally, I'm referring to a *hypothetical* forum. 8)

Re: Don Wallace

*Message #26 Posted by **James M. Prange (Michigan)** on 27 Oct 2005, 8:10 p.m.,*
in response to message #25 by Howard Owen

Yes, no doubt easier said than done. Still, all of us who participate should make an effort to get along with everyone.

Regards,
James

Re: Don Wallace

*Message #27 Posted by **bill platt** on 27 Oct 2005, 10:18 p.m.,*
in response to message #26 by James M. Prange (Michigan)

We've seen our fair shair of misunderstandings here--far fewer than om many frums. We've had pretty good success over the past 2+ years I've been here, mending fences etc. There have even been misunderstandings between some keystone members--and we've all learned from it and gotten along.

I will stay confident that we will, once again, all learn from each other and continue this wonderful virtual universe of ours.

Thanks to dave too--the structure and the organizationof this place influences the spirit.

Regards,

Bill

Re: NiMh 'N' Batteries for the HP-41 Calculator in UK

*Message #28 Posted by **Brian Gladman** on 21 Oct 2005, 4:26 a.m.,*
in response to message #3 by Vassilis Prevelakis

I agree that it makes little sense to bother about rechargeables unless a lot of use is being made of the card reader.
But in my case I do use the card reader very extensively so NiMh cells make sense.
I don't yet have the evidence to comment on longer term issues with corrosion but I have not found any problems with low battery warnings since the GP36NH N cells I found are providing for extensive use of the card reader without any early 'low battery' warnings.

Brian Gladman

Re: NiMh 'N' Batteries for the HP-41 Calculator in UK

*Message #29 Posted by **donald wallace** on 24 Oct 2005, 8:39 a.m.,*
in response to message #28 by Brian Gladman

Hi Brian,

Thanks for the feedback. I love NiMH cells. They are a different kettle of fish to nicads.

DW

Re: NiMh 'N' Batteries for the HP-41 Calculator in UK

*Message #30 Posted by **Brian Gladman** on 24 Oct 2005, 10:49 a.m.,*
in response to message #29 by donald wallace

Hi Don,

I am pretty happy with the GP36NH cells so far but I will be keeping a watch for any corrosion issues.
The big problem with these cells is that pretty well all commercial chargers are not designed to cope with cells with such small capacities and charging currents. In consequence it is very easy to overcharge these cells and hence break their seals.
To overcome this problem I am using a charging method that allows both cell temperature and cell delta-V to be constantly monitored so that charging can be stopped immediately full capacity is reached irrespective of the initial charge state.

Brian Gladman

Re: NiMh 'N' Batteries for the HP-41 Calculator in UK

*Message #31 Posted by **donald wallace** on 24 Oct 2005, 7:24 p.m.,*
in response to message #30 by Brian Gladman

Hi Brian,

Yeah, very cool.

I am certain that your finding will be very interesting to everybody here who owns and runs a 41. They are a great old calc. I for one really appreciate your great feedback.

DW

Re: NiMh 'N' Batteries for the HP-41 Calculator in UK

*Message #32 Posted by **Jon** on 25 Oct 2005, 12:48 p.m.,*
in response to message #31 by donald wallace

Who is this Donald Wallace? May be an engineer from HP calcs division? Just curious:-)).

Re: NiMh 'N' Batteries for the HP-41 Calculator in UK

*Message #33 Posted by **donald wallace** on 25 Oct 2005, 5:07 p.m.,*
in response to message #32 by Jon

Hi Jon! Hw are you?

How's YOUR repair business going?...

OF COURSE I am not an hp engineer. ;-) What's your story?

DW

Edited: 25 Oct 2005, 5:14 p.m.

Re: NiMh 'N' Batteries for the HP-41 Calculator in UK

*Message #34 Posted by **Jon** on 26 Oct 2005, 1:11 p.m.,*

in response to message #33 by donald wallace

Hi Don:

Fine, thanks for the interest. I see that you are not so rude now.
CONGRATULATIONS.

In case you have something to repair or need some information to do it yourself just contact me back.

In my opinion you should send to me your HP-41CV (the one that I can see in your webb). Don´t feel ofended, but your repair is too agresive and not the best option for that model.

Congratulations again for your new attitude

Jon

Re: NiMh 'N' Batteries for the HP-41 Calculator in UK

*Message #35 Posted by **donald wallace** on 26 Oct 2005, 6:47 p.m.,*
in response to message #34 by Jon

Hi Jon,

My old 41s are both fine thankyou. Why would I send you something I repaired? Certainly there is nothing wrong with the repair. It works and is solid. Your opinion, though in itself valued, is not valid.

I think you have a good sense of humour. Certainly an asset.

I decided to stay here for now as people may need some protection from the BAD ADVICE of a few others... I am happy to fill that role. That would mean maybe I should be more critical? Certainly don't need to get abusive. In any event there is no payoff for me, but a few people with problems will definitely benefit.

No offence meant, but I would be happy to put my ([fine or motor] mechanical or [signal or power]electronics) repair skills against yours, Tony D.'s and Randys any day of the week. I see many errors in the advice these two gents give but I have the coutesy to avoid criticising them. That courtesy is not reciprocated and given their personalities and motives I don't expect it.

To the guy who speaks in latin: of your comments I ask:

Que bono? {you can correct my spelling ;-}

To date no-one in the forum has offered any concrete refutation of my two statements of damage from nicad cells/packs or wrecking displays by disassembly. Some have offered concrete info which in general supports my assertions. Therefore my judgement and advice in this matter is sound. More important, my motives were good.

In future I will not respond to criticism because all the other people who jump on the bandwagon obviously do not know what is really going on and their comments (if on topic) are not technically relevant or accurate. No offence

meant.

I HAVE managed to bootstrap a small repair business for people down here in OZ and for that I am grateful to the forum, to Dave Hicks for hosting us all and to the unnamed software wizard who directed me here in the first place as he thought people here might benefit from my experiences. He doesn't post here anymore btw and given the behaviour of people here I do not wonder why. He's not the only one, either.

Thankyou to the people who have written to me expressing support. A few of you are leaders in your field. It's fun to push that envelope!

To you Tony and Randy I wish you every success in your business / work endeavours. To everyone else, good luck with your d-i-y repairs, may all your problems be little ones, long live hp hardware and roll on BUG SQUASHING in the various add-ons people have devised. I haven't seen any bug reports yet...(nor likely to?). The people I refer to know who they are.

DW

Edited: 26 Oct 2005, 6:50 p.m.

Re: NiMh 'N' Batteries for the HP-41 Calculator in UK

*Message #36 Posted by **anonymous** on 26 Oct 2005, 8:11 p.m.,*
in response to message #35 by donald wallace

Hello Don,

> Quote:
>
> I decided to stay here for now as people may need some protection from the BAD ADVICE of a few others... I am happy to fill that role.

You have now announced that you are 'leaving forever' at least three times now, only to come back within a day or two. Either stay or go, but please make up your mind.

This 'debate' keeps coming back to one issue: You claim others are giving bad technical advice. You have implied multiple times that other regulars on this forum are either incompetent, motivated by greed, or both. You have also stated that others are abusing you purely because you corrected their bad technical advice.

I am having a great deal of trouble finding evidence to support this. You have a habit of deleting your comments. I have searched virtually every message on this forum in the last week and cannot find any message where someone even mildly abused you, where you didn't ask for it first. Someone asked for you evidence of where you were abused, you declined.

From what I've seen, you've constantly insulted people, although subtly. To take the root of this thread as an example

> Quote:

> Anyone who wants to run rechargeables in his 41 HAS ROCKS IN THEIR HEAD. YOU WILL GET IRREVERSIBLE CORROSION PROBLEMS, particularly if you have a CX.

You did not say why this was the case. You were called out on the last "particularly if you have a CX" comment - the current consumption is not an issue. Others replied with positive experiences using rechargables. You then replied several times with fairly angry replies, said you were leaving, then deleted the replies.

Again, it is hard to find evidence of your subtle insults in your old posts, because you've deleted them from the public record. I remember you often replied in an insulting tone.

Questioning people's credentials is an invitation to have yours questioned. To date no one has been impolite enough to question yours.

It's not that technical debates are unwelcome - it's that you're going about it in completely the wrong way.

You clearly have a lot to contribute. It would be great if you could do so without playing the victim and 'lashing out' at invisible enemies.

This forum is otherwise one of the most polite ones I've seen.

Re: NiMh 'N' Batteries for the HP-41 Calculator in UK

*Message #37 Posted by **Wayne Brown** on 27 Oct 2005, 4:42 p.m.,*
in response to message #36 by anonymous

> Quote:
>
> You have a habit of deleting your comments.

Sometimes I wish Dave would remove the capability of deleting messages. I sometimes go several days between visits to the forum, and it's really annoying trying to follow a thread with all those (deleted post)s in the middle. Fortunately, people other than Don almost never delete anything. If I ever feel the need to respond to one of Don's messages, I'll quote the entire thing to ensure the context doesn't "disappear" later.

Re: NiMh 'N' Batteries for the HP-41 Calculator in UK

*Message #38 Posted by **Vieira, Luiz C. (Brazil)** on 26 Oct 2005, 1:50 a.m.,*
in response to message #28 by Brian Gladman

Hi, Brian;

I have some Gama-Power AA-size batteries and I'd like to know if the N-size you mention are also made by Gama Power as well (the GP made me wonder...)

Were I am in Brazil (a small city), it is hard to find either regular, alkaline, NiCad or NiMH N-size batteries, and I had to ask for some local suppliers to try finding some for me. One of them found five

packs with two (Eveready's Energizer) and I bought them all. Not cheap, somehow expensive.

That's the main reason I`d like to try some N-size MiMH. I actually built a pack of four regular D-size batteries with a home made connector so I can power any HP41 with the small, gold coatted ball+spring set (those who deal with the earlier fullnut models know what I mean). I use the D-size battery pack anytime I want to use the card reader, the wand or the 82242A (IR printer module), and the four beasts have been down yet. The last time I measured the voltage in their terminals when using the card reader (VER), I read 5,86 volts. And they are in use for about one year! I must confess that I do not use the HP41's in a daily basis, but the D-size batteries have not even signed they are about to be exhausted... Although I like very much the solution, it is not exactly cosmetic and space-saving. And the handheld use is limitted to the wiring.

I'll add some pictures as soon as I have an acceptable holder for the D-size pack (I simply clampped the plastic halves of the original package together... Shame on me!). Meanwhile I'll try to locate the N-size NiMH, now that I have an identifier.

Thanks and best regards.

Luiz (Brazil)

Re: NiMh 'N' Batteries for the HP-41 Calculator in UK

*Message #39 Posted by **Brian Gladman** on 26 Oct 2005, 4:35 a.m.,*
in response to message #38 by Vieira, Luiz C. (Brazil)

Hi Luiz

I am not sure of the manufacturer but here is a picture of the cell type I obtained from Strikalite here in the UK.

http://fp.gladman.plus.com/ncell.jpg

I hope this helps but, if not, please get back to me.

Brian

Re: NiMh 'N' Batteries for the HP-41 Calculator in UK

*Message #40 Posted by **Vieira, Luiz C. (Brazil)** on 26 Oct 2005, 4:56 p.m.,*
in response to message #39 by Brian Gladman

Hi, Brian;

thank you so much for adding this picture. I downloaded it will print (good image, indeed!) so it is easy to find a 'match'.

As I succeed finding (or not finding), I'm posting again.

Thanks a lot!

Luiz

Re: NiMh 'N' Batteries for the HP-41 Calculator in UK

*Message #41 Posted by **Brian Gladman** on 26 Oct 2005, 5:19 p.m.,*
in response to message #40 by Vieira, Luiz C. (Brazil)

The manufacturer of these batteries is GP Batteries in Hong Kong. They list the GP50NH N cells and the GP23NH 1/2 N cells (for HP41 battery packs rebuilds) here:

http://www.gpbatteries.com.hk/html/techinfo/nimh.asp

where there are data sheets.

I have not yet found anyone who can supply the GP23NH.

Brian

Re: NiMh 'N' Batteries for the HP-41 Calculator in UK

*Message #42 Posted by **Gunnar Degnbol** on 26 Oct 2005, 12:59 p.m.,*
in response to message #38 by Vieira, Luiz C. (Brazil)

Does the IR module really use so much power?

Re: NiMh 'N' Batteries for the HP-41 Calculator in UK

*Message #43 Posted by **Vieira, Luiz C. (Brazil)** on 26 Oct 2005, 5:01 p.m.,*
in response to message #42 by Gunnar Degnbol

Hi, Gunnar;

I have no figures available (curent consumption), but I use a lot the IR output so I can capture program tracing with an HP48 so debugging is a lot easier. This way, as a program runs, the IR module outputs each step and each new X-register contents. I know that I had a pack of four alkaline N-cells exhausted in less than three months after debugging many programs. I generated a lot of trace output, though, and the HP48G+ was connected to a small laptop so I could trace the HP41 program and see the complete trace listing in the computer screen a few minutes later.

Maybe it is not too much of power consumption, but I use it too often, you see?

Best regards.

Luiz (Brazil)

Edited: 26 Oct 2005, 5:03 p.m.

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HP-41c 'Special Characters'

*Message #1 Posted by **Brian Gladman** on 20 Oct 2005, 11:14 a.m.*

I have been rebuilding my old HP-41c and checking it out by keying in some programs. But entering some special characters is driving me to distraction. I would be most grateful if someone could tell me how to enter the '|-' character (an E without upper and lower horizontals) - I can't find it anywhere on the keyboard and its driving me nuts!

Re: HP-41c 'Special Characters'

*Message #2 Posted by **Garth Wilson** on 20 Oct 2005, 11:16 a.m.,*
in response to message #1 by Brian Gladman

<shift> K

Re: HP-41c 'Special Characters'

*Message #3 Posted by **Valentin Albillo** on 20 Oct 2005, 11:17 a.m.,*
in response to message #1 by Brian Gladman

In PRGM mode and in ALPHA mode, press [yellow key][XEQ key].

Best regards from V.

Re: HP-41c 'Special Characters'

*Message #4 Posted by **Brian Gladman** on 20 Oct 2005, 11:20 a.m.,*
in response to message #3 by Valentin Albillo

Thanks guys - thats a fantastic response - answered in less than a minute!

Brian Gladman

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Attaching library on HP48GX

*Message #1 Posted by **Brian** on 20 Oct 2005, 10:13 a.m.*

I can't get a library attached to my HP48gx. When I put the VAR in stack 1 and 0 in stack 2 and press STO. The STO ERROR: Bad Argument Type pops up. Can anybody help?

Re: Attaching library on HP48GX

*Message #2 Posted by **Arnaud Amiel** on 20 Oct 2005, 10:28 a.m.,*
in response to message #1 by Brian

SWAP

Re: Attaching library on HP48GX

*Message #3 Posted by **Brian** on 27 Oct 2005, 10:05 a.m.,*
in response to message #2 by Arnaud Amiel

Don't know if you are talking about swapping the VAR and 0. I tryed that and got the same error.

Re: Attaching library on HP48GX

*Message #4 Posted by **Ed Look** on 27 Oct 2005, 11:07 p.m.,*
in response to message #1 by Brian

I may be totally wrong, so beware:

I think the library has to be seen by the calculator as an "object", so it may have to be enclosed in the single quote marks, ' ', for example, 'PROG'.

I haven't installed something on my 48G or 48G+ in some time now...

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Check this out - HP-01 going for $1100 !!!

*Message #1 Posted by **Sean** on 20 Oct 2005, 4:12 a.m.*

http://cgi.ebay.com/Very-rare-HP-01-wristwatch-calculator-perfectly-working_W0QQitemZ5042231123QQcategoryZ31387QQrdZ1QQcmdZViewItem

Re: Check this out - HP-01 going for $1100 !!!

*Message #2 Posted by **Doug Wilder** on 22 Oct 2005, 4:50 a.m.,*
in response to message #1 by Sean

Not too much surprizing price. I have read this exact same history story elsewhere on the net. I'm wondering how many HP-01's have this same history?

Best

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The 9100 and Thomas Osborne

*Message #1 Posted by **Gunnar Englund (Sweden)** on 20 Oct 2005, 2:00 a.m.*

I found this in the archives when I was searching for Thomas Osborne: "What happened to Thomas Osborne after the 9100A? Message #1 Posted by marais on 5 July 2005, 1:56 p.m."

I am extremely happy to inform you that I actually met the man! It happened in the La Posada hotel in Winslow, AZ (a Route 66 landmark). We were sitting at the bar there, I was trying out a Martini and he nurtured his beer. He mentioned Santa Barbara and some other places of significance, so I told him that my heroes (Noyce, Faggin, Hoff and those guys) came from that area. He then said that he used to know most of them. I was very intrigued and dared to ask for his name. It turned out to be Osborne! Thomas Osborne!

As a collector of slide rules and calculators, this was an extreme event to me. There he was -THE MAN! We had dinner together and had lots of fun. He and his wife Paula are travelliing the world in a little yellow plane. A happy man with a great past - and future?

I have his business card and it has a very prominent place in my little collection.

The answer to the subject question is that he approached Bill, telling him that he thought that he could make a pocket calculator after the 9100. He got a team of eight people and the result was the HP 35. Thomas confirmed that the name of the machine reflects the number of keys. Simple as that!

Thomas is now running his independent design firm LOGIC DESIGN in San Francisco when he isn't travelling the world together with his charming wife Paula. I am so glad to have met them both.

Re: The 9100 and Thomas Osborne

*Message #2 Posted by **marais** on 20 Oct 2005, 6:06 p.m.,*
in response to message #1 by Gunnar Englund (Sweden)

Wow, that's amazing, you actually met THE MAN! If I ever met him at a bar, I'd ask him why he did not join HP at the time. He must be a very independent spirit. I envy you for this encounter!

Andreas

Re: The 9100 and Thomas Osborne

*Message #3 Posted by **Gunnar Englund (Sweden)** on 20 Oct 2005, 11:44 p.m.,*
in response to message #2 by marais

Yes, you are right. Should've asked that.

But, you see, I was rather taken by the fact that it was him, so logical questions didn't pop up. We just had a very pleasant evening together. He is in the telephone directory, though.

Re: The 9100 and Thomas Osborne

*Message #4 Posted by **marais** on 22 Oct 2005, 4:56 p.m.,*
in response to message #3 by Gunnar Englund (Sweden)

Well, I wouldn't dare to give him a call. I think his real achievement will be appreciated post-mortem only. It reminds me that I have to call a 9100 my own one day...the design of it is simply stunning, considering that it all happened in the late 60s. I suppose your encounter with the man, as brief as it may have been, will be a tale to tell. Did you talk about his HP days at all?

Andreas

Re: The 9100 and Thomas Osborne

*Message #5 Posted by **Gunnar Englund (Sweden)** on 22 Oct 2005, 6:15 p.m.,*
in response to message #4 by marais

Not much. We were discussing Italian cooking and travelling in foreign countries in general. We had been visiting the Petrified Forest at the same time. Thomas and Paula with their little yellow airplane and we in our little red car. We thought that it was kind of amusing. We remembered seeing that plane in the air above us.

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Series 200 software Posted

*Message #1 Posted by **Howard Owen** on 19 Oct 2005, 6:48 p.m.*

From a recent eBay haul, I have posted a dozen or so disk images of old HP series 200 (9816, 9826, 9836) software on retrocalculator.com. The new stuff is listed below. To get to it, click on the "Old Software" link at the above URL.

- HP BASIC 2.0 (RMB) - A complete set including utilities
- IEM FORTRAN 77 for 200 Series
- The Context MBA for 200 Series. Business software on a 9816?
- Terminal Emulator for Series 200. (What, that weird serial port? Yes.)
- System Test for 9816

This stuff joins HP Pascal 2.1 that has been available for some time.

Please let me know about any problems you encounter. I didn't click every link, but I was systematic about creating them so sampling *should* have been enough to test.

Enjoy!

Re: Series 200 software Posted

*Message #2 Posted by **Namir** on 19 Oct 2005, 8:44 p.m.,*
in response to message #1 by Howard Owen

The HP-71B link does not lead to its intended web page.

Re: Series 200 software Posted

*Message #3 Posted by **Howard Owen** on 19 Oct 2005, 9:06 p.m.,*
in response to message #2 by Namir

Ah, got it. Now it does!

Thanks, Namir!

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MoHPC *The Museum of HP Calculators*

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HP33S - promts for INPUT

*Message #1 Posted by **vq** on 19 Oct 2005, 6:15 p.m.*

I have just started using my new 33s and I'm having problems with using the INPUT command. Well, it works fine, but I can't find any way to define a prompt to show when asking for a value in a program. This way it's quite difficult to memorize what the single-letter prompt means. Is there any way how to specify a prompt to be used in INPUT command? Thanks for any comments VQ

Re: HP33S - promts for INPUT

*Message #2 Posted by **Crawl** on 19 Oct 2005, 9:03 p.m.,*
in response to message #1 by vq

If I understand your question correctly, you don't just want the prompt "V?" but something more descriptive, like "Volume?" or even "Please Enter Volume?"

The manual talks about this, sort of. I don't know if the calculator can do *exactly* what you want, but you should set the calculator so equations are displayed rather than executed (set flag 10, IIRC), then before the input type your prompt with the equation editor (for VOLUME - RCL V, RCL O, RCL L, RCL U, etc.), then put a PSE after it so the user will have time to read it.

As far as I know, that's the best that can be done.

Re: HP33S - promts for INPUT

*Message #3 Posted by **Thomas Radtke** on 20 Oct 2005, 4:15 a.m.,*
in response to message #2 by Crawl

On the 32SII you don't need the PSE. If omitted, the message will stay until you type in your number, i.e.

SF 10
ENTER A (in equation mode)
STO A

does a good job. Probably the same on the 33S?

Thomas

Re: HP33S - promts for INPUT

*Message #4 Posted by **Crawl** on 20 Oct 2005, 10:20 a.m.,*
in response to message #3 by Thomas Radtke

I checked and you are correct; you don't need the pause.

Re: HP33S - promts for INPUT

*Message #5 Posted by **bill platt** on 20 Oct 2005, 11:52 a.m.,*
in response to message #3 by Thomas Radtke

By the way--this is the greatest advantage to the 33s over the 32sii---with all that memory (about equivalent to what 7k would be in 32sii) you can actually use descriptive prompts in your program, without worrying about running out of memory.

In the 32sii, the concept was there, but the tiny memory made it an unuseable feature for any really long programs.

Regards,

Bill

HP33S - promts for INPUT

*Message #6 Posted by **vq** on 25 Oct 2005, 2:57 p.m.,*
in response to message #3 by Thomas Radtke

Thanks for advice. I checked and yes, it helps somewhat. In fact, I like the behaviour of INPUT as it (1) shows the hint on upper line, (2) shows current value on bottom line, (3) accept R/S without a value to keep the original value. Using the recommended technique (hints via EQN after SF10) I can [SF10; RCL A; AS= *(in eqn mode)*; STO A] which does (3) above but I find no way to achieve (1) and (2) which is a pity. It seems there's no way of doing it which is a shame. Or am I wrong? Thanks for any comments vq

Re: HP33S - prompts for INPUT

*Message #7 Posted by **Paul Brogger** on 26 Oct 2005, 1:54 p.m.,*
in response to message #6 by vq

How about something like:

```
-- . . .
-- 5                ; initial value
-- STO X
-- SF 10
-- X = TIME VALUE   ; EQN mode
-- PSE
-- CF 10
-- INPUT X          ; user types R/S to continue
-- . . .
```

It doesn't display the legend *while* the value is being input, but it does let the user know what's coming . . .

Edited: 26 Oct 2005, 1:55 p.m.

HP33S - promts for INPUT

*Message #8 Posted by **vq** on 26 Oct 2005, 4:22 p.m.,*
in response to message #7 by Paul Brogger

Good idea, Paul. Probably the best way - it shows the current value and the A? hint in top row is not too confusing when preceded by the explanatory message shown before the INPUT.

Unfortunately, the problem discussed shows the 33s system is far from being optimised for the nice hardware features (two line display, lots of RAM). Well, for everyday CALCULATION (not COMPUTATION) needs I think 33s is very fine. I had a 48gII and after few months gave

it away - too big for me, problematic stiff keyboard, battery hungry... All larger tasks I do on a PC anyway. Thanks again vq

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Locked display HP48GX

*Message #1 Posted by **Roger** on 19 Oct 2005, 12:11 p.m.*

During use, my HP48Gx, display froze, with screen solid black. I've tried various resets and checks, including system halt and Electrostatic Discharge. Keyboard is disabled, replacement of batt. does not help. I fear the worst!

Any ideas?

Cheers!

Roger.

Re: Locked display HP48GX

*Message #2 Posted by **George Rose** on 19 Oct 2005, 7:56 p.m.,*
in response to message #1 by Roger

A coworker experienced the same symptoms with his 48GX yesterday. Removing the upper right (face down) rubber foot and and pressing the reset button through the hole with a paper clip fixed his calculator.

Re: Locked display HP48GX

*Message #3 Posted by **Roger Pateman** on 20 Oct 2005, 3:54 a.m.,*
in response to message #2 by George Rose

Thanks, Its back again for another 12 years sterling service!

Cheers.

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CP/M autoload

*Message #1 Posted by **Jim Rudnick** on 18 Oct 2005, 9:05 p.m.*

Is it possible to switch drives (1 to 0 and 0 to 1) on a HP-9133D? The CP/M master disk requires 'Autost' to reside on lowest drive and my 9133D floppy is drive 1 and the fixed disk is drive 0. I don't want to install the master files on the hard drive. Internal jumpers maybe?

Re: CP/M autoload

*Message #2 Posted by **Vassilis Prevelakis** on 19 Oct 2005, 2:19 p.m.,*
in response to message #1 by Jim Rudnick

IMHO it depends on the model of your 9133.

Check the manual on bitsavers: http://bitsavers.org/pdf/hp/disc/09134-90032-Aug-1983.pdf

**vp

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Recognize this HP-87 CATalog?

*Message #1 Posted by **Howard Owen** on 18 Oct 2005, 6:28 p.m.*

I got a bunch of old software on floppy via an eBay auction. The haul included a disk with a handwritten label of "hp87 bin." The catalog of the disk's image looks like the following. Does anyone recognize it?

```
hbo@Quirk|1166> lifdir -f hdrive1.dat
Volume : :D601
BUILD        E020           512/512
CRUNCH2      E020          8960/8960
EDITR8       E020         23552/23552
ED87TX       E010         19200/19200
REDZERg      E008           768/768
LINCURg      E008           512/512
STRNGBg      E008          1024/1024
KEYONBg      E008           768/768
GETSAVEg     E008          1536/1536
GCURSBg      E008          1024/1024
MATHBIg      E008          1792/1792
TRACKBg      E008          1024/1024
SORTB2g      E008           768/768
IPBINg       E008          4096/4096
FORMSBg      E008           768/768
LIF87        E020          9728/9728
LIFg         E008          1024/1024
FORM         E008          5888/5888
CFORM        E008          6144/6144
EFORM        E008          6400/6400
TR87TX       E010         19200/19200
TERMIN       E020         29440/29440
MUNAVF       E020          5120/5120
MUNAVL       E020          6912/6912
MAKE_PROG    E020          1792/1792
CBIN         E008           256/256
COUNT        TEXT           512/512
```

Re: Recognize this HP-87 CATalog?

*Message #2 Posted by **Jim Rudnick** on 18 Oct 2005, 8:59 p.m.,*
in response to message #1 by Howard Owen

Yes-The programs with the lower case 'g' are binaries for the HP-86,7. The other programs are HP supplied and user supplied. A good find I would say. they need to be copied and freely shared. If you prefer, copy the disc and offer for sale on eBay. Jim

Re: Recognize this HP-87 CATalog?

*Message #3 Posted by **Howard Owen** on 18 Oct 2005, 9:38 p.m.,*
in response to message #2 by Jim Rudnick

I bought them with the intention of making them available (for free). It's only one of 30 or so disks! (Only one for the 80 series, as far as I can tell.)

The disk has errors halfway through. I've copied all the good sectors, along with garbage for the bad ones. Hopefully the damage only cut across 3-5 files.

Re: Recognize this HP-87 CATalog?

*Message #4 Posted by **Vassilis Prevelakis** on 20 Oct 2005, 11:37 p.m.,*
in response to message #3 by Howard Owen

```
Howard Owen wrote:
> The disk has errors halfway through. I've copied all the good
> sectors, along with garbage for the bad ones. Hopefully
> the damage only cut across 3-5 files.
```

In your site you mention that the problem was in sectors 32 - 35. Assuming 16 sectors per track (as used by the 9121 drive), that means that sectors 512 till 560 of the medium will have problems.

Now looking at the CAT listing of the diskette:

```
   NAME      START  NBLOCK    TYPE     LENGTH   RECLEN     IMP BYTES
BUILD          16       2    BASIC        276      256     1401 0001
CRUNCH2        18      35    BASIC       8924      256     dc22 0001
EDITR8         53      92    BASIC      23535      256     ef5b 0001
ED87TX        145      75    DATA       19200    19162     b606 da4a
REDZERg       220       3    BPGM         540      256     1c02 0001
LINCURg       223       2    BPGM         334      256     4e01 0001
STRNGBg       225       4    BPGM         894      256     7e03 0001
KEYONBg       229       3    BPGM         630      256     7602 0001
GETSAVEg      232       6    BPGM        1480      256     c805 0001
GCURSBg       238       4    BPGM         829      256     3d03 0001
MATHBIg       242       7    BPGM        1569      256     2106 0001
TRACKBg       249       4    BPGM        1004      256     ec03 0001
SORTB2g       253       3    BPGM         618      256     6a02 0001
IPBINg        256      16    BPGM        3930      256     5a0f 0001
FORMSBg       272       3    BPGM         737      256     e102 0001
LIF87         275      38    BASIC       9622      256     9625 0001
LIFg          313       4    BPGM         896      256     8003 0001
FORM          317      23    BPGM        5633      256     0116 0001
CFORM         340      24    BPGM        5997      256     6d17 0001
EFORM         364      25    BPGM        6314      256     aa18 0001
TR87TX        389      75    DATA       19200    19162     004f da4a
TERMIN        464     115    BASIC      29322      256     8a72 0001
MUNAVF        579      20    BASIC       5120      256     0014 0001
MUNAVL        599      27    BASIC       6845      256     bd1a 0001
MAKE PROG     626       7    BASIC       1672      256     8806 0001
CBIN          633       1    BPGM          61      256     3d00 0001
COUNT         634       2    TEXT         512      256     d901 0001
```

We see that file TERMIN contains the bad blocks (it starts on sector 464 and occupies the next 115 sectors). You will find that this file has problems.

It may be, however, that the drive has "spared" tracks, i.e. spare tracks that have been used instead of the damaged tracks. In this case the file may be recoverable if you copy the original floppy to a known good floppy on the 9121.

Best Regards

**vp

Edited: 20 Oct 2005, 11:39 p.m.

Re: Recognize this HP-87 CATalog?

*Message #5 Posted by **Howard Owen** on 21 Oct 2005, 12:20 a.m.,*
in response to message #4 by Vassilis Prevelakis

Thanks for that advice, Vassilis. I'll certainly give it a try.

Re: Recognize this HP-87 CATalog?

*Message #6 Posted by **Howard Owen** on 22 Oct 2005, 6:26 p.m.,*
in response to message #4 by Vassilis Prevelakis

The bad tracks weren't "spared" unfortunately.

Re: Recognize this HP-87 CATalog?

*Message #7 Posted by **Vassilis Prevelakis** on 24 Oct 2005, 2:21 a.m.,*
in response to message #6 by Howard Owen

```
Howard Owen wrote:
> The bad tracks weren't "spared" unfortunately.
```

No big loss, its just a terminal emulation program. I am really happy that the binary utilities apparently escaped unharmed.

**vp

Re: Recognize this HP-87 CATalog?

*Message #8 Posted by **Valentin Albillo** on 19 Oct 2005, 4:23 a.m.,*
in response to message #1 by Howard Owen

Hi, Howard:

Have a look at this link.

Best regards from V.

Re: Recognize this HP-87 CATalog?

*Message #9 Posted by **Olivier De Smet** on 19 Oct 2005, 5:25 a.m.,*
in response to message #1 by Howard Owen

You can still use André Koppel 0x38 rom to identify the keywords of the HP86 binaries (if you have an image of the disk and an S80 emulator)

For more informations, I can still disassemble binaries.

Olivier

Re: Recognize this HP-87 CATalog?

*Message #10 Posted by **Vassilis Prevelakis** on 19 Oct 2005, 2:59 p.m.,*
in response to message #9 by Olivier De Smet

```
Olivier De Smet wrote:
> You can still use André Koppel 0x38 rom to identify the keywords
> of the HP86 binaries (if you have an image of the
> disk and an S80 emulator)
```

Oh, please, there is a command catalog at the beginning of each ROM or binary file. It only takes 40-50 lines of C to pretty-print this info.

**vp

Re: Recognize this HP-87 CATalog?

*Message #11 Posted by **Patrice Torchet** on 20 Oct 2005, 10:55 a.m.,*
in response to message #9 by Olivier De Smet

If I am successfull in digging in the attic, I think I can provide the assembler source code along with the copied book I got at the time.

Patrice

Re: Recognize this HP-87 CATalog?

*Message #12 Posted by **Vassilis Prevelakis** on 19 Oct 2005, 2:49 p.m.,*
in response to message #1 by Howard Owen

Looks like you got the HP-86/87 Binary Utilities package which contains:

```
8291002 - Logical Interchange Format (LIFg)
8291011 - String/Retrieving Programs as Data (GETSAVg)
8291013 - Sorting Groups of Elements of a String (SORTB2g)
8291016 - Enhanced String Manipulation (STRNGBg)
8291018 - Mathematical Functions (MATHBIg)
8291020 - Numeric Array Organization/Initialization (REDGZERg)
8291022 - Programmer Control of CRT/Keyboard (IPBINg)
8291024 - Enhanced CRT, Cursor, Keyboard Control (FORMSBg)
8291030 - FORMS/80
8291033 - Graphical Cursor (GCURSg)
8291035 - Enhanced String Input/Cursor Control (LINCURg)
8291036 - Immediate Execute Keys (KEYONg)
8291003 - Graphics Tablet Display (TRACKg)
```

(the 8291xxx number is the Series 80 Program Library Catalog number).

I have documentation for some of these utilities and summaries for the rest. I will post these as soon as I get home.

**vp

Edited: 19 Oct 2005, 3:05 p.m.

Re: Recognize this HP-87 CATalog?

*Message #13 Posted by **Howard Owen** on 19 Oct 2005, 4:54 p.m.,*
in response to message #12 by Vassilis Prevelakis

Thanks Vassilis!

Like I said, there were 3 tracks in the middle of the disk with errors. I haven't gotten to the point of figuring out which files were affected yet.

I'm about to post the major part of my haul on retrocalculator.com. Stay tuned!

HP-86/87 Binary Utilities package

*Message #14 Posted by **Vassilis Prevelakis** on 19 Oct 2005, 11:56 p.m.,*
in response to message #12 by Vassilis Prevelakis

the contents are as follows:

```
8291001 - Logical Interchange Format (LIFG)
8291002 - Logical Interchange Format (LIFg)
        Provides LIF type 1 interchange to allow file transfer to 9826,
```

9642, RTE-7. (Contains both binary and BASIC programs).

8291030 - FORMS/80
FORMS/80 is a data entry/display package created to simplify application programs that require data entry/display, provide a convenient user interface, and provide independence of the CRT Form from the Applications program. Consists of 3 binary programs, two for the creation and modification of a form; the third provides operating system and BASIC language extensions which allow a BASIC program to utilize the form.

8291035 - Enhanced String Input/Cursor Control (LINCURg)
Binary program designed to enhance string input by allowing you to input any character (including the comma and quotation marks) as a string variable and to move the cursor to any location (of the alpha display) on the CRT.

8291036 - Immediate Execute Keys (KEYONg)
Binary program designed to define any key on the keyboard as an immediate-execute key (similar in operation to the special function keys).

8291002 - Graphics Tablet Display (TRACK)
8291003 - Graphics Tablet Display (TRACKg)
binary program designed for use with the 9111A Graphics Tablet. TRACKg uses the CRT as a visual display of the movements of the pen on the tablet. The program can be very useful in generating graphics when used in conjunction with the BREAD function in the Plotter ROM.

8291010 - String/Retrieving Programs as Data (GETSAV)
8291011 - String/Retrieving Programs as Data (GETSAVg)
Normally, Series 80 computers store programs in their own unique internal language. GETSAVg is a binary program designed to enable you to store and retrieve programs as data. When a program is saved as a data file, it can be read, modified or rewritten as string data by other programs.

8291012 - Sorting Groups of Elements of a String (SORTB2)
8291013 - Sorting Groups of Elements of a String (SORTB2g)
SORT2B is a binary program designed to sort groups of elements of a string. Two sort procedures are available. Both produce the same result, however, one of the procedures requires no additional memory to operate.

8291015 - Enhanced String Manipulation (STRNGB)
8291016 - Enhanced String Manipulation (STRNGBg)
STRNGBg is a binary program which contains eight programmable string functions designed to enhance string manipulation. The functions are as follows: 1) highlight, 2) lowercase, 3) repeat, 4) reverse, 5) trim, 6) rotate, 7) search and replace, and 8) number of manipulation.

8291018 - Mathematical Functions (MATHBIg)
MATHBIg is a binary program containing nine programmable mathematical functions including hyperbolics, octal to decimal and decimal to octal conversions and factorial.

8291020 - Numeric Array Organization/Initialization (REDGZERg)
REDZERg is a binary program designed to enhance numeric array manipulation capabilities of the HP86/87. A numeric array can be reorganized (redimentioned) or initialized to zero with use of one of the two statements offered.

8291021 - Programmer Control of CRT/Keyboard (IPBIN)
8291022 - Programmer Control of CRT/Keyboard (IPBINg)
IPBINg is a binary program designed to provide programmer control of the internal CRT and keyboard. Capabilities are intended to make development of a good terminal emulator

```
                possible. Capabilities provided are also intended to be of
                general use in CRT control or special keyboard entry or
                control.


        8291023 - Enhanced CRT, Cursor, Keyboard Control (FORMSB)
        8291024 - Enhanced CRT, Cursor, Keyboard Control (FORMSBg)
                FORMSg is an binary program designed to enhance control of
                the CRT, cursor, and keyboard. The functions or expressions
                offered are: page, cursor, xpos, ypos, home, readchar,
                writechar, key1, key2, key3, setkey, and end key.


        8291032 - Graphical Cursor (GCURS)
        8291033 - Graphical Cursor (GCURSg)
                This is a binary program designed to provide graphics cursor
                capabilities. You should be familiar with the Graphics
                Section of the HP-86/87 Owner's Manual and Programming
                Guide.
```

Re: Recognize this HP-87 CATalog?

*Message #15 Posted by **Vassilis Prevelakis** on 21 Oct 2005, 3:06 a.m.,*
in response to message #1 by Howard Owen

The file COUNT is assembler source:

```
10 !          NAM COUNT
20           DEF RUNTIM
30           DEF ASCIIS
40           DEF PARSE
50           DEF ERMSG
60           DEF INIT
70 PARSE     BYT 0,0
80 RUNTIM    BYT 0,0
90           DEF COUNT.
100           BYT 377,377
110 ASCIIS    BSZ 0
120           ASP "COUNT"
130           BYT 377
140 ERMSG     BSZ 0
150           BYT 377
160 INIT      BSZ 0
170           RTN
180           BYT 0,56
200 COUNT.    BIN
220           LDM R40,=0,0,0,0,0,0,0,0
221           LDM R50,=0,0,0,0,1D,0,0,0
230 LIN1      ADM R40,R50
244           CMM R40,=0,0,0,0,0,0,0,1D
245           JNC LIN1
250           PUMD R40,+R12
260           RTN
265 !ASSEMBLE "CBIN"
266 ONER      DAD 56215
270           FIN
```

I suspect that the BPGM file CBIN is executable version of the above program. This is the hex dump of CBIN:

```
 000000000000    434f554e  54200200    00000000  00000000    *COUNT .........*
 000000000010    00000000  00000000    00002600  2c002400    *..........&.,.$.*
 000000000020    32003300  00000000    3600ffff  434f554e    *2.3.....6...COUN*
 000000000030    d4ffff9e  002e9860    a8010ae4  9e......    *.......`........*
```

Anybody knows what this thing is supposed to be doing?

**vp

Re: Recognize this HP-87 CATalog?

*Message #16 Posted by **patrice torchet** on 21 Oct 2005, 12:43 p.m.,*
in response to message #15 by Vassilis Prevelakis

Hello all,

This BPGM : CBIN is not the binary belonging to that assembler source code.

Your assembler source code for COUNT seems to be a WAIT function of some sort.

Patrice

Re: Recognize this HP-87 CATalog?

*Message #17 Posted by **Valentin Albillo** on 24 Oct 2005, 4:44 a.m.,*
in response to message #15 by Vassilis Prevelakis

Hi, Vassilis:

It's been ages since I last programmed in Series 80 Assembler, but seems to me this assembler source is nothing but a very basic training example.

As far as I can tell, this source simply defines a single keyword, a function named COUNT which takes no parameters and does nothing except increment a counter and test whether it's reached a final value, which is returned. An attempt to comment your source follows:

```
      10 !         NAM COUNT
      20           DEF RUNTIM      define for the runtime table
      30           DEF ASCIIS      define for the ASCII name table
      40           DEF PARSE       define for the parse table
      50           DEF ERMSG       define for the error messages table
      60           DEF INIT        define for initialization
      70 PARSE     BYT 0,0         no parse table
      80 RUNTIM    BYT 0,0         run time table
      90           DEF COUNT.      a single keyword, COUNT
      100           BYT 377,377
      110 ASCIIS    BSZ 0
      120           ASP "COUNT"    function's ASCII name
      130           BYT 377
      140 ERMSG     BSZ 0          no error message table
      150           BYT 377
      160 INIT      BSZ 0          no special initialization
      170           RTN
      180           BYT 0,56       a function, no parameters, returns numeric value
      200 COUNT.    BIN            set binary mode for math
      220           LDM R40,=0,0,0,0,0,0,0,0    load 0 into R40-47
      221           LDM R50,=0,0,0,0,1D,0,0,0   load increment in R50-57
      230 LIN1      ADM R40,R50                  loop: add increment in R50-57 to R40-47
      244           CMM R40,=0,0,0,0,0,0,0,1D   compare multiple: see if R40-47 exceed
fixed final value
      245           JNC LIN1                     logical test: if no carry, then loop
back to label LIN1
      250           PUMD R40,+R12                multi-byte push, returns final value in
R40-47
      260           RTN                          end execution
      265 !ASSEMBLE "CBIN"
      266 ONER      DAD 56215
      270           FIN
```

All of this is purely from memory from several decades ago, so there may be errors in the comments above.

Best regards from V.

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HP 48G - PCB for 512K RAM upgrade

*Message #1 Posted by **Caribe T** on 18 Oct 2005, 6:01 p.m.*

I have looked at some of the various RAM upgrade sites on the net. For the addition of a 512K chip, there seems like one needs to put it on to a PCB of some type.....however, I haven't been able to find any information about the PCB (like whether it can be bought ready to use or whether it has to be hand-made). Can anyone give me the story about it? Thanks in advance.

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HP 12C

*Message #1 Posted by **Randy** on 18 Oct 2005, 5:49 p.m.*

I have an old 12c and it has a flashing * in the lower left corner of the display. Can anyone tell me what it means and how to get rid of it?

Thanks in advance

Re: HP 12C

*Message #2 Posted by **Tomas Fischer** on 18 Oct 2005, 8:03 p.m.,*
in response to message #1 by Randy

It indicates that the battery is running low. To fix it, replace the batteries :) It takes 2 LR44, SR44, A76, 357 or EXP76. Hope that helps Tomas

Re: HP 12C

*Message #3 Posted by **blurdybloop** on 18 Oct 2005, 8:07 p.m.,*
in response to message #2 by Tomas Fischer

Radio Shack sells SR44s as type 303 silver-oxide batteries, catalog number 23-104.

By the way, new production HP-12c use a different battery, so make sure that you check the battery compartment rather than go by messages posted here.

Re: HP 12C

*Message #4 Posted by **Nelson M. Sicuro (Brazil)** on 19 Oct 2005, 7:13 a.m.,*
in response to message #3 by blurdybloop

Older HP-12C uses 3 (three) 1.5V button cell battery tipe LR44 or equivalent (alkaline) or SR44 (silver oxide, expensive but lasts longer)

Newer models uses a single lithium 3V coin cell (CR2032? anyone?)

Best regards,

Nelson

Re: HP 12C

*Message #5 Posted by **Gerson W. Barbosa** on 19 Oct 2005, 4:22 p.m.,*
in response to message #4 by Nelson M. Sicuro (Brazil)

> Quote:

(CR2032? anyone?)

Hello Nelson,

You're right, CR2032 by what I can remember and according to HP-12C specs page. By the way, do you know where I can find SR44 cells here in Curitiba? So far, I've only been able to find LR44 cells, mostly Maxell brand.

Best regards,

Gerson.

Re: HP 12C

*Message #6 Posted by **blurdybloop** on 20 Oct 2005, 2:19 a.m.,*
in response to message #5 by Gerson W. Barbosa

I checked my (2005 production) HP-12c and indeed it takes a CR2032.

For older HP 10 series calculators, HP lists any of the following as being suitable:

Eveready (or UCAR) A76 (alkaline), 357 (silver oxide)
RAY-O-VAC RW82 (alkaline), RS76 or RW42 (silver oxide)
National (or Panasonic) LR44 (alkaline)
Duracell MS76 or 10L14 (silver oxide)
Varta 4276 (alkaline), 541 (silver oxide)

I don't know if you have Radio Shack stores in Brazil; they are ubiquitous in North America. Radio Shack catalog number 23-104 is a type 303 silver oxide battery which is listed as a substitute for: Type A, WS14, SB-A9, GS14, 9, 521, EPX77, 8002, 303, 1130SO, SR44, D303, D357, SP303, V303, SR44SW.

The Radio Shack batteries themselves are stamped Energizer and either 303 or 357/303.

Re: HP 12C

*Message #7 Posted by **Gerson W. Barbosa** on 20 Oct 2005, 11:38 a.m.,*
in response to message #6 by blurdybloop

Thanks for the info. I'll take a better look at local photo stores. We don't have Radio Shack stores here (We have Sam's Club and Wall Mart stores though - but the HP-12C is the only HP calc they sell)

Regards,

Gerson.

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HP15 User mode

*Message #1 Posted by **Frederick Harvie** on 18 Oct 2005, 3:05 p.m.*

I have a HP15 which is in the user mode and I can't get the user mode to turn of . the calculator passes both the self test and the keyboard test. Any suggestions would be appreciated.

Re: HP15 User mode

*Message #2 Posted by **Vieira, L.C. (Brazil)** on 18 Oct 2005, 4:10 p.m.,*
in response to message #1 by Frederick Harvie

Hi, Frederik;

to get rid of the USER mode, press [f][USER] ([RCL] key) again. The [f][USER] sequence toggles the USER mode On and OFF.

Cheers.

Luiz (Brazil)

Re: HP15 User mode

*Message #3 Posted by **Frederick Harvie** on 18 Oct 2005, 4:53 p.m.,*
in response to message #2 by Vieira, L.C. (Brazil)

The calculator does not respond to pushing "f""rcl" . It seems to be stuck in the user mode and my initial thought was the key was bad but it passes the keyboard check

Re: HP15 User mode

*Message #4 Posted by **Vieira, L.C. (Brazil)** on 18 Oct 2005, 8:46 p.m.,*
in response to message #3 by Frederick Harvie

Hi, Frederick;

if you wanna give it a try, clear all memory with [ON][-]. Try this:

```
turn the calculator off;
presws and hold the [-] key;
while pressing the [-] key, turn the calculator back on;
release the [-] key
```

You should see

```
[ Pr Error ]
```

The USER annunciator should be off, now. But you´d loose all of your data.

Luiz(Brazil)

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48's

*Message #1 Posted by **Ron** on 17 Oct 2005, 11:56 p.m.*

I have a 48GX and a 48SX, and I have had a 48G+. Was there ever just a 48, with no letters?

Re: 48's

*Message #2 Posted by **Arnaud Amiel** on 18 Oct 2005, 3:26 a.m.,*
in response to message #1 by Ron

> Quote:
>
> I have a 48GX and a 48SX, and I have had a 48G+. Was there ever just a 48, with no letters?

No but there also was a 48G and a 48S and there still is a 48Gii which has nothing to do with the other 48 series.

Arnaud

Re: 48's

*Message #3 Posted by **Eddie Shore** on 18 Oct 2005, 8:40 a.m.,*
in response to message #2 by Arnaud Amiel

The 48GII is the 49G+ minus the secure card slot and some RAM; and has the black cable connector instead of the USB cord. So the 48GII really belongs in the 49 family.

Re: 48's

*Message #4 Posted by **I, Claudius** on 18 Oct 2005, 9:34 a.m.,*
in response to message #3 by Eddie Shore

Is the 48GII cable similar to the serial type as the ones used for the 48/49?

Re: 48's

*Message #5 Posted by **Tim Wessman** on 18 Oct 2005, 9:48 a.m.,*
in response to message #4 by I, Claudius

Nope. It is a USB connector on the end, and a 9 on the other. The cable has a little circuit board inside of the 9 pin connector that takes power from the 9 pin and does some conversions on the signal in transit. I have not heard of anyone sucessfully using the cable with anything but a computer.

TW

Re: 48's

*Message #6 Posted by **I, Claudius** on 18 Oct 2005, 9:29 p.m.,*
in response to message #5 by Tim Wessman

Thanks. Since you're a 49+ user, do you have one of later serial numbers, or in short, how's your keyboard / general build quality?

Re: 48's

*Message #7 Posted by **Arnaud Amiel** on 19 Oct 2005, 3:26 a.m.,*
in response to message #6 by I, Claudius

I have one of the later ones (2005). The keyboard is as good as on a 48. However the paint job is not very good and the labels look a bit fuzzy. The best would be to try before you buy.

Arnaud

Re: 48's

*Message #8 Posted by **I, Claudius** on 19 Oct 2005, 10:18 a.m.,*
in response to message #7 by Arnaud Amiel

Thanks. I went through several 49+s a while back, a real disappointment.

Your "try before buy" has me laughing, no where I know (around where I live) lets you try a calculator before you buy as they're all in sealed packages. But actually, it's a great idea. If models were out on display for potential buyers to play with, it would help quite bit.

Re: 48's

*Message #9 Posted by **Arnaud Amiel** on 19 Oct 2005, 10:24 a.m.,*
in response to message #8 by I, Claudius

> Quote:
>
> Your "try before buy" has me laughing, no where I know (around where I live) lets you try a calculator before you buy as they're all in sealed packages.

Here in the UK the 49 and 33 and maybe others come in cardboard boxes.

Arnaud

Re: 48's

*Message #10 Posted by **Crawl** on 19 Oct 2005, 2:36 p.m.,*
in response to message #8 by I, Claudius

The Office Depots around here have a lot of calculators out on display so you can play with them before buying. However, they're mostly TI's. The only HP I remember for a fact being out was a 12C.

I played with a 33s at WalMart before buying by pushing the buttons through the plastic (not an idea situation, but it works). That wouldn't work for a 49G+ even if

they were available in stores (but without demo copies), since they're packaged without their batteries connected. I've never seen a 49G+ in any physical store in any shape or form.

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Indirect Addressing

*Message #1 Posted by **Eddie Shore** on 17 Oct 2005, 11:51 p.m.*

Is indirect addressing possible on either the 39g+ or 49g+? Thanks.

Re: Indirect Addressing

*Message #2 Posted by **Marcus von Cube, Germany** on 18 Oct 2005, 3:53 a.m.,*
in response to message #1 by Eddie Shore

Eddie,

you can GET from a {list} or a [vector] and you can EVAL any quoted 'name'. In algebraic notation 'L(index)' gets the indexed value from a list (You probably need to EVAL to see a result.)

Re: Indirect Addressing

*Message #3 Posted by **Eddie Shore** on 18 Oct 2005, 8:43 a.m.,*
in response to message #2 by Marcus von Cube, Germany

OK, thank you Marcus. I checked the manuals of both calculators and neither have an "indirection" command. I will probably use a list.

Re: Indirect Addressing

*Message #4 Posted by **Namir** on 18 Oct 2005, 9:23 a.m.,*
in response to message #1 by Eddie Shore

Indect addressing apepared in earlier HP calculator that had numbered registered and labels. Today, the HP33s has indirect addressing that works with the single-letter memory registers and labels. The graphics calculators don't have it since they support named variables. As the other comments pointed out, you can access specific elements in lists in a manner similar to accessing array elements in regular programming languages.

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HP11

*Message #1 Posted by **Dave Bleam** on 17 Oct 2005, 8:34 p.m.*

I found an old HP11 (still in working condition), but I forgot how to run the linear regression program on it. Can somebody jog my memory? Dave

Re: HP11

*Message #2 Posted by **Namir** on 17 Oct 2005, 11:27 p.m.,*
in response to message #1 by Dave Bleam

First make sure the stat sum registers are clear by pressing the [f][GSB] keys.

To enter data:

1) Type the value for y 2) Press [Enter] 3) Type value for x 4) Press the [sigma plus] key

To get the linear regression coefficients press [f][sigma +] keys.

To remove data:

1) Type the value for y 2) Press [Enter] 3) Type value for x 4) Press the [g][sigma plus] keys

Re: HP11

*Message #3 Posted by **Dave Bleam** on 18 Oct 2005, 11:07 p.m.,*
in response to message #2 by Namir

Thank you for your help: those steps got my Y intercept point; does this have the capability to calculate the slope also? (using Y=ax+b formula)?

Re: HP11

*Message #4 Posted by **Namir** on 19 Oct 2005, 9:19 a.m.,*
in response to message #3 by Dave Bleam

To see the slope, click the [x<>y] button after you click the [f][sigma +] keys.

I suggest you either buy a copy of the HP-11C user's manual from eBay or get the museum CDs/DVD that contains the two manuals (user's manual and applications manual) for the HP-11C.

HP-11C *back plate*

*Message #5 Posted by **Karl Schneider** on 19 Oct 2005, 9:54 p.m.,*
in response to message #3 by Dave Bleam

Dave posted,

> Quote:
>
> does this have the capability to calculate the slope also? (using Y=ax+b formula)?

Crikey! Didja take a look at the back plate of the HP-11C (assuming it is still there, and readable)? It's got a diagram 'n' everything for the "L.R." linear regression function.

Namir posted,

> Quote:
>
> To see the slope, click the [x<>y] button after you click the [f][sigma +] keys.
>
> I suggest you either buy a copy of the HP-11C user's manual from eBay or get the museum CDs/DVD that contains the two manuals (user's manual and applications manual) for the HP-11C.

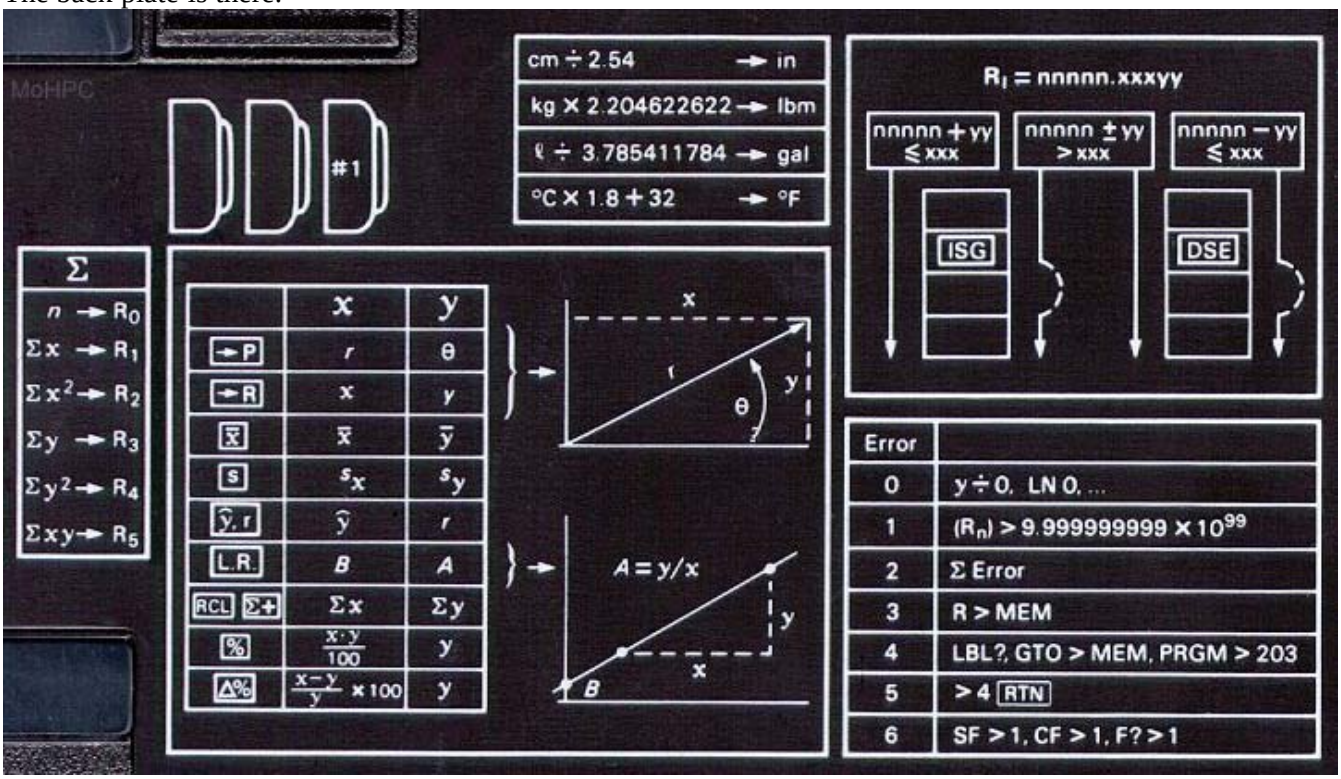
Amen to that...

-- KS

Re: HP-11C *back plate*

*Message #6 Posted by **Arnaud Amiel** on 20 Oct 2005, 8:17 a.m.,*
in response to message #5 by Karl Schneider

The back plate is there:



http://www.hpmuseum.org/11cbk.jpg

Arnaud

Re: HP11

*Message #7 Posted by **Ron Ross** on 19 Oct 2005, 10:52 a.m.,*
in response to message #1 by Dave Bleam

You can probably download the Hp12c manual in PDF format from Hp. The Stats and linear regression are either the same or very close in operations. If you can just select chapters, you can be selective.

Re: HP11

*Message #8 Posted by **Namir** on 19 Oct 2005, 11:45 a.m.,*
in response to message #7 by Ron Ross

The HP-12C has linear regression commands that are quite different from the HP-11C. For one, the 12C does not have keys to calculate the slope & intercept and push them into the stack like the 11C does.

Re: HP11

*Message #9 Posted by **Dave Bleam** on 20 Oct 2005, 9:36 p.m.,*
in response to message #8 by Namir

Mine still has a pretty intact back plate; its got some good info. I still like the idea of buying the manual. The backplate doesnt give me enough information to run the LR program. Namir's instructions were right on the money. Incidently, I'm 53; the oldest guy in my Physics class. The calculator is older than some of the students; next week I'll bring in my slide rule.

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Upgrade HP 48G 32K RAM chip

*Message #1 Posted by **Caribe T** on 17 Oct 2005, 8:25 p.m.*

I want to upgrade the 32K chip in my 48G. However all the information that I find on the net about doing the upgrades (to 128K, 256K etc) have been done with chips such as the "128K (8bit) static ram chip SMD package (SO32) (HM628128LFP-8 (Hitachi) or KM681000BLG-7L (Samsung))". However it seems that these parts are not readily available - being older model chips, I take it that they have been replaced with newer and larger chips. Can anybody tell me what 'newer' chips I could use that is readily available, that I can just substitute right in place of the chips that are used in the 128K-256K upgrades? Will a "131810 IC,SRAM,628128LP" work (it is 1028K I think). Any help is much appreciated. Thanks

Edited: 17 Oct 2005, 8:29 p.m.

Re: Upgrade HP 48G 32K RAM chip

*Message #2 Posted by **randy** on 17 Oct 2005, 10:08 p.m.,*
in response to message #1 by Caribe T

On the contrary, they're still around as new. 128K x 8 - M5M51008DFP70HIA0-ND from http://digikey.com $4.50 each, in stock.

Edited: 17 Oct 2005, 10:08 p.m.

Re: Upgrade HP 48G 32K RAM chip

*Message #3 Posted by **Caribe T** on 17 Oct 2005, 10:55 p.m.,*
in response to message #2 by randy

Thanks very much for that!! Would you happen to know if any on the larger chips can be substituted. For example, to upgrade to 256K requires piggy backing 2 128Ks.....can you put a single 256K on there (if they make them)? If you can, do you know what chip that is? Thanks again

Re: Upgrade HP 48G 32K RAM chip

*Message #4 Posted by **I, Claudius** on 18 Oct 2005, 9:41 a.m.,*
in response to message #3 by Caribe T

There are a number of sites listed by www.hpcalc.org on how to upgrade your 48g. I did one with a 128K, it came out all right except I could not get the case to close right again. I had a friend who was an expert machinist drill four very small recessed screw holes at the corners of the case so I could reassemble it tightly. Now I can also take it apart again easily should I wish.

Later I bought a 48g that had been upgraded to a 1 MB memory by Cynox from Germany, outstanding. I'm not sure if they're still doing this, you might want to visit their website. Best of luck.

Edited: 18 Oct 2005, 9:43 a.m.

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Lead based solder

*Message #1 Posted by **Arnaud Amiel** on 17 Oct 2005, 9:30 a.m.*

From the middle of next year, here in Europe and probably elsewhere in the world, lead based solders will be illegal. Replacement solder usually melt at higher temprature and are not as mechanically strong. How would this affect maintenance of older electronic equipment (calculators). Should I stock large quantities of lead based solder or can anyone recommend an alternative?

Any ideas or clarification welcome.

Arnaud

Re: Lead based solder

*Message #2 Posted by **Ron Ross** on 17 Oct 2005, 9:41 a.m.,*
in response to message #1 by Arnaud Amiel

Stock up? Unless you repair these calculators for profit or have a lot of them, one spool should last you for a long time. (for the older electronics, I certainly would suggest always using the lower temp solder to alieviate (reduce) thermal stress. But unless you repair on a continual basis, a single roll (or two) should last you a long time. But it isn't a prohibitive cost to have a few rolls for a security blanket if you so desire.

Re: Lead based solder

*Message #3 Posted by **Arnaud Amiel** on 17 Oct 2005, 9:51 a.m.,*
in response to message #2 by Ron Ross

I was just thinking of buying 2 rolls instead of one!

Arnaud

Re: Lead based solder

*Message #4 Posted by **Meindert Kuipers** on 17 Oct 2005, 10:39 a.m.,*
in response to message #3 by Arnaud Amiel

Buy enough to last a lifetime. I will certainly stock up myself. You may consider to buy some stock of components as well. Many IC vendors are obsoleting products and this may be your last chance to get some in Europe, unless you can setup a 'grey' channel through the US. Note that the rules are valid for parts of Asia as well (Japan even has more strict rules than Europe), so US manufacturers that build for export will have to comply with the rules.

There are theories that the Roman Empire fell due to the mental state of the leaders being influenced by the lead in the drinking water because of the lead plumbing (only the rich had plumbing, Pb is the chemical symbol of lead). Maybe these RoHS regulations have a good side after all ....

Meindert

Re: Lead based solder

*Message #5 Posted by **David Smith** on 17 Oct 2005, 10:43 a.m.,*
in response to message #4 by Meindert Kuipers

Actually the Romans used lead salts to sweeten their wine... sweet idea.

Re: Lead based solder

*Message #6 Posted by **bill platt** on 17 Oct 2005, 11:11 a.m.,*
in response to message #5 by David Smith

Is that why lead acetate is called "sugar of lead"? ;-)

Re: Lead based solder

*Message #7 Posted by **Bernhard** on 17 Oct 2005, 1:18 p.m.,*
in response to message #6 by bill platt

Hi folks,

two years ago, when noticing the legislation against lead-based solder, I went out and bought as much lead-based solder I could carry, 20 kilograms at least.

It is not advisable to use the new lead-free solders to repair our beloved HPs or any other electronics equipment based on leaded solder. Remember the trouble with old Tektronix scopes that needed a special silver-based solder because their electronic components were soldered to ceramic carriers ? Impossible to repair properly without the special solder !

Coming to repairs, the whole leadfree electronics campaign looks like a scam engineered by the consumer electronics industry which presumably might have bribed some corrupt EU politicians to pass such legislation.

Fact is, the new leadfree solders are less ductile and more brittle than lead solder and they won't stand vibrations and / or thermal cycles for a long time before they fail. From my own experience, it is almost impossible to hand-solder them without damaging parts and printed circuit boards by thermal stress, except when working so quick as to risk a cold solder joint.

Be prepared for virtually throwaway (unrepairable) extremely short-lived consumer electronics from TV sets to cars. I will certainly not buy any of those.

Critical systems such as medical electronics, aircraft, military electronics etc. will continue to use the more reliable lead-based solder.

Only the consumers are the fools.

And of course, lead-based solder in any electronics is absolutely no health hazard as long as old equipment is properly disposed of and recycled. All the metals could be regained in the process.

So the remaining reasons for banning lead in solder are greed, corruption, and sheer stupidity.

BTW, when they banned leaded fuel in the 1980's they substituted it with benzene, a potent cancerogen. When the Nazis did the same with their synthetic fuel back in the late 1930s,

the death rate of the pump attendants rose so quickly they had to switch the Reich's filling stations to self - service.

So, folks, be careful, especially when filling your cars... (wear disposable plastic gloves).

regards, Bernhard

Re: Lead based solder

*Message #8 Posted by **Mark Crispin** on 17 Oct 2005, 5:29 p.m.,*
in response to message #7 by Bernhard

> Quote:
>
> BTW, when they banned leaded fuel in the 1980's they substituted it with benzene, a potent cancerogen. When the Nazis did the same with their synthetic fuel back in the late 1930s, the death rate of the pump attendants rose so quickly they had to switch the Reich's filling stations to self - service.

I see to remember (it's been over 32 years since my last high school German class) that the German word for "gasoline" is "Benzin".

Re: only to US!

*Message #9 Posted by **M. currie** on 23 Oct 2005, 10:04 a.m.,*
in response to message #8 by Mark Crispin

There is some confusion in terminology, depending a bit on where you live. Benzene with an "e" is the nasty stuff, C6H6, but in American English at least, benzine with an "i" is just another word for naphtha (i.e. lighter fluid, paint thinner, Coleman fuel, or white gas).

Re: Lead based solder

*Message #10 Posted by **Chris Woodhouse** on 17 Oct 2005, 9:03 p.m.,*
in response to message #7 by Bernhard

> Quote:
>
> So the remaining reasons for banning lead in solder are greed, corruption, and sheer stupidity.

That about sums up the 3 biggest reasons politicians do most things.

Chris W

Re: Gasoline additives

*Message #11 Posted by **Karl Schneider** on 18 Oct 2005, 2:38 a.m.,*
in response to message #7 by Bernhard

Bernhard posted,

Quote:

> BTW, when they banned leaded fuel in the 1980's they substituted it with benzene, a potent cancerogen. When the Nazis did the same with their synthetic fuel back in the late 1930s, the death rate of the pump attendants rose so quickly they had to switch the Reich's filling stations to self - service.

I spent two years in Germany, 1989-90. Is benzene the reason the high-octance gasoline smelled different from US formulations? I remeber the "benzene ring" from high-school chemistry, and that it was a toxic, aromatic hydrocarbon.

As for fatal illness from inhaling vapors -- I've noted that the filler-nozzle "vapor capturers" that were introduced in Germany in the late 1980's do make a big difference. They are mandatory in the US urban areas; I see and breathe more vapors when filling up in rural areas without these attachments.

-- KS

Edited: 18 Oct 2005, 2:39 a.m.

Re: Gasoline additives

*Message #12 Posted by **Wayne Brown** on 18 Oct 2005, 12:30 p.m.,*
in response to message #11 by Karl Schneider

Quote:

> As for fatal illness from inhaling vapors -- I've noted that the filler-nozzle "vapor capturers" that were introduced in Germany in the late 1980's do make a big difference. They are mandatory in the US urban areas; I see and breathe more vapors when filling up in rural areas without these attachments.

They're not mandatory in *all* US urban areas; or if they are, it's not enforced. Here in Birmingham, Alabama I've seen very few of them; in fact, I can't recall seeing one in the last few months. Most gas nozzles have circular "splash guards" but the vapor-capturing devices are much rarer around here. I frequently have to move to the upwind side of the nozzle to avoid breathing the vapors.

Re: Gasoline additives

*Message #13 Posted by **Karl Schneider** on 18 Oct 2005, 10:27 p.m.,*
in response to message #12 by Wayne Brown

Wayne --

Good point; I shouldn't have assumed that Federal law required the vapor-capturing sleeves. I do most of my fueling in the state of Washington. Maybe it's a state law...

-- KS

Re: Gasoline additives

*Message #14 Posted by **Bernhard** on 19 Oct 2005, 2:37 p.m.,*
in response to message #13 by Karl Schneider

AFAIK, US legislation limits benzene content of gasoline to 1%. German high octane fuel legally may have up to 5%, actual content varies around 3%. The vapors are most dangerous, but it will also penetrate the uninjured skin and move to the target tissues: fat, bone marrow, brain, where it accumulates. Short term toxic effects are damage to the bone marrow, decrease of blood coagulation capability, and destruction of capillary walls. Long term effects are immune system defects, mutations, and Leukemia. Trouble is, benzene vapors are heavier than air and accumulate towards the ground - especially city kids get their own special dose. Since internal combustion engines do not burn all the fuel, and with cold catalytic converter, cities typically have about 30 micrograms Benzene per cubic meter of air, mean value, which means high-traffic roads and in winter concentration may be much higher. Air at filling stations without the suction devices had 100 times that concentration. Not a very healthy place to work at, or to buy food like butter or icecream there (remember: fat accumulates Benzene like a sponge).

Re: Gasoline additives

*Message #15 Posted by **bill platt** on 19 Oct 2005, 3:32 p.m.,*
in response to message #14 by Bernhard

Hi Bernhard,

Too bad I didn't have you on my side in a heated discussion over on C.S. HP48 regarding environmental legislation some months back. A number of euros were bashing the US in every way and pretending that somehow Great Europe had a monopoly on clean living.

Of course what we all know is that all of our democratic governments are messy things full of good intentions, hidden agendas, outright corruption, greed and power struggles.

So we have crazy inconsistencies in laws in every place.

It is interesting how much more toxic benzene is than any of its close relatives (styrene, toluene, xylene, vinyl toluene etc) though even the relatives have some troubling aspects.

From briefly reading up on the subject, the real hazard of the benzene is that the mechanism of elimination from the body--metablolisis--leaves a number of extremely toxic residues. This also explains why the relatives with side chains are not as bad generally-they metabolize into less dangerous residues.

Lesson from this:

In chemistry, family relations mean little to toxicological specifics.

Never trust adulterated food products. e.g. hydrogenated oil. God Only Knows what that stuff really is and how our bodies deal with it.

Don't sniff your new chinese rubber boots--you might get a nasty headache and leukemia to boot.

I cannot even imagine how many thousands of chinese are probably being harmed by their enormous rubber industry.

Edited: 19 Oct 2005, 3:34 p.m.

Re: Gasoline additives (OT)

*Message #16 Posted by **bernhard** on 20 Oct 2005, 6:30 p.m.,*
in response to message #15 by bill platt

Hi Bill,

you wrote:

"...Great Europe had a monopoly on clean living..."

this would make a good joke - if we weren't the victims. US citizens (total US population 296 Million) can hardly envision what it means to crowd 457 Million EU citizens into 41.6% of the space of the USA.

No wonder we Europeans have to endure more stench and dirt and hence, pretend to be more alert to environmental issues.

With some exceptions (such as LA) I found that US cities I visited had apparently cleaner air than any EU city I know of. From the airplane, a typical US city has a brown dome of air pollution over it and the rest of the sky is blue. Europe has a brown layer of air pollution all over its area and you need to climb a mountain to be above that brown toxic brine and enjoy a truly blue sky. Cities are worse than the countryside, of course.

One of the most evil scientific experiments currently being carried out in Europe is the field test of the effects of nanoparticles on the lungs of 457 Million human guinea pigs. Those who schemed that evil plan have developed a novel automotive diesel engine which produces lots of nanoparticles and they have passed laws which give vehicle tax benefits to cars using that engine, so these cars are everywhere now. Contrary to the stinking black clouds coming from prior art diesel engines which have larger (visible) particles that are filtered out and eliminated by the human's upper airways, the novel engines produce invisible nano-fine particles that pass the natural filters and go directly to the alveoli, where they accumulate any might even pass into the blood (as they are so small). The health hazard of those particles is under severe dispute. Those scientific studies who are paid for by the automotive industry claim no danger, while some critical voices were silenced by threat of lawsuits (or worse).

If the truth ever comes out, the resulting product liability ligitation might drive all of the european car manufacturers which have sold such cars into bankcrupty: some sources claim that in Austria alone (which has only 8.2 Million inhabitants, but the highest percentage of those cars on the road), 8000 children per year die (or get gravely ill)

due to those diesel exhaust fumes. Extrapolate this number to all of Europe and no corporation, regardless of its size, will be able to pay the penalty.

Seems that in the US, you can be happy your gasoline is so cheap that diesel engines for consumer cars never got a significant foothold.

Regards, Bernhard

Re: Gasoline additives (OT)

*Message #17 Posted by **blurdybloop** on 20 Oct 2005, 7:24 p.m.,*
in response to message #16 by bernhard

In the USA (but not Canada) diesel fuel is much more expensive than gasoline (as much as $.70/gallon). This is because fuel oil is divided here. Oil soldto heat homes is heavily subsidized and dyed, and oil for diesel vehicles is undyed and taxed to pay for the subsidy. One thing that is periodically done to truck drivers is an inspection of their fuel tanks; if there's any dye found the driver is in a *lot* of trouble.

In Canada, diesel is about $.05/liter cheaper than gasoline.

Consequently, in the USA diesel is primarily a fuel for large trucks, buses, and ships. Diesel is considered by many Americans to be bad-smelling and dirty. There are only a few diesel cars, mostly European imports, none of which sold well.

The most common American consumer vehicle with a diesel engine is a motorhome (or RV); but even then, most motorhomes are gasoline powered and only the largest Class A motorhomes use diesel. Class B and Class C motorhomes are almost always gasoline.

The latest fad among the enviro-freaks is something called "biodiesel" which is made from soybeans rather than petroleum. Of course, they overlook the small detail of producing those soybeans...

Re: Gasoline additives (OT)

*Message #18 Posted by **Garth Wilson** on 20 Oct 2005, 9:43 p.m.,*
in response to message #16 by bernhard

As evidence that it may be the wrong things getting the attention again, I have a newspaper article here saying that a major cause of particulates in the air we breath in Southern California is-- ready for this?-- brake linings being ground down by all the stop-and-go traffic. So while emissions standards (in grams per mile at constant speeds) keep getting tighter, the problem of the number of miles gets no attention, our roads get more congested, and we end up with other problems.

National Geographic had an article on water several years ago

where they estimated that 80% of the polution of our rivers, lakes, and streams was from urban runoff-- mostly engine oil and radiator and transmission fluid. All IC cars have these, and even hybrids do-- but not electric cars. Yet the auto manufacturers, who don't want to make them, push their FUD (fear, uncertainty, and doubt) agenda about them.

I just pulled out a water quality report on our local ground water. There are apparently 2 parts per billion of lead in it, and the action level is 15 ppb. Leakage from the local landfill with a bunch of electronic waste is *not* one of the suspected contributors, but erosion of natural deposits *is*. Again the RoHS barks up the wrong tree. Maybe I need to get into medical or military electronics after all. Those two fields will be allowed to continue using lead because people's lives depend on the greater reliability lead gives.

Edited: 20 Oct 2005, 9:47 p.m.

Re: Gasoline additives (OT)

*Message #19 Posted by **bill platt** on 21 Oct 2005, 10:30 a.m.,*
in response to message #18 by Garth Wilson

Are you suggesting that there is a law banning use of lead solder in any electronics other than military or medical?

It this is true, all I can say is "my god, what has this world come to".

Lots of stupid laws. Just last month, Connecticut *banned* motor scooters (vespas, mopeds etc) as being too "dangerous". Great timing. Rising gasoline prices, so let's ban one of the tools to reduce consumption. 3 guys at work bought 4 cycle mopeds last year. 90 mpg in town riding. Now they will be illegal.

Oh, and by the way, motorcycles are extremely poplar in CT-- and helmets are not required. (But children are required to wear bicycle helments--that's real consistent, huh). No discussion of banning *them*--only banning the "sissy" mopeds.

The diesel thing has always bothered me. I was in London in 1993. The place reaked of diesel all the time. Just a pall of diesel. Of course in Rostock, Germany in 1998, in the evening, it was a strong odor of coal--nothing compared to the soft coal smoke of the "former days" though...

Re: Gasoline additives (OT)

*Message #20 Posted by **Garth Wilson** on 21 Oct 2005, 2:28 p.m.,*
in response to message #19 by bill platt

Quote:

> Are you suggesting that there is a law banning use of lead solder in any electronics other than military or medical?

RoHS (often pronounced "ROW-hoss"), the restriction of "hazardous" substances (including lead), goes into effect next July in Europe. Our company will no longer be able to export our products to Europe until we get away from lead and can certify that the product is safe. (If someone else exports it for us, I suppose that's their business. We don't have many customers there anyway.) Soon after that, some of the orient will be onboard. California has a very limited RoHS-like law that goes into effect in 2007. Chicken Little's band is growing.

Re: Gasoline additives (OT)

*Message #21 Posted by **blurdybloop** on 21 Oct 2005, 2:39 p.m.,*
in response to message #19 by bill platt

Quote:

> The diesel thing has always bothered me. I was in London in 1993. The place reaked of diesel all the time. Just a pall of diesel. Of course in Rostock, Germany in 1998, in the evening, it was a strong odor of coal--nothing compared to the soft coal smoke of the "former days" though...

Indeed. It always amuses me to have Europeans lecture North Americans about environmental stewardship, given what a complete mess they made of their continent. Perhaps they see themselves as civilized missionaries out to warn the ignorant savages. What hubris!

The "ignorant savages" in North America have more forested land today and *much* more wildlife than we had a century ago. Even our modern industrial areas, such as Prudhoe Bay, are places where wildlife thrives.

Whereas every time I go to Europe, I'm struck by how bad the air smells and how sickly the vegetation looks.

I'm sure that the European Union bureaucrats will attempt to ban the import of electronics that use lead solder. Fortunately the WTO should stomp that out.

Re: Lead based solder

*Message #22 Posted by **George** on 20 Oct 2005, 2:14 p.m.,*
in response to message #7 by Bernhard

http://nepp.nasa.gov/whisker/

Thanks for the link to the whiskers!

*Message #23 Posted by **bill platt** on 21 Oct 2005, 5:07 p.m.,*
in response to message #22 by George

Thanks for the link to the whiskers!

Re: Thanks for the link to the whiskers!

*Message #24 Posted by **George** on 21 Oct 2005, 5:29 p.m.,*
in response to message #23 by bill platt

A tiny bit of return for all the useful information I have received from this site.

Re: Lead based solder

*Message #25 Posted by **bill platt** on 17 Oct 2005, 1:49 p.m.,*
in response to message #6 by bill platt

look at this:

http://www.chm.bris.ac.uk/motm/leadtet/leadh.htm

read the entry near the top about "sugar of lead"

"Sugar of lead"

*Message #26 Posted by **Karl Schneider** on 18 Oct 2005, 2:42 a.m.,*
in response to message #6 by bill platt

Bill posted,

> Quote:
>
> Is that why lead acetate is called "sugar of lead"? ;-)

I've never tasted it, but it is the active ingredient in *clear* Grecian Formula for restoring natural color to silver hair(not Grecian's dyed hair coloring).

-- KS

Re: Lead-based solder

*Message #27 Posted by **Garth Wilson** on 18 Oct 2005, 3:55 a.m.,*
in response to message #4 by Meindert Kuipers

I grew up in northern Argentina where our water came to us in pure lead pipes. A bunch of us American kids went through a little English boarding school there because our parents were were afraid that otherwise we'd have trouble in school when coming back to the U.S.. An unusually high percentage of the kids went on to become doctors and engineers. The lead pipes certainly did not hurt our mental capabilities one bit.

As for temperature, I believe I read that the new lead-free solders melt at around 250ºC. Does

anyone know if this is correct? 60/40 tin/lead melts at 185. When I worked in applications engineering at a VHF/UHF power transistor manufacturer 20 years ago, I sometimes had to do IR scanning of die surface temperatures with the transistor working under very stressed conditions to simulate a harsh military environment. When there'd be a void in the brazing that was supposed to attach the die to the package, sometimes I'd see temperatures over 350ºC *while the transistor was operating*. This dramatically shortened the life of the transistor (partly from accelerated metal migration), but did not cause catastrophic failure. I believe 500ºC was where it would go poof and fail with a flash, but as it got up there the runaway condition would happen too fast to measure the temperature, at least with the equipment we used at the time.

I understand the soldering temperature limitation on many plastic packages to be due to the fact that the plastic directly contacts the die inside the IC, and can damage it at high temperatures. As long as you're not soldering all the pins at once however, the die will not get that hot. My soldering iron idles at nearly 500ºC, which makes it easier to solder leads very quickly, before much heat has gotten into the part. I find that if I try to solder before the iron is up to temperature, it takes so much longer to transfer enough heat that it becomes much more likely that I can't hold the part with my hand. It gets too hot, ironically because the iron is not hot enough.

Anyway, I'll be stocking up for life with tin/lead solder for the things we don't sell.

Edited: 18 Oct 2005, 3:56 a.m.

Re: Lead-based solder

*Message #28 Posted by **Meindert Kuipers** on 18 Oct 2005, 5:10 a.m.,*
in response to message #27 by Garth Wilson

Lead-free soldering in production is best done with a vapour phase setup. The temperature is much better controlled than infra-red reflow. Typically temperatures are between 230-250 degrees C, depending on the exact solder type.

Handsoldering is a different issue of course. I prefer high temperatures of my iron for the sake of speed as well.

Meindert

Re: Lead-based solder

*Message #29 Posted by **I, Claudius** on 18 Oct 2005, 9:28 a.m.,*
in response to message #27 by Garth Wilson

"...our water came to us in pure lead pipes...high percentage of the kids went on to become doctors and engineers...The lead pipes certainly did not hurt our mental capabilities one bit."

Another case of anecdotal "it never hurt grandma" lack of rational thinking. It would be interesting to see the mg/dL lead blood count of residents that may be still drinking from these.

Re: Lead-based solder

*Message #30 Posted by **bill platt** on 18 Oct 2005, 11:35 a.m.,*
in response to message #29 by I, Claudius

The flow rate in the pipes and the water condition have more to do with it.

Boston has a much more serious lead problem in the water, due to the nature of the water

there, which leaches the lead out faster than many other regions.

I think the point Garth is making is really that lead is not always some evil thing, and that it can be safely used--but hte devil is of course in the details.

Re: Lead-based solder

*Message #31 Posted by **unspellable** on 18 Oct 2005, 2:00 p.m.,*
in response to message #29 by I, Claudius

The amount of lead in the water from the plumbing varies greatly depending upon the chemistry of the water, temperature, flow, etc. For example, the pot metal used in today's faucets contains trace amounts of lead. The first glass of water drawn i nthe moring will have the most lead in it from the faucet because the water standing in it overnight has time to leach out the lead.

Modern pewter is pure tin, or as pure as is practical. Antique pewter has perhaps 10% lead alloyed with the tin to make it harder. Actually, 98% of modern "pewter" isn't pewter at all but some sort of pot metal. You have to go out of your way to find real genuine pewter. (Tin isn't all that cheap ya know.)

Re: Lead-based solder

*Message #32 Posted by **Garth Wilson** on 18 Oct 2005, 3:41 p.m.,*
in response to message #29 by I, Claudius

> Quote:
>
> Another case of anecdotal "it never hurt grandma" lack of rational thinking. It would be interesting to see the mg/dL lead blood count of residents that may be still drinking from these.

The bottom line would be the extent of nerve and brain damage, regardless of the mg/dL. FWIW, we were definitely not isolated. We went into town often and knew a lot of people. Dementia, alzheimer's, senility, schitzophrenia, etc. did not seem to be as much of a problem as we see today in modern American society. I can't take the time now to do a web search to try to validate or invalidate that observation.

Re: Lead-based solder

*Message #33 Posted by **I, Claudius** on 18 Oct 2005, 9:45 p.m.,*
in response to message #32 by Garth Wilson

Interesting, or should I say, muy interasante. I'm glad you and those there apparently suffered no ill effects. I've probably breathed in enough lead solder fumes from my own electronic projects to more than make up for lack of it in my water.

Just the other day on BBC's tech website I read this article:
http://news.bbc.co.uk/2/hi/programmes/click_online/4341494.stm

where the effects of mere mcg/dL were discussed, so I was primed to just spout off a comment.

Re: Lead-based solder

*Message #34 Posted by **bernhard** on 19 Oct 2005, 3:06 p.m.,*
in response to message #32 by Garth Wilson

My ten cent about dangers of lead water pipes and soldering:

Depending on the water, the pipe's interior walls may cover with mineral deposits which shield the drinking water from coming in contact with the lead. The older the house, and the thicker the deposits, the better. Usually no danger then. But lead piping used with soft water (especially when the water is slightly acidic) may be a terrific health hazard. In any case, lab analysis will quickly and cheaply show proof whether the drinking water is contaminated or not.

When soldering, always use a device which draws away the toxic fumes. It's not only because of the lead, but also because of the flux agents. Always wash your hands thouroughly after having touched lead-based solder and before touching any food. The real dangers with lead-based solder lurk when working with them and neglecting safety procedures. But once they are in a finished product, they are no danger to the user or consumer, as he will never touch (or is supposed to never touch) the circuit boards.

Re: Lead-based solder

*Message #35 Posted by **Wayne Brown** on 18 Oct 2005, 12:35 p.m.,*
in response to message #27 by Garth Wilson

Quote:

> I grew up in northern Argentina where our water came to us in pure lead pipes. A bunch of us American kids went through a little English boarding school there because our parents were were afraid that otherwise we'd have trouble in school when coming back to the U.S.. An unusually high percentage of the kids went on to become doctors and engineers. The lead pipes certainly did not hurt our mental capabilities one bit.

I recall reading somewhere that the lead-based glaze on expensive pottery probably was a greater source of upper-class lead poisoning in Rome than lead plumbing was.

Re: Lead-based solder

*Message #36 Posted by **Ron Ross** on 18 Oct 2005, 1:16 p.m.,*
in response to message #35 by Wayne Brown

Other speculation in addition to the lead salts used to sweeten the wine was that pueter (lead and tin) drinking cups were used to drink their wine. Being somewhat acidic, would also help the Roman to get his share of minerals.

The tomato got a bad rap by the Europeans in the middle ages (dark) about being a poisonous fruit, but again this was due to the lead used in their dishes which would react with the acid of the tomato.

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AREUH Assembler Document Translation from the French

*Message #1 Posted by **Howard Owen** on 16 Oct 2005, 8:44 p.m.*

I have a new essay up at retrocalculator about my recent activities on the HP-71B. In particular, I've set out to learn Saturn assembler in the context of the 71. In the course of this, I discovered the AREUH assembler, which seems like a nice alternative to the FORTH/Assembler ROM. (There may be better ways, but it is important to me that I use contemporary tools if I can.) The README, and a nice essay by Mike Markov are in English, but the rest of the documentation is in French. I used Google to get a rough literal translation of the main documentation file, then finished things off by hand. The result is here. I'd appreciate it if a French speaker or two could compare my text to the original French text. As I say in my essay, you are welcome to roll on the floor laughing at the translation, but please point out to me what seems funny if you do. 8) Also keep in mind that the translation is not literal. Where possible I have preserved word choices. Otherwise, I've tried to convey the meaning. In a few cases, I have added to the text in order to clarify what I think it means.

Thanks in advance for your *critique*!

Re: AREUH Assembler Document Translation from the French

*Message #2 Posted by **J-F Garnier** on 17 Oct 2005, 8:08 a.m.,*
in response to message #1 by Howard Owen

Hi Howard,

Great attempt to translate the Areuh documentation!

"MACHIN" doesn't mean "MACHINE"! At that time, the Assembler from the Forth ROM wasn't so much appreciated by Pierre and Janick and "MACHIN" has a strong pejorative meaning. You can use the word "THING" instead.

There are a few other obvious mistranslation, I will send my corrections directly to you.

Regards.

J-F

Re: AREUH Assembler Document Translation from the French

*Message #3 Posted by **Howard Owen** on 17 Oct 2005, 12:05 p.m.,*
in response to message #2 by J-F Garnier

Thanks, J-F!

Google translated "MACHIN" as "THING" and I could tell from the context that it referred to the Forth/Assembler ROM, but I didn't know it was a derogatory term. I'll restore Google's original translation.

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Problem printing with a HP2225B

*Message #1 Posted by **Ronald** on 16 Oct 2005, 10:21 a.m.*

Hello,

I have a problem with printing on a HP2225B thinkjet printer.

The HP2225B is hooked up with the HP IL interface via IL as only device in the loop.

I have checked flags 21 and 55: Both are set (and verified that they are set). If I start up without the printer hooked up, both are cleared, after connecting both switch to the "set" status.

IL module works (checked with HP82162A printer.

Executed "Autoio"

Did a findid on HP222B and got "1" as response.

Printer detect paper works (yellow blinking Led switches to full on when paper taken out).

Batteries are fully loaded.

Print advance works.

Changing the settings for flag 15 and 16 does not make any difference.

Selftest for printing testpage does **NOT** work.

I used a fully new Printhead.

When I execute the "PRX" command I get "transmit error" I exchanged the PCB board and got exactly the same error. I checked both the IL as the printer manual but not a single reference to this "transmit err".

Based on this it looks like the IL interface is working. The HP 41 is detecting the printer oké and the transmit error comes somewhere from the communication between the CPU on the PCB board and the printhead.

Any suggestions, I am at this moment having a blank in my mind ?

Thank you

Ronald.

Re: Problem printing with a HP2225B

*Message #2 Posted by **Tony Duell** on 17 Oct 2005, 3:34 p.m.,*
in response to message #1 by Ronald

Forget the HP41 for the moment...

At power-on (of the 2225B), do you get the 'carriage shuffle'? Does it move away from the left side, and then return to detect the home position?

What exactly happens when you try to print the test page? Do the carriage and paper move and just no ink appears on the paper or what?

FWIW, I have the Thinkjet service manual...

Re: Problem printing with a HP2225B

*Message #3 Posted by **Ronald** on 18 Oct 2005, 8:24 a.m.,*
in response to message #2 by Tony Duell

Hi Tony,

When I swith the printer on the printhead moves all the right and back again.

If I try to pint the testpage nothing happpens.

The flexcable was replaced with a complete new one. I I measure with a DVM om the circuit board with the printhead out it has a vry high resistance between the corner connection and all the other points on the flexcable. When the printhead is mounted, it measures on all pinns between a 130 - 160 ohms. For that reason I think the cable is fine, the printhead makes the right connections.

Does the servicemanual say anything on this IL error ?

Kind regards

Ronald

Re: Problem printing with a HP2225B

*Message #4 Posted by **Tony Duell** on 19 Oct 2005, 6:15 a.m.,*
in response to message #3 by Ronald

You need not worry about the flexible cable or the printhead for the moment. There is no way that the printer's CPU can tell if those are working properly, so if the machine doesn't 'go through the motions' of printing the self-test page, the problem is elsewhere.

I think it sounds like you have a problem with the home sensor. This is a slotted optoswtich mounted on the print mechanism which detects a plastic 'flag' on the carriage. It's got 4 wires going to it, wired to a connector that plugs into the logic board.

I would start by making sure there's nothing in the slot -- bit of paper or whatever. It is connected to an 8 pin chip on the logic board which is a standard voltage comparator -- something like a LM393 (but don't replace it with one of those without me checking the manual first, this is from memory and I've not worked on a Thinkjet for some time). I would then start checking voltages round that chip to find whether the optoswitch itself was OK, etc.

Re: Problem printing with a HP2225B

*Message #5 Posted by **Ronald** on 19 Oct 2005, 10:43 a.m.,*
in response to message #4 by Tony Duell

Hi Tony,

Thank you for the suggestion, I will check this out. The carriage (if this is the correct word) for the printhead does indeed looks a little bit different to the old one, so .... I have hopes again.

Will report later back on the outcome.

Thanks

Ronald.

Re: Problem printing with a HP2225B

*Message #6 Posted by **Ronald** on 23 Oct 2005, 6:57 a.m.,*
in response to message #5 by Ronald

Hi Tony,

CI checked out the end of carriage detector. If I take it out, the carriage will run untill it's mechanical end and after 5 seconds the motor trying to drive him stops. So I assume that is working oké. I then changed the motherboard completely. No change at all. I changed the end of carriage detector and out of paper also from the other printer I had. No change.

If I give a "PWRUP" command with the printer on, IL connector connected, it returns very quick in the HP41 with no error's. If I however switchg the printer of or disconnect the IL connectort at the printer's connector I get after maybe 5 seconds also the "trasmit error" in the display of the HP41.

Any more idea's maybe ? You do have by any means a scanned part of the service manual so I do some circuit level tracing with my osciloscope of DVM ?

Gr.

Ronald

Re: Problem printing with a HP2225B

*Message #7 Posted by **Tony Duell** on 24 Oct 2005, 2:29 p.m.,*
in response to message #6 by Ronald

When you said 'removed' the sensor, do you mean you disconnected it from the board as well? I have an idea the LED is used as a voltage reference for the comparator circuit.

Apart from the sensor and the mainboard (both of which you say you've swapped out with good parts, not that I aprove of module-swapping...), the only other things involved are the carriage feed stepper motor and mechanical bits. I can assure you (from the schematics and from experience) that a fault in the paper feed mechanism or in the cartridge/flexiprint will not cause any errors. It just won't work.

Alas I have no scanner, so no way to send copies of bits of the service manual. But if you send me an e-mail (my address is unmangled), I'll talk you through it.

Re: HP-97 Case Yellowing

*Message #8 Posted by **Ronald** on 24 Oct 2005, 4:37 p.m.,*
in response to message #7 by Tony Duell

Hi Tony,

When you said 'removed' the sensor, do you mean you disconnected it from the board as well? I have an idea the LED is used as a voltage reference for the comparator circuit. --> **Yes, I did, I also changed it with one from the other printer, but to no avail, so I replaced the original again.**

Apart from the sensor and the mainboard (both of which you say you've swapped out with good parts, not that I aprove of module-swapping...), the only other things involved are the carriage feed stepper motor and mechanical bits. I can assure you (from the schematics and from experience) that a fault in the paper feed mechanism or in the cartridge/flexiprint will not cause any errors. It just won't work.

Alas I have no scanner, so no way to send copies of bits of the service manual. But if you send me an e-mail (my address is unmangled), I'll talk you through it. -->**That is very nice, I just send you a mail with my adress.**

Re: HP-97 Case Yellowing Eh? Don't you mean the 2225B

*Message #9 Posted by **Tony Duell** on 25 Oct 2005, 6:38 a.m.,*
in response to message #8 by Ronald

I hopefully sent you a long-ish e-mail message last night giving some information I extracted from the service manual.

In particular, the carriage should pass through the home switch _twice_ after power-on. If not, the problem is either the home switch optoswitch, something on the logic PCB, or a mechanical problem (motor, gearing).

Also, what does the yellow LED do? It should blink twice and go out. If it carries on blinking, there is a problem on the logic board (basically, the CPU, ROM or RAM have failed the self-test). If it blinks twice, goes out for a couple of seconds, then starts blinking, the problem is that the carriage did not find the home position (which is what I suspect).

If you are _sure_ the logic board and the home switch sensor are both good, then the problem has to be either the motor (very unlikely as it moves the carriage) or a mechanical problem.

Re: Problem printing with a HP2225B

*Message #10 Posted by **Vassilis Prevelakis** on 18 Oct 2005, 5:47 a.m.,*
in response to message #1 by Ronald

If you want to get it working for fun, then excellent, its a fun printer to play with, but if you think you can actually use it, I have bad news for you.

This printer is really bad, probably because it was the first inkjet that HP produced, the ink slowly leaks and can cause a real mess in the print head compartment, the inkjet head nozzles clog up etc.

The interface to the (disposable) printhead is also very fussy and you have to be **really** careful when you clean this up (esp. when cleaning after a leaky printhead) not to damage the little bumps that make contact with the printhead. If this happens, you have to live with the missing dots. I do not think you can repair the flex cable with the contact bumps.

The trick is to use the printer regularly (at least once a week, preferably more frequently), to keep the ink in the printhead and the nozzles clear. Then your ThinkJet will work nicely.

If you plan to store it, make sure the printhead is removed to prevent the inevitable leak from ruining the printer. I usually place the printhead in plastic wrap (used to wrap food) to keep the ink from drying up, some times even this does not work.

Quality is what you'd expect from a 9 pin matrix printer from the 80s, only worse. I get much better printouts from my Epson MX-80 and FX-80 printers (and their HP-IB versions).

I have a stack of ThinkJet printers (mainly HP-IB units) I bought for their HP-IB to HP-IL bridge circuit and they been nothing but a disappointment. The only ThinkJet I try to maintain in some sort of working order is the one that is part of my Integral PC. I wish HP has used a thermal printer for that machine.

Best Regards

**vp

Re: Problem printing with a HP2225B

*Message #11 Posted by **Ronald** on 18 Oct 2005, 8:29 a.m.,*
in response to message #10 by Vassilis Prevelakis

Ho Vassilus,

Reason is pure sentiment journy. We used this printer later for producing the manauals for the Eramco MLDL boxes in the past.

At that time we had the Epson FX80 printer and later this one not making the rattlesnake noise but a nice zoem zoem. It was small, you could take it along easily, battery operated. It was a real gimmick (if that word already existed at time).

I know the ink is awfull, I had it last week by accident on my shirt, it took a chlorine to get it bleached again.....

Kind regards.

Ronald

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41c special alpha characters

*Message #1 Posted by **Hal** on 16 Oct 2005, 1:23 a.m.*

Hi guys, Am new to the 41c world, so forgive me if this question is overly elementary.

How to I execute programs that have special characters in their names, with no apparent way to key in those characters while in alpha mode. Specifically, I'm working with the C+ routine in the Math module. The module directions say to press XEQ, then ALPHA, then key in C+, then press ALPHA again to execute. How do I key in a + while in ALPHA mode?? I know I can assign the function to a key in user mode, but according to the module directions, I should be able to key in the function name while in ALPHA mode.

Any help appreciated.

Re: 41c special alpha characters

*Message #2 Posted by **don wallace** on 16 Oct 2005, 2:03 a.m.,*
in response to message #1 by Hal

Hi Hal.

You get "+" by using shift.

DW

[A bit more specifically.. [41c special alpha characters]

*Message #3 Posted by **Karl Schneider** on 16 Oct 2005, 2:49 a.m.,*
in response to message #1 by Hal

Hal --

There is a table on the back of HP-41 models that illustrate the ALPHA mode key assignments. The table indicates that, when the yellow shift key is not used, the characters printed within the key outline are entered. These, invariably, are the ones printed in blue on the keys.

The alpha characters and commands that must be entered by using the shift key are shown above the key outlines on the table. (APPEND is available only in PRGM mode.)

-- KS

Re: [A bit more specifically.. [41c special alpha characters]

*Message #4 Posted by **Hal** on 16 Oct 2005, 12:24 p.m.,*
in response to message #3 by Karl Schneider

Ah yes...the shift key...the table on the back...it's all so obvious now. Thanks very much.

While I've got you guys one more question if I may:

Is there any way to execute a function directly from the catalog listing? (I.e. without having to type in the function name or assign it to a user key?) Thanks again, Hal

XEQ from CATalog [was: 41c special alpha characters]

*Message #5 Posted by **Karl Schneider** on 16 Oct 2005, 3:02 p.m.,*
in response to message #4 by Hal

Hal --

> Quote:
>
> Is there any way to execute a function directly from the catalog listing? (I.e. without having to type in the function name or assign it to a user key?) Thanks again, Hal

Unfortunately, not with the standard HP-41C/CV/CX. That is an annoying inconvenience that was remedied in the HP-42S.

Hoever, I remember reading once that one of the highly-advanced non-HP ROM's (e.g., PPC ROM, HEPAX, ZENROM) offered the capability of executing the function shown in a directory listing by hitting "XEQ".

-- KS

Re: XEQ from CATalog [was: 41c special alpha characters]

*Message #6 Posted by **Meindert Kuipers** on 17 Oct 2005, 1:28 p.m.,*
in response to message #5 by Karl Schneider

Just tested it: this works with the CCD ROM. It replaces the normal CAT and can be recognized by the apostophe:
CAT'0: list of IL devices
CAT'1: normal CAT 1
CAT'2: normal CAT 2 with XEQ and assign key by pressing A
CAT'3: normal CAT 3
CAT 4: better version of EMDIR
CAT'5: same as ALMCAT
CAT'6: list of key assignments
CAT'7 to F: CAT 2 of the module in that port

The PPC ROM certainly does not have this feature, I do not know about the other ROMS.

Meindert

Re: XEQ from CATalog [was: 41c special alpha characters]

*Message #7 Posted by **Raymond Del Tondo** on 19 Oct 2005, 5:18 a.m.,*
in response to message #6 by Meindert Kuipers

Hi,

the extended CAT functionality (w/direct XEQ and ASN)
is available in the CCD ROM (and in the CCD OS/X;-) only.

The other ROMs (HEPAX, ZEN) don't have it, the ZenROM
has a similar extended ALPHA mode like the CCD ROM.

Other ROMs are specialized for other tasks, like HEPAX or AECROM,
but IMHO no other HP-41 ROM can compete with the
keyboard/user interface extensions of the CCD ROM.

That's why the only ROM always in my HP-41 is the CCD,
or more precisely the CCD OS/X.

Raymond

Re: [A bit more specifically.. [41c special alpha characters]

*Message #8 Posted by **don wallace** on 16 Oct 2005, 9:57 p.m.,*
in response to message #4 by Hal

Hi Hal.

Only with a user program in ram or a application pack, you can:

do CAT 1 or 2 to get the listing. R/S to stop listing at prgm of interest. press the <- key to exit CAT

Ress R/S to start execution at that label...

hope this helps.

DW

Re: [A bit more specifically.. [41c special alpha characters]

*Message #9 Posted by **Hal** on 16 Oct 2005, 11:17 p.m.,*
in response to message #8 by don wallace

Thanks very much for the info. Hal

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Thomas Okken's HP 42S simulator running on a Fossil wristwatch

*Message #1 Posted by **Masao Kinoshita** on 15 Oct 2005, 10:52 p.m.*

Here is a picture of Thomas Okken's HP 42S simulator named "free42palmos" running on my Fossil FX2008 Palm OS wristwatch.

http://hometown.aol.com/torisdog/HPIM0504.JPG

Re: Thomas Okken's HP 42S simulator running on a Fossil wristwatch

*Message #2 Posted by **Eddie Shore** on 16 Oct 2005, 12:17 a.m.,*
in response to message #1 by Masao Kinoshita

Wow! How do you enter anything on the calculator? That is neat!

Re: Thomas Okken's HP 42S simulator running on a Fossil wristwatch

*Message #3 Posted by **Raymond Del Tondo** on 16 Oct 2005, 6:36 a.m.,*
in response to message #2 by Eddie Shore

Hi,

the watch has a touch screen,
and a stylus included .

Regards

Raymond

Re: Thomas Okken's HP 42S simulator running on a Fossil wristwatch

*Message #4 Posted by **Masao Kinoshita** on 16 Oct 2005, 11:09 a.m.,*
in response to message #3 by Raymond Del Tondo

It is actually quite usable since only the "keys" need to be pressed and not the mnemonics on the land area above the "keys" for the shifted functions.

Tip: At work, I use a 4-in-one [(hp)] iPaq stylus pen, so that I don't have to pull out the wristband stylus every time I want to use the touchscreen. :-)

Re: Thomas Okken's HP 42S simulator running on a Fossil wristwatch

*Message #5 Posted by **Paul Brogger** on 17 Oct 2005, 11:27 a.m.,*
in response to message #4 by Masao Kinoshita

A way to reduce clutter in the display:

Show the shifted functions on the keytops, but only after the related shift key is pressed. That way, the keys could be made bigger, and you don't need to show all the shifted legends until they're actually to be used.

But, way cool! I thought my Armitron four-banger watch was neat ~20 years ago (never had an HP-01), but this is beyond Dick Tracy!

Thanks!

Re: Thomas Okken's HP 42S simulator running on a Fossil wristwatch

*Message #6 Posted by **Thomas Okken** on 18 Oct 2005, 9:59 a.m.,*
in response to message #5 by Paul Brogger

> Quote:
>
> A way to reduce clutter in the display:
>
> Show the shifted functions on the keytops, but only after the related shift key is pressed. That way, the keys could be made bigger, and you don't need to show all the shifted legends until they're actually to be used.

That suggestion has languished in my private to-do list for ages now... I'll try to squeeze it in when I get back to working on Free42 (I am moving at the moment so now is not a good time to do any serious work, but hopefully a couple of weeks from now...).

- Thomas

Re: Thomas Okken's HP 42S simulator running on a Fossil wristwatch

*Message #7 Posted by **don wallace** on 16 Oct 2005, 2:47 a.m.,*
in response to message #1 by Masao Kinoshita

Hi there, Masao.

Hey Man, that's cool!

DW

Re: Thomas Okken's HP 42S simulator running on a Fossil wristwatch

*Message #8 Posted by **valentino ducati (switzerland)** on 16 Oct 2005, 1:05 p.m.,*
in response to message #1 by Masao Kinoshita

Masao: I can only say **wooowww!!!**

I'm thinking at a follup to the hp01... More a Fossil 02!

Do you still have memory room for other daily tools (like watch, PDA functions etc.)?

Valentino

Re: Thomas Okken's HP 42S simulator running on a Fossil wristwatch

*Message #9 Posted by **hugh steers** on 17 Oct 2005, 8:42 a.m.,*

in response to message #1 by Masao Kinoshita

cool stuff. i have to get one! whats the difference between the fx2008 and au2005 is it the metal?

also, you could run my scientific calculator as well! http://www.voidware.com/index.php?option=com_wrapper&Itemid=26

Re: Thomas Okken's HP 42S simulator running on a Fossil wristwatch

*Message #10 Posted by **Eric Smith** on 17 Oct 2005, 6:53 p.m.,*
in response to message #1 by Masao Kinoshita

I've been running Free42 on my Abacus WristPDA (the less exepnsive version of the Fossil) for a while now, but hadn't thought to post a message. Abacus is Fossil's low-end line, and the Abacus WristPDA is functionally nearly identical to the Fossil-branded one, but has a somewhat different case and band. For a while they were available for $80 from TigerDirect; I'm not sure if they still have them.

I mostly use the Abacus as a watch, and only use the PDA features if I forget to carry my Treo 650 (which is also running Free42).

Re: Thomas Okken's HP 42S simulator running on a Fossil wristwatch

*Message #11 Posted by **Eric Smith** on 17 Oct 2005, 6:56 p.m.,*
in response to message #1 by Masao Kinoshita

By the way, if you want a less functional RPN calculator on your PalmOS device, Jonathan Purvis ported my older CSIM simulator for the HP-35/45/55 to the Palm, so I also run that on the Abacus watch and the Treo 650.

There will eventually be a PalmOS port of Nonpareil, but I haven't had time to work on the architectural changes needed to make the simulator core more portable.

Edited: 17 Oct 2005, 6:57 p.m.

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Series 80 Programmable ROM module clone (PRM-85) update

*Message #1 Posted by **John** on 15 Oct 2005, 3:47 p.m.*

Hi,

I have updated my web page with further details on the PRM-85 module:

http://www.vintagecomputers.freeserve.co.uk/hp85/prm85.htm

This is a clone of the Series 80 (HP-85/87) Programmable ROM module, which allows EPROM copies of ROMs to be used. This is mainly to allow access to the Assembler and Extended Mass Storage ROMs, and also for the HP-85 Service ROM.

Please take a look, and if interested please e-mail me and I will add your name to the waiting list (currently 5 names long).

I (and others) would be interested if anyone has a Service ROM for either an HP-86 or HP-87. Please get in touch if you would like to help make a copy for use as an EPROM.

Regards, John

Re: Series 80 Programmable ROM module clone (PRM-85) update

*Message #2 Posted by **Nelson M. Sicuro (Brazil)** on 16 Oct 2005, 8:05 a.m.,*
in response to message #1 by John

Hi!

Beautiful work! As a suggestion, can this expansion board be build with FLASH memory, and a USB or serial connection to program it? An EPROM programmer isn't an usual thing these days, not to speak about the UV lamp to erase it...

Best regards,

Nelson

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41Notes (New Version)

*Message #1 Posted by **gileno** on 15 Oct 2005, 1:34 p.m.*

41Notes (HP-41CX or HP-41C/CV with X-Function)

My small contribution to store small notes

```
01 LBL "41NOTES"
02 "NOTES"
03 RCLPTA
04 FIX 0
05 CF 29
06 CF 21
07 LBL 52
08 "A:F:I:P:V?   " '3 spaces
09 ASROOM
10 ARCL X
11 AVIEW
12 GETKEY
13 X=0?
14 GTO 15
15 CLD
16 XEQ IND X
17 GTO 52
18 LBL 11
19 CLA
20 AON
21 PROMPT
22 AOFF
23 APPREC
24 RTN
25 LBL 24
26 SF 25
27 "NOTES"
28 20 ' Modify for large number of notes
29 PURFL
30 CRFLAS
31 RTN
32 LBL 15
33 CLD
34 FIX 2
35 STOP
36 LBL 62
37 CLX
38 SEEKPT
39 SF 25
40 LBL 61
41 GETREC
42 AVIEW
43 PSE
44 "-:+:D:R?"
45 FC? 25
46 GTO 52
47 AVIEW
48 GETKEY
49 X=0?
50 GTO 52
51 XEQ IND X
52 GTO 61
53 LBL 51
54 RCLPT
55 INT
56 1
57 -
58 SEEKPT
```

```
59 GTO 61
60 LBL 14
61 DELREC
62 GTO 61
63 LBL 43
64 CLX
65 SEEKPT
66 SF 25
67 LBL 00
68 GETREC
69 FC? 25
70 GTO 52
71 AVIEW
72 FS? 55
73 PRA
74 GTO 00


Instructions


XEQ "41NOTES"


First time: press I 'Initialize "NOTES" file in X-Memory


Option


A ' Add Notes (Max 24 bytes) R/S
E ' End
I ' Initialize (First time or Clear all Notes !!!)
P ' Print or View Records  <------- New Option
V ' View ------ + ' Next Record
                - ' Previous Record
                D ' Delete Present Record
                R ' Return


* In the main menu if there is not any key pressed in 10 seconds the program concludes.
* In the visualization way if there is not any key pressed in 10 seconds returns for the main
menu
```

Re: 41Notes (New Version)

*Message #2 Posted by **Geir Isene** on 19 Oct 2005, 5:22 a.m.,*
in response to message #1 by gileno

This is great stuff.

Maybe we should team up for World Domination: You with your Notes application, me with the Ultimate Alarm Clock (new version soon to be released)?

HP-41 Notes and Alarm Clock

*Message #3 Posted by **Karl Schneider** on 19 Oct 2005, 10:12 p.m.,*
in response to message #2 by Geir Isene

"gileno" --

Thanks for the program; I've entered it into my 41CX and will try to get it working, just for fun. I also have X-Functions modules for my 41C and 41CV.

Geir posted,

> Quote:
>
> This is great stuff.

> Maybe we should team up for World Domination: You with your Notes application, me with the Ultimate Alarm Clock (new version soon to be released)?

That might be a tad overambitious. The "Principality of Pea-dee-ay" might provide a formidable challenge. One could even argue that their arsenal is better-suited to these endeavors!

-- KS

Edited: 19 Oct 2005, 10:16 p.m.

Re: 41Notes (New Version)

*Message #4 Posted by **Howard Owen** on 19 Oct 2005, 10:53 p.m.,*
in response to message #2 by Geir Isene

How about a new swap disk?

I have a new 71B program unlike any ever created before. (In what respect I will leave to the discerning perceptions of the MoHPC community) You each have sterling examples of the keystroker's (?) art. Why don't we dominate the world by covering it in little plastic SS/DD 9114 disks?

Seriously, whould you guys mind if I mirrored your software in a new section at retrocalculator.com? I'd like to call it a "new swap disk," meaning it would contain new software for the 41C, 75C/D and 71B.

Re: 41Notes (New Version)

*Message #5 Posted by **Geir Isene** on 20 Oct 2005, 12:24 a.m.,*
in response to message #4 by Howard Owen

Sure, Howard. Go ahead. We just had a voting session in our UAC community and we agree that this would be a monumental step in the right direction.

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49g+ program needs help

*Message #1 Posted by **joshua williams** on 15 Oct 2005, 1:17 p.m.*

Hello all, I have a program that I am trying to get right using HPUserEdit 4.0. The purpose of this equation is to be able to solve for any of the variables that I want. If someone has one out there that I can emulate from that would be great! Maybe if I could enter "X" into the variable I need to know or something like that and then have it solve for X... anyway I hope this question is understood, here it is: « "Henderson-Hasselback" { "pH" "pKa" "Cbase" "Cacid" } { 1 18 } { } { 0 0 1 1 } INFORM IF THEN OBJ DROP pH pKa Cbase Cacid 'pH=pKa+LOG(Cbase/Cacid)' STEQ 30 MENU "Q" TAG END »

Re: 49g+ program needs help

*Message #2 Posted by **I, Claudius** on 15 Oct 2005, 6:17 p.m.,*
in response to message #1 by joshua williams

Considering the power of the HP49, I'm not so sure I would try use the old 48 Multiple Equation Solver for an equation this simple, nor would I bother to write a program for it, it really isn't necessary.

If this is something you'll use often, create a directory, name it say, Chem. Then store the equation as a named variable, say HH. You can then shove the equation onto the stack, solve symbolically for any of the equation variables, use SUBS to assign numeric values and you have your answer.

You can also store the equation and use the solve equation feature which was also in the old 48. This may be the simplest way to go about what you want.

The best way to handle this sort of thing is to use SolveSys, available for free download from www.hpcalc.org which does a marvelous job of solving linear and nonlinear systems of equations. It is fast, bug free, and when fired up, identifies all variables, which can have values assigned or unassigned, as the user wishes. The program comes with complete loading and using documention. As the program can create a lot of variables, depending on just how big or numerous your equations are, it's a good idea to create a directory to store just this one program in, that way the variables don't interfere with others in Home or other directories. Best of luck.

Edited: 15 Oct 2005, 6:26 p.m.

Re: 49g+ program needs help

*Message #3 Posted by **joshua williams** on 15 Oct 2005, 10:17 p.m.,*
in response to message #1 by joshua williams

Ahah! Thanks alot for that info!

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New HP-71B Program - YATZ71

*Message #1 Posted by **Howard Owen** on 15 Oct 2005, 10:08 a.m.*

http://retrocalculator.com/software/yatz71-1.0.tgz

From the README:

YATZ71 is the result of my attempt to reacquaint myself with the joys of programming in BASIC on a memory constrained computer from the 1980s. I never touched an HP-71B back then, let alone programmed one, but there were, nonetheless, strong points of reference between the machines I did use and this cool little handheld BASIC computer. Even though the BASIC on the 71 is much better than Applesoft, to give an example of a language I used an awful lot, the similarities were stronger than the improvements HP's BASIC offered. In a nutshell, BASIC sucks. The line numbers clutter the code visually, and nine times out of ten serve no other purpose than that. Compounding this, the interpreter in both machines renders all keywords and variable names in upper case only, regardless of how you type them in. Then there's the generous provision of two whole characters for variable names themselves. And the second character has to be a number! Yecch! I knew all of this at one time, and blissfully forgot about it as I went on to more capable languages, with their own set of endearing quirks and foibles.

So why do I feel so good about having written this stupid little Yahtzee clone in BASIC? I guess it's the pride of having overcome the visual clutter, the enforced spaghetti, the unhelpful variable names, the slow speed and tiny memory to produce something that actually works. This is a game that I actually play every day. (But I'm easily amused.)

But there's also the fun of the time I spent playing with the cool toy that is the HP-71B while writing this program. It really is a remarkable little machine, considering what its contemporaries were up to. I had to learn how to use HPILLINK, for example, in order to be able to edit the source in an environment where I could search for variable names and so forth.

Re: New HP-71B Program - YATZ71

*Message #2 Posted by **Garth Wilson** on 17 Oct 2005, 2:14 a.m.,*
in response to message #1 by Howard Owen

> Quote:
>
> on a memory-constrained computer from the 1980s

The 71 came with only about 17K of RAM, of which 16K was available to the user. Third-party modules allowed adding a whole lot more. My own 71 has an extra 160KB of RAM in two ports, and, if you wanted to pay enough enough back then, there was a company that would hard-wire 256KB inside so it wouldn't take up any of your ports.

> Quote:
>
> the similarities were stronger than the improvements HP's BASIC offered. In a nutshell, BASIC sucks.

A factor that made HP-71 BASIC potentially so great was the LEX (Language EXtension) file contributions from the user groups which added so many great functions to the BASIC. LEX files are written in assembly and add statements, functions, operators, and program structures that actually become part of the BASIC. They usually come with BASIC programs to get them entered into memory without needing an assembler or text editor. You might be able to get much of that from the CD ROMs offered by this website, hpmuseum.org. I keyed mine in from the CHHU Chronicle, the magazine of the Club of Hewlett-Packard Handheld computer Users in the 1980's.

> Quote:
>
> The line numbers clutter the code visually

I sometimes used my text editor to write a program with no line numbers (using labels to branch to), spacing things the way I want, and then another little program that adds the line numbers and uses TRANSFORM to turn it into a BASIC file. The Forth/Assembler ROM comes with a text editor, but I was able to write a much better one using the user group LEX files. WorkBook 71, by Richard Harvey in Glendale, AZ is a set of programs for spreadsheet, file management, and report generation. He included a full-screen text editor for use with one of the video adapters. Maybe some here knows if WB71 is on the CD ROMs.

Using this text-editor-TRANSFORM process to write a program, you will not get the error-checking every time you enter a line, but you can make your code clearer with meaningful white space (indentation, etc.) so that once you're familiar with the language, the likelihood of entering erroneous lines is diminished. The process lets you start with long variable names if you wish, in both upper- and lower-case, and then use your search-and-replace function at the end to change them to names BASIC likes.

Although the 71 BASIC variable naming method was definitely suboptimal, their system did allow you to run everything together on a line, with no spaces in most cases, and the 71 could figure it all out. I don't think that would be possible with long variable names.

> Quote:
>
> the enforced spaghetti

The Paname module provided other programming structures like a multi-line CASE statement. I never did get that one myself. I don't know if there might be LEX files available that you could key in yourself that might get the same functions.

> Quote:
>
> the slow speed

The 71 is sure slow by today's standards, but was very fast at math for its time. With the math module, you could do complex FFTs twice as fast as a PC running GWBASIC, and a whole lot bigger. It took about 40 minutes for me to do 8K-point FFTs on data downloaded from a digital oscilloscope over the IEEE-488 interface. A 1K-point took about 4 minutes, using 12-digit floating-point (which was overkill).

> Quote:
>
> I had to learn how to use HPILLINK, for example, in order to be able to edit the source in an environment where I could search for variable names and so forth

If you have the program in text form, you can do the search with a text editor. If the program is in BASIC form, there's a variable cross-reference program that lists all the variables used and where they are referenced in the program. You'll find it in the HP-71 Users' Library Solutions, Utilities book, HP number 00071-90066, which again might be available in the CD ROMs available from this website.

Re: New HP-71B Program - YATZ71

*Message #3 Posted by **HrastProgrammer** on 17 Oct 2005, 3:05 a.m.,*
in response to message #2 by Garth Wilson

The Paname module provided other programming structures like a multi-line CASE statement.

PANAME module for HP-71B? I think you are talking about JPC ROM ...

Re: New HP-71B Program - YATZ71

*Message #4 Posted by **Howard Owen** on 17 Oct 2005, 6:15 a.m.,*
in response to message #2 by Garth Wilson

Thanks for the detailed and interesting response, Garth!

> Quote:
>
> The 71 came with only about 17K of RAM, of which 16K was available to the user. Third-party modules allowed adding a whole lot more. My own 71 has an extra 160KB of RAM in two ports, and, if you wanted to pay enough enough back then, there was a company that would hard-wire 256KB inside so it wouldn't take up any of your ports.

I have a 64K CMT module and three HP 4K modules in my work system. That gives me more than a stock Apple][had. The theoretical maximum of 512K, or even the 256K you mention, were huge by contemporary standards. But I stand by the description of the machine as "memory constrained," compared to the 1GB in two of my servers, my laptop and my main workstation, that is. 8)

> Quote:
>
> A factor that made HP-71 BASIC potentially so great was the LEX (Language EXtension) file contributions from the user groups which added so many great functions to the BASIC. LEX files are written in assembly and add statements, functions, operators, and program structures that actually become part of the BASIC. They usually come with BASIC programs to get them entered into memory without needing an assembler or text editor. You might be able to get much of that from the CD ROMs offered by this website, hpmuseum.org. I keyed mine in from the CHHU Chronicle, the magazine of the Club of Hewlett-Packard Handheld computer Users in the 1980's.

I can access the swap disks, so I can load all the great LEX files from that source. I agree that's one of the coolest features of the HP-71B, and of the HP-75 before it.

> Quote:
>
> WorkBook 71, by Richard Harvey in Glendale, AZ is a set of programs for spreadsheet, file management, and report generation. He included a full-screen text editor for use with one of the video adapters. Maybe some here knows if WB71 is on the CD ROMs.

I don't think it is. One of my interests in working with these machines is to conserve old software and documentation. If anyone has a copy of this software lying around, I'd love to hear from you.

> Quote:
>
> Although the 71 BASIC variable naming method was definitely suboptimal, their system did allow you to run everything together on a line, with no spaces in most cases, and the 71 could figure it all out. I don't think that would be possible with long variable names.

That's making a virtue from necessity. The underlying problem was the lack of memory.

> Quote:
>
> The Paname module provided other programming structures like a multi-line CASE statement. I never did get that one myself. I don't know if there might be LEX files available that you could key in yourself that might get the same functions.

As HrastProgrammer notes below, I think you mean the JPC ROM. I've played with this great ROM using emu71, including the nice structured programming elements. It certainly goes a long way toward making me more comfortable with the BASIC. With those mods, the HP-71 basic starts to approach the flexibility and power of Rocky Mountain BASIC, which was the best contemporary BASIC I know of.

There's a problem with relying on a custom ROM though. If you want to distribute software, then you have to assume your users will have the ROM you are using. For example, In my current efforts with the HP-71B, I'm trying to disassemble certain LEX files so I can add to them. One disassembler I've come across is DISASMKW, by Mike Markov. Here are the first two lines of that program:

```
0010 ! DISASMKW - (c) by Michael Markov, 1988/06/13 version 123
0020 ! Needs  TSORTLX9, DISASMLX, EDLEX, JPCROM, HPILROM AND STRINGLX
```

Yikes! Well, I can still use this software, but only under emu71, since I don't have a real JPC ROM at my disposal.

> Quote:
>
> The 71 is sure slow by today's standards, but was very fast at math for its time. With the math module, you could do complex FFTs twice as fast as a PC running GWBASIC, and a whole lot bigger. It took about 40 minutes for me to do 8K-point FFTs on data downloaded from a digital oscilloscope over the IEEE-488 interface. A 1K-point took about 4 minutes, using 12-digit floating-point (which was overkill).

Interesting measure of the performance of this little guy!

In terms of YATZ71, the slowness shows up in the graphics. I first tried to use BINIOR to write a cursor under the dice images. I got this to work, but it was unusably slow. (I could probably get reasonable speed with a custom implementation in assembly.) What I finally ended up doing was toggling the dice images in response to numeric inputs. This is still slow, but borders on being usable.

> Quote:

> If you have the program in text form, you can do the search with a text editor. If the program is in BASIC form, there's a variable cross-reference program that lists all the variables used and where they are referenced in the program. You'll find it in the HP-71 Users' Library Solutions, Utilities book, HP number 00071-90066, which again might be available in the CD ROMs available from this website.

No, it's not there. There is a lack of extant material for the 71B on the Internet today. I want to try to remedy that, as far as I can, by providing a repository of such information at retrocalculator,com (or hp71.org, which I've also registered.) If you have any materials that you would like to donate to this effort, I'd be delighted to hear from you. 8)

Re: New HP-71B Program - YATZ71

*Message #5 Posted by **Garth Wilson** on 18 Oct 2005, 1:47 p.m.,*
in response to message #4 by Howard Owen

> Quote:
>
> I have a 64K CMT module

That's one I have. My other one is 96K in the card reader port, which was all I could afford at the time even though CMT offered up to 160K in the card reader port. My total is 177K. That quantity would never be necessary except that I like to keep 100 or so files in there all the time and still have room for large data arrays.

> Quote:
>
> and three HP 4K modules in my work system.

Hmmm.... that fills up your ports, not leaving room for anything else.

> Quote:
>
> The theoretical maximum of 512K

You can't have 512K of RAM though, because some of the address space is taken by ROM, at least for the OS if not for other modules as well (HPIL, Math, etc.).

> Quote:
>
> But I stand by the description of the machine as "memory constrained," compared to the 1GB in two of my servers, my laptop and my main workstation, that is. 8)

But do consider how efficiently any given computer uses memory. Back before I had Windows on my PC, I had a 32MB HD, but never filled more than about 20MB of if in spite of the many complex multi-layer printed circuit board layouts on it, all the embedded software projects on it, the manuals, endless letters and E-mail (plain text only, which takes one byte per character), the OS and my CAD, assemblers, compilers, and device programmer software and probably a lot of things I'm forgetting now. I had 1MB of RAM and never ran out.

> Quote:

> I had written:
> WorkBook 71, by Richard Harvey in Glendale, AZ is a set of programs for spreadsheet, file management, and report generation. He included a full-screen text editor for use with one of the video adapters. Maybe some here knows if WB71 is on the CD ROMs.
>
> You responded:
> I don't think it is. One of my interests in working with these machines is to conserve old software and documentation. If anyone has a copy of this software lying around, I'd love to hear from you.

I have it. If you get permission to make it public, I can loan it to you to put on CD ROM or the web. The software is on tape for the HP82161A drive.

> Quote:
>
> I had written:
> The Paname module provided other programming structures like a multi-line CASE statement. I never did get that one myself. I don't know if there might be LEX files available that you could key in yourself that might get the same functions.
>
> You responded:
> As HrastProgrammer notes below, I think you mean the JPC ROM.

Ah yes, you're probably right. I think it came from the Paris user's group, which is why I said "Paname."

> Quote:
>
> With those mods, the HP-71 basic starts to approach the flexibility and power of Rocky Mountain BASIC, which was the best contemporary BASIC I know of.

After learning the 71 system well, I used HP's Rocky Mountain BASIC 5.1 at work and absolutely hated it. I expected it to be better than 71 BASIC, but there were all kinds of things it couldn't do that the 71 did with ease, and with a lot less memory. There seemed to be a lot of discontent with HP BASIC in the field, and TransEra took advantage and introduced HTBasic. I never had the oportunity to try that. When we dumped the HP BASIC we went to a completely different hardware platform in our automated production testing.

> Quote:
>
> 0010 ! DISASMKW - (c) by Michael Markov, 1988/06/13 version 123
> 0020 ! Needs TSORTLX9, DISASMLX, EDLEX, JPCROM, HPILROM AND STRINGLX
>
> Yikes! Well, I can still use this software, but only under emu71, since I don't have a real JPC ROM at my disposal.

Yes, it would be nice to get all that stuff in various forms (even paper) so it could be used by anyone with enough RAM, since the modules are basically unavailable now.

> Quote:

> I had written:
> If you have the program in text form, you can do the search with a text editor. If the program is in BASIC form, there's a variable cross-reference program that lists all the variables used and where they are referenced in the program. You'll find it in the HP-71 Users' Library Solutions, Utilities book, HP number 00071-90066, which again might be available in the CD ROMs available from this website.
>
> You responded:
> No, it's not there. There is a lack of extant material for the 71B on the Internet today. I want to try to remedy that, as far as I can, by providing a repository of such information at retrocalculator,com (or hp71.org, which I've also registered.) If you have any materials that you would like to donate to this effort, I'd be delighted to hear from you. 8)

I can give you copies of lots of good material, but it'll be awhile before I can spend the necessary time at the copier. It'll be a big job.

Re: New HP-71B Program - YATZ71

*Message #6 Posted by **Howard Owen** on 18 Oct 2005, 6:08 p.m.,*
in response to message #5 by Garth Wilson

> Quote:
>
> That's one I have. My other one is 96K in the card reader port,

Mine is 64K in the card reader port. I also have a 96K homebrew someone made that fits in the CR port. It works, but it sucks down batteries, so I leave it out.

> Quote:
>
> Quote:and three HP 4K modules in my work system.
>
> Hmmm.... that fills up your ports, not leaving room for anything else.

Since my 64K is in the CR port, my port 1 is available for my HP-41 emulator. If I need something else, I'll just pull one or more of the 4K modules.

> Quote:
>
> You can't have 512K of RAM though, because some of the address space is taken by ROM, at least for the OS if not for other modules as well (HPIL, Math, etc.).

Ah, yes. Of course. Well, that's 64K for the OS. HPIL takes 16K, FORTH and HP-41 emulator both take 32K, (It's one or the other; they won't coexist,) JPC is 32K. So if I were to have a setup including JPC and the HP-41 modules, that would leave 344K aboove the built in 24K available. That would be pretty cool. 8)

My emu71 setup has 160K in port 0 plus a 32K IRAM in port 5

> Quote:

> But do consider how efficiently any given computer uses memory.

That's quite true. The 71B can actually get work done in 24K. The explosion in RAM and hard disk sizes have lead to a lot of waste. But not all use of the big memory pool is wasteful, even if it appears to be. I'm an old command line jocky, but GUIs actually do increase productivity for the majority of users. I'm sitting in front of two 20" LCD monitors right now, showing a single desktop on my Linux system. (Actually, the left hand display has an rdp session to my work laptop running Windows 8( ) I actually use all of that real estate. I'd feel severely cramped going back to a single monitor.

> Quote:
>
> WorkBook 71, by Richard Harvey in Glendale, AZ ..
>
> I have it. If you get permission to make it public, I can loan it to you to put on CD ROM or the web.

Oh, cool! There happens to be a shareware author named Richard Harvey in Glendale AZ. I've sent him mail asking if WorkBook 71 is his creation, and if so, if I can make it available. Thanks for suggesting this!

> Quote:
>
> After learning the 71 system well, I used HP's Rocky Mountain BASIC 5.1 at work and absolutely hated it.

Interesting. My comment about 71 BASIC rising to the level of RMB hs to do with the latter's standard REPEAT .. UNTIL, WHILE .. END WHILE and SELECT .. CASE .. END SELECT constructs. When I first used RMB, in 1985, those things just weren't available in most BASICs. They weren't even there with the 71, out of the box. The other thing I liked about RMB was the fast I/O. We were doing hydrographic survey with surface navigation and bathymetry. So we would plot the vessel's surface position and sometimes features on the bottom of the sea. We would also display the ranges to the radio nav stations in real time. The radio navigation used HP-IB and the others a mixture of that and RS-232. Tying this together was a little 9816 running an interpreted BASIC. Coming from an Apple][, I was mighty impressed! There were other "real" language features like named "COM" which were like FORTRAN COMMON blocks. You could build structured, modular software, and let the subs selectively see the global namespace with COM. Anyhow, I was a fan. I've just obtained a 9816 and have it on my list to write some software in RMB. I'll have a better feel of the two languages after I do that.

> Quote:
>
> I can give you copies of lots of good material, but it'll be awhile before I can spend the necessary time at the copier. It'll be a big job.

Anything you can offer, I'd be grateful for. Thanks, Garth!

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OT: microchip images

*Message #1 Posted by **Jim Creybohm** on 15 Oct 2005, 9:46 a.m.*

Apologies for the offtopic posting, but I thought most here might enjoy some images and a bit of "e-humor".

Seems HP and DEC enjoyed setting images on their chips of different media images on some older computer equipment. The gallery is quite humourous.

Well worth a read. Anyone notice if HP Calcs have any images on any of the chips? Say, like a coconut?

http://news.com.com/Whats+hiding+on+your+microchip/2100-1006_3-5893374.html

Re: OT: microchip images

*Message #2 Posted by **Etienne Victoria** on 15 Oct 2005, 11:36 a.m.,*
in response to message #1 by Jim Creybohm

Yes, seems to be long practice!

I also put a few on my site: Etienne

Cheers

Etienne

Re: OT: microchip images

*Message #3 Posted by **don wallace** on 15 Oct 2005, 9:29 p.m.,*
in response to message #1 by Jim Creybohm

Hi Jim, Ettienne.

I really appreciate those pages of yours.

I saw a bit of this in a Discovery channel show on the "microchip".

The only thing in this vein I remember was as a kid of 11 in 1974 I owned an early sheen four function calc. This used the first calc chip by mostek (but of course I didn't know that until a few weeks ago).

Well, it died so I got another one... and sweat unsoldered the metal lid. Under my microscope I found a "1971" date stamp on the part. If anyone is interested in looking at chip dice, you can easily unsolder the lid of say an old 80386 or 80486 using a butane torch. Very old DRAM is interesting in that light can be focused on the die, where cells are thus selectively discharged. The cell addressing can be arranged in such a way that you can get crude CCD type imaging this way. I briefly did this sort of thing as a hobby in 1987.

I have always found microelectronics engineering fascinating.

DW

Re: OT: microchip images

*Message #4 Posted by **Peter Geiser** on 17 Oct 2005, 4:50 p.m.,*
in response to message #1 by Jim Creybohm

When we made our chip as a student project, my friend and I also "engraved" our names into a small piece of free space. That was about 1989, working with standard cell technology in 1.5 micro meter technology.
Since we were both not gaphically oriented, it didn't occur to us to place small images on the chip. Shame :-(

Re: OT: microchip images

*Message #5 Posted by **Meindert Kuipers** on 18 Oct 2005, 3:13 a.m.,*
in response to message #4 by Peter Geiser

It is not uncommon at all to have something on the die that can be recognized by humans. This is text (for version identification) and typically a logo. Even today this is done on modern chips, at least on one that I participated in. We had a huge printout of the die hanging on the wall, and the logo and text were there.

Meindert

Re: OT: microchip images

*Message #6 Posted by **bernhard** on 19 Oct 2005, 3:24 p.m.,*
in response to message #5 by Meindert Kuipers

Oh yes, we also had a lot of fun putting images or at least initials on the chips we designed. But three unfortunate developments have put an end to this fun: it became more and more difficult to design images that pass the DRC and LVS verification steps, time pressure on development teams increased and increased and increased ... (still increasing) and the filler structures needed for processes using CMP make it impossible to see images in the lower layers, and the top metal layers usually are too crowded as they must carry the supply currents.

On such modern chips you can see nothing except a morass of really fat metal wiring (mostly supplies) and seas of bricklike blocks in between, and all the chips more or less look the same: boring.

Seems that "chip images art" is an episode which belongs to the past :-(

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3468A Digital Multimeter Service Manual

*Message #1 Posted by **Gileno** on 15 Oct 2005, 1:49 a.m.*

I would like to have a copy in PDF of 3468A Digital Multimeter Service Manual. Thank you

Re: 3468A DMM Service Manual: Post under qualification.

*Message #2 Posted by **Etienne Victoria** on 15 Oct 2005, 7:02 a.m.,*
in response to message #1 by Gileno

Hello Gileno,

I have answered to your question but my post is still under "qualification" by the site moderator.

This is why you cannot read my answer.

If you cannot get any answer elsewhere, please email me directly and I will answer you directly with the information.

Friendly regards from France!

Etienne

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3468A Help !!!!

*Message #1 Posted by **HP3468A** on 14 Oct 2005, 9:05 p.m.*

When are not the 3468A making any measurement the display is showing several different values, that is normal?

Re: 3468A Help !!!!

*Message #2 Posted by **James MacPhail** on 14 Oct 2005, 10:24 p.m.,*
in response to message #1 by HP3468A

With some older HP Digital Multimeters, it is normal for the reading to fluctuate when: (a) the inputs are floating and (b) the DMM is on a sensitive voltage setting.

If you short the input or connect it to some voltage and the reading is still not stable, then the DMM may be malfunctioning.

HTH,

James

Re: 3468A Help !!!!

*Message #3 Posted by **don wallace** on 15 Oct 2005, 9:53 p.m.,*
in response to message #1 by HP3468A

You may be able to make the instrument work better for you if you put a high value resistor and maybe a bit of capacitance across the inputs.

Say, 4.7 Megohm 1/4 watts (yellow, purple, green, gold bands) and maybe 10 nF 630 volt greencap to settle the instrument.

It's possible that the input op amp has been degraded by some overloads during it's working life and the on-chip input transistors are a bit leaky. Maybe you could replace it?

DW

Edited: 15 Oct 2005, 9:53 p.m.

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41c card reader no drive

*Message #1 Posted by **Hal** on 14 Oct 2005, 8:19 p.m.*

Got a good one for y'all.

Just got a card reader for a 41c that pulls cards through when mounted to one calculator, but not when mounted to another one. The card reader functions catalog fine on both calculators. Anybody seen this problem before. I'm thinking I should clean the contacts for expansion bay 4 on the offending calculator with a q-tip and alcohol. Any other ideas appreciated. Thanks, Hal

Re: 41c card reader no drive

*Message #2 Posted by **Tony Duell** on 15 Oct 2005, 6:10 a.m.,*
in response to message #1 by Hal

Again I am working from memory and don't have the schematic in front of me, but from what I remember, the card reader motor is powered straight off the HP41 battery, not from the logic supply line that's used for all the other chips.

If that contact in Port 4 is dirty/corroded, or if there's a bad connection between the HP41 I/O assembly flexiprint and the keyboard PCB inside the HP41, it's possible that the card reader motor will get no power, but the CAT 2 response will be fine.

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HP11c

*Message #1 Posted by **Thomas_A** on 14 Oct 2005, 9:41 a.m.*

My HP11c from -86 have a broken LCD. I took it apart and I see its possible to exchange the display of the same type.

I got a 11c for free from -82. It has the original design inside, but it was broken when I got it. I cleaned contacts inside and it works, however, the keyboard is far from perfect. One key (f) needs to be pressed hard and many other keys have a muddy feeling. The keyboard of my previous 11c is perfect.

Now to the question. Is it worth trying to replace the display in my -86 calculator by that one from the -82? Is the LCD between 82- and 86 calculators the same type? I have read somewhere that the driver is different, but how about the display?

T

Re: HP11c

*Message #2 Posted by **Randy** on 14 Oct 2005, 7:36 p.m.,*
in response to message #1 by Thomas_A

The display will work - if you remove the black plastic backing from the original '86 display and attach the '82 display to it . The pink zebra strips from the '86 version must be reused. Centering the lcd on the plastic carrier will be the challenge - and make sure you don't loose track of top/bottom.

The solvent heptane (sold in the USA as UN-DU adhesive remover) will make it much easier to remove safely as it helps the adhesive loose its "stick" and then goes tacky again once the solvent evaporates. Don't pry the lcd once attached or you will crack it, they are very thin and fragile.

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Do you want to see something really crazy...
*Message #1 Posted by **Will** on 14 Oct 2005, 6:09 a.m.*

just look at: http://articulo.mercadolibre.com.uy/MLU-2159138--_JM

Re: Do you want to see something really crazy...
*Message #2 Posted by **Thibaut.be** on 14 Oct 2005, 6:14 a.m.,*
in response to message #1 by Will

Is this guinean dollars or what ?

Re: Do you want to see something really crazy...
*Message #3 Posted by **J. Lopez** on 14 Oct 2005, 8:02 a.m.,*
in response to message #2 by Thibaut.be

No, that's probably Uruguayan pesos, at about 25 UYP per 1 USD.

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HP 15 C Cancel scientific notation

*Message #1 Posted by **Richard Messer** on 13 Oct 2005, 8:03 p.m.*

How do I get this model 15c out of scientific notation ?

Re: HP 15 C Cancel scientific notation

*Message #2 Posted by **Hal** on 14 Oct 2005, 1:01 a.m.,*
in response to message #1 by Richard Messer

Hit the yellow shift key (f), then fix (shifted 7 key), followed by the number of significant digits you want displayed. This will give you fixed notation. Scientific and Engineering notation are on the shifted 8 and 9 keys respectively. Best regards, Hal

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HP 48SX Display gone Bad

*Message #1 Posted by **function12** on 13 Oct 2005, 6:34 p.m.*

Does anyone know where I can get my HP 48SX display fixed? Or is time to change? I have the EQ library card that I really love.

Thanks, Eric

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OT: C= SR4190R needs repair

*Message #1 Posted by **Thomas Radtke** on 13 Oct 2005, 1:02 p.m.*

Let me first apologize for this OT post. I've seen a few articles about Commodore calculators here in the past so probably someone in this forum can help with my problem. I have already bothered several people with this but it seems no one had an idea.

Ok, here it goes: I recently bought a C= SR4190R. I knew it was defect but it was in a very good used condition so I couldn't resist. It tuned out that the batteries (3xAA rechargables, 600mA NiCad) leaked and burned a trace on the main PCB (ground for the leftmost digits in the display). I replaced the batteries w/ NiMH's at 800mA and soldered a wire to get the LED's back working. A few other traces were concerned too, but I've checked their resistant and they seem to be still conductive. Now two strange things occured.

(1) The batteries don't charge. They got approx. 4.7V but only about 10mA. This doesn't seem right

(2) After several hours on the AC adaptor (only charging, the calc is switched off and the CPU stays cold), I switch the calc on and notice miscalculations with every function that uses more than just x/y registers. The longer the C= is connected to the adaptor, the worser the problem is. After 30min off the AC, the calc runs fine again. It does so even when the CPU gets warm.

There is no RAM on the PCB, all registers are in the CPU. There is a voltage regulator identifying itself as 7735, a working germanium diode and an unknown transistor (the writing could be C1213). Now I have a lot of questions: Does anyone know the 7735 and can identify the specs (to get a replacement, this model seems to be out of production). I suspect this VR to be responsible for the low charging power. Does anyone have an idea what could cause the unreliable operation (defect CPU?/unsufficient current?). Could it be related to the VR? Where does the CPU get its clock signal from? This is another idea on my side, the clock speed might vary over the time and cause malfunctions. How to find out more about this calc?

Again, sorry to bother you with this problem. I would be extremly grateful for any ideas, guesses and pointers.

Thanks for listening,

Thomas

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Identifying HP-71B modules

*Message #1 Posted by **Simon Williams** on 13 Oct 2005, 8:24 a.m.*

Hi there

I have an HP-71B which came with three Modules (and a bar code reader). The modules are labelled 'DHSS CPL FS-1' and '01100-01 USA'. I (unwisely) popped off the cover from one of them and found several numbers - 5180 2917, B-2405. The chip on the back is labelled 5061 7134 85402 CC0.

Does anyone have any clues how I can identify them?

Many thanks

Simon

Re: Identifying HP-71B modules

*Message #2 Posted by **Tony Duell** on 15 Oct 2005, 6:14 a.m.,*
in response to message #1 by Simon Williams

DHSS == Department of Health and Social Security.

This is/was a UK Government department who bought a lot of HP71s in the 1980s and ran them with special software in that ROM module. In the early 1990s, the machines were sold off very cheaply. They generally have an HPIL module, maybe the DHSS module, but no case or manuals.

The 71 and IL module are absolutely standard, BTW, no modifications.

I have no idea what the module actually does (I think I have one somewhere), but I don't think it's very useful.

Re: Identifying HP-71B modules

*Message #3 Posted by **Frank Wales** on 16 Oct 2005, 4:07 p.m.,*
in response to message #2 by Tony Duell

The DHSS module turns the HP-71 into a terminal for a one-off file tracking database system that was used to track paperwork within several hundred DHSS offices from about 1985 to about 1992.

Every document had a barcode (type 2 of 5, I think) on it, and possible locations within each DHSS office were also coded. Moving a document required the user to scan the document barcodes, and the destination code, which updated the database. Users could also enter keywords, such as claimant name, on the HP-71 to search the database to find the location of the relevant document. I think a simple messaging system was also included, but I might be misremembering.

The database system was custom-written software on a PC running Concurrent CP/M (or maybe MP/M). The HP-71s were networked via HP-IL, and connected to the PC through an RS-232 interface. Because of technical restrictions, one HP-71 was designated as a master, and dedicated to handling the communication

between the PC and the network. Up to 42 terminals per network were required to be supported, for reasons which later turned out to be related more to Douglas Adams than actual requirements; I think the maximum installation in any one office was about 30.

All the software was custom-written, and used a wholly custom communication protocol and database query language on the RS-232 link. Without the back-end database, RS-232 link, and separate HP-71s running both master and terminal ROM modules, the HP-71 side is basically useless.

How do I know all this? I was one of the developers of this system when I worked at Zengrange, which supplied the HP-71 software and all the barcode wands.

As a piece of trivia, this is the project for which Zengrange developed Zenwand; without the need to somehow have several thousand barcode wands for HP-71s, Zenwand wouldn't have happened. Once we decided to make a wand for the HP-71, we then figured out what additional functionality, beyond that strictly required for the DHSS system, would be useful to end users. Hence the barcode printing software, auto-discriminating barcode scanning, check-digit utility functions and other stuff that's in the wand.

And before you ask: no, I don't have any documentation or other information about the system beyond what I remember from 20 years ago.

Re: Identifying HP-71B modules

*Message #4 Posted by **Bruce Horrocks** on 17 Oct 2005, 5:53 p.m.,*
in response to message #3 by Frank Wales

> Quote:
>
> The database system was custom-written software on a PC running Concurrent CP/M (or maybe MP/M).

I used Concurrent CP/M back in 1987 in another UK Government department: an excellent OS that was light years ahead of MS DOS 3.2/3.3 which was current at the time.
Somewhere there's a parallel universe where all is peace and light, war and poverty have been abolished and IBM chose CP/M instead of DOS.
;-)

Re: Identifying HP-71B modules

*Message #5 Posted by **Namir** on 17 Oct 2005, 11:23 p.m.,*
in response to message #4 by Bruce Horrocks

The Budhha would say that MS-DOS is an illusion.

Re: Identifying HP-71B modules

*Message #6 Posted by **Frank Wales** on 24 Oct 2005, 3:25 p.m.,*
in response to message #4 by Bruce Horrocks

Some more stuff that staggered to mind, in case anyone's still reading...

The only things I remember about the Casepaper Location system database PCs are that they were various shades of brown, and had cheaply-made keyboards (for example, the contacts beneath each key mechanism were just tinned with solder, not plated). Neither Zengrange nor HP specified them; they were purchased from another company as part of a separate technical procurement which flew in parallel with the barcode terminal one. (This split procurement approach is also the reason for the

RS-232 connection between the HP-IL side and the PC -- a lowest-common denominator technical connection to encourage the widest range of submissions on either side.)

And yes, the 'CPL' on the HP-71B module stands for 'Casepaper Location', casepapers being what the DHSS called the individual folders of information about claimants.

Buy me a beer offline, and I might be persuaded to reveal how come Zengrange ended up having to make barcode wands for an HP product, when HP were perfectly capable of it themselves. (Not particularly salacious, just an excuse for someone to buy me a beer.)

> Quote:
>
> Somewhere there's a parallel universe where all is peace and light, war and poverty have been abolished and IBM chose CP/M instead of DOS.

Somewhere else, there is a perpendicular universe where C and Unix didn't get invented, HP decided to release Wozniak's Apple I design as the HP-9400 for only $8,250.00, and I'm currently typing this into Compuserve over a super-fast 1200 baud connection from my illicitly hacked Microsoft TV-Pong system.

So things aren't all that bad, perhaps. :-)

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Short & Sweet Math Challenge #11: Who's Next ?

*Message #1 Posted by **Valentin Albillo** on 13 Oct 2005, 7:50 a.m.*

Hi all,

After several months' leave of absence, here you are, a new **S&SMC** challenge to brighten up your HP programming spirit. After challenges #1, #2, ..., #9, and #10, "who's next" ? #11, you say ? And how on earth did you came to that bold conclusion ?

Well, that's exactly the purpose of this S&SMC#11, to substantiate that very conclusion of yours with hard facts ... well, more like 'soft'(ware) facts, actually. Enter

The challenge

Try and write a program for any HP model that will accept a *sequence of numbers*, then produce its prediction for the *next* element of the sequence.

For instance:

- Given the sequence *1,2,3,4,5,6,7,8,9,10*, your program should produce the value ***11***.
- Given the sequence *11,13,15,17,19*, your program should produce the value ***21***.
- Given the sequence *-9,-16,-25,-36*, your program should produce the value ***-49***.

Your program must accept any number of elements (at least 2), then produce the simplest reasonable prediction for the next element. No provisions should be taken to predict further elements, just the next one.

Of course, mathematically speaking there's always a choice in selecting the next element of an arbitrary sequence, as an infinite number of sequences are possible initially having the very same elements. Thus, for instance, the sequence:

```
0, 1
```

might continue like this:

```
0, 1 ->  2, 3, 4, 5, ...
```

or like this:

```
0, 1 ->  0, 1, 0, 1, ...
```

among infinite other possibilities. In this particular example, choosing 2 for the next element is simplest because in the given sequence, going from 0 to 1 entails a (+1) increment and lacking any more information it seems simpler to stay with it than unexpectedly reverse it to (-1) for no apparent reason. So, given the sequence above (0,1), your program is expected to predict **2** as the next element, not **0** or any other value.

Put your program to the test

Use your program to produce the next element for the following 11 test cases:

1. **:** 11, 13, 15, 17, 19, ?
2. **:** -9, -16, -25, -36, ?
3. **:** 8, 27, 64, 125, 216, ?
4. **:** 0, 0.01, 0.32, 2.43, 10.24, 31.25, ?
5. **:** 2, -3, -4, -1, 6, ?
6. **:** *(in radians)* sin(0), sin(0.1), sin(0.2), sin(0.3), sin(0.4), ?
7. **:** Ln(1), Ln(1.1), Ln(1.2), Ln(1.3), Ln(1.4), ?
8. **:** Pieces of pancake (i.e: flat, 2D) obtained by N cuts: 1, 2, 4, 7, 11, ?
9. **:** Maximum number of electrons in layer N: 0, 2, 8, 18, 32, 50, ?
10. **:** Maximum number of pieces of (3D) cake we get with N cuts: 1, 2, 4, 8, 16, ?
11. **:** 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, ?

Deadline

Midway next week I'll post my solution (plus comments) for the **HP-71B** (which is a simple, 3-line program) and I'll also provide an **HP-15C** version. You might want to try your hand at it this next weekend.

Caveat computat:

Absolutely refrain from using a PC, laptop, or PDA (unless running some HP calc emulator/simulator) to solve the challenge. A Mathematica, Visual Basic, C++, or Java solution is useless to the intended purposes of this challenge, in fact actually defeats them, and submitting one is to be considered unpolite behavior.

And who knows, you might find using your program a useful training for some outdated *'intelligence tests'* ... :-)

Best regards from V.

Edited: 13 Oct 2005, 8:27 a.m.

Re: Short & Sweet Math Challenge #11: Who's Next ?

*Message #2 Posted by **Howard Owen** on 13 Oct 2005, 1:45 p.m.,*
in response to message #1 by Valentin Albillo

```
>run
Next N? 1
Next N? 2
Next N? 3
Next N?
OK, what comes next? 4
Seq1=1
Seq2=2
Seq3=3
Next:4! Q.E.D. Baby!
>list
10 DIM N1(100) @ ON ERROR GOTO 20 @ INPUT "Next N? ";N @ C=C+1 @ N1(C)=N @ GOTO 10
```

```
20 IF C<2 THEN 10 ELSE INPUT "OK, what comes next? ";N
WRN:Line Too Long
30 FOR I=1 TO C @ DISP "Seq"&STR$(I)&"="&STR$(N1(I)) @ NEXT I @ DISP "Next:"&STR$(N)&"!
Q.E.D. Baby!"
```

I knew guys like me in college computer lab, in fact, I *was* a guy like me, who would look for the loophole in every computing problem they saw. The problem statement for this challenge is :

> Quote:
>
> "Try and write a program for any HP model that will accept a *sequence of numbers*, then produce its prediction for the *next* element of the sequence.

Then follows a list of sequences to try, ranging from the trivial to the Pretty Tricky(tm). None of that really engaged my "inner prankster," but this line did:

> Quote:
>
> Midway next week I'll post my solution (plus comments) for the HP-71B (which is a simple, 3-line program)

Impossible! Well, not quite. 8)

To belabor the possibly obvious point, the problem statement could have said "Try and write a program for any HP model that will accept *only* a sequence of numbers, then produce its prediction for the next element of the sequence." I would then have had less fun with this example. Also, the word "prediction" in the problem statement is obviously a euphemism. Computers don't make predictions, people do, sometimes based on the output of a computer. Given that ambiguity, I feel my usage in the above program fits the stated problem. 8)

I'll bet I can predict what comes next. haha.

Re: Short & Sweet Math Challenge #11: Who's Next ?

*Message #3 Posted by **Thibaut.be** on 14 Oct 2005, 6:04 a.m.,*
in response to message #2 by Howard Owen

Valentin,

I have a pretty good idea how to do that. There's actually an in built function that solves such issues. May we use any function of the 71B or 15C, or should we concentrate on primary functions ?

May I also kindly suggest you to propsoe solution on, say, 41C or 42S modes, as it is the easiest to transpose to any HP non cumputer calculator ?

Re: Short & Sweet Math Challenge #11: Who's Next ?

*Message #4 Posted by **Valentin Albillo** on 14 Oct 2005, 6:37 a.m.,*
in response to message #3 by Thibaut.be

Hi, Thibaut:

Thibaut posted:

"May we use any function of the 71B or 15C, or should we concentrate on primary functions ?"

You may use whatever functions are available on any HP model, be they built-in or in ROMs or

whatever. If there are different ways of doing it depending on the available functions you're welcome to list them as well. The more, the merrier.

"May I also kindly suggest you to propsoe solution on, say, 41C or 42S modes, as it is the easiest to transpose to any HP non cumputer calculator ?"

If by *"propsoe"* you mean "propose" and by *"modes"* you mean "models", my proposal is for each and every HP model and that of course includes both the 41C and 42S. Perhaps you were mislead by my explicitly mentioning the HP-71B and HP-15C, but I was merely saying that I'll provide solutions for these particular models, not that only these models could be used.

Obviously, I can't provide a solution tailored for each specific model, so I chose these particular ones, the HP-71B because routines written for it are easiest to understand and thus convert to other machines, and the HP-15C as a worthy representation of the RPN programming paradigm. But other contributors are both welcome and expected to provide their solutions for other HP models.

Waiting for your clever inputs,

Best regards from V.

Re: Short & Sweet Math Challenge #11: Who's Next ?

*Message #5 Posted by **.** on 14 Oct 2005, 7:08 a.m.,*
in response to message #1 by Valentin Albillo

Hi,

Doesn't this just involve implementing Lagrange Interpolation?

http://mathworld.wolfram.com/LagrangeInterpolatingPolynomial.html

.

Re: Short & Sweet Math Challenge #11: Who's Next ?

*Message #6 Posted by **Thibaut.be** on 15 Oct 2005, 12:30 p.m.,*
in response to message #5 by .

That was my idea.

Sorry for the typos Valentin.

Polynomial Extrapolation in RPL

*Message #7 Posted by **Marcus von Cube, Germany** on 14 Oct 2005, 5:28 p.m.,*
in response to message #1 by Valentin Albillo

Here is a solution in UserRPL, tested on a 49G+ but should work fine on a 28S, too:

I decided to arrange the values as a function f(x) where x are integers ranging from 0 to n-1 for the given values, with f(0) (or f0 for short) being the last given value and f(n-1) the first. The extrapolated value to be computed is therefore f(-1) or fp for short. This an arbitrary decision but it is workable, as you can see.

My solution fits a polynomial of degree n-1 fo n given values:

```
f(x) = a + b*x + c*x^2 + d*x^3 + ...
```

```
f(0) = a
f(1) = a +  b +  c +   d + ...
f(2) = a + 2b + 4c +  8d + ...
f(3) = a + 3b + 9c + 27d + ...
```

This has to solved for [(a = f0) b c d ...] and can be transformed into a matrix equation (here for degree 3, with 4 values given):

```
[ 1  1  1  0 ] [ b  ]   [ f1 - f0 ]
[ 2  4  8  0 ] [ c  ] = [ f2 - f0 ]
[ 3  9 27  0 ] [ d  ]   [ f3 - f0 ]
[ 1 -1  1  1 ] [ fp ]   [ f0      ]
```

This is for the sequence { f3, f2, f1, f0, ? } with ? = fp.

The solution comes in two parts:

MKMAT: Create the matrix

```
<< -> n
   << 1 n 1 -
      FOR r               row counter
        r
        IF n 2 > THEN
          2 n 1 -
          FOR c           column counter
            DUP r *
          NEXT
        END
        0
      NEXT
      1                   last row
      IF n 2 > THEN
        2 n 1 -
        FOR c
          DUP NEG
        NEXT
      END
      1                   very last element of matrix
      { n n } >ARRY       creates matrix
   >>
>>
'MKMAT' STO>
```

SSMC11: Compute the solution.

Input is a {list} of values, like {11 13 15 17 19}. The solution is appended to the list.

```
<< DUP                    make a copy of the list,
   OBJ> -> f0 n           expand to stack and save dimension n
                          and last element f0 in local variables
   << CASE n 2 <          Do nothing if list too short
        THEN n 1 - DROPN
        END
      n 1 - >LIST         convert back to list (without f0)
      -> f                save the list as local variable f
      << n MKMAT INV      create and invert the matrix
         n 1 - 1
         FOR i            backwards loop to reverse the list
           f i GET f0 -   compute f(k)-f0 and leave on stack
         -1 STEP
         f0               last element of right hand side
         { n 1 } >ARRY    create column vector
         *                solve the equation by matrix multiplication
         n GET            pick fp (the predicted value) from result
         +                append to original list (still on stack)
      >>
      END                 end of CASE statement
   >>
>>
'SSMC11' STO>
```

Solutions for test sequences #1 to #6 seem to be accurate.

#6 reveals a value of SIN(0.499989) (I used ASIN to convert back from the numeric value).

I didn' check #7 yet.

#8 reveals 16, #9 reveals 72 but I can't comment on the accuracy.

#10 dosn't work out correctly, the result is 31 instead of 32. The polynomial cannot correctly approximate an exponential function.

#11 reveals 11; obviously the polynomial is heavily oscillating.

Marcus

Re: Polynomial Extrapolation in RPL

*Message #8 Posted by **Valentin Albillo** on 17 Oct 2005, 4:42 a.m.,*
in response to message #7 by Marcus von Cube, Germany

Hi, Marcus:

Marcus posted:

"Here is a solution in UserRPL, tested on a 49G+ but should work fine on a 28S, too [...] My solution fits a polynomial of degree n-1 fo n given values"

Thanks for your interesting contribution, but that's really overkill ! :-) The goal asked by the challenge, namely to produce the *next* element of the sequence, can be met by a simple 19-step RPN program for the HP-15C or a one-line program for the HP-71B, which, apart from being much shorter and faster than constructing and then solving a whole system of linear equations to find the coefficients of a polynomial which is then evaluated, they also do not use the large amounts of RAM that your approach requires.

"#10 dosn't work out correctly, the result is 31 instead of 32. The polynomial cannot correctly approximate an exponential function."

Here you are, a new challenge just for you: to try and get more than 31 pieces ouf of a 3D-cake with the next cut. You'll find it impossible, 31 is the correct solution and there's no exponential to be seen here.

Thanks again for contributing and

Best regards from V.

The original author edited out one minor typo

Edited: 17 Oct 2005, 8:55 a.m. after one or more responses were posted

Re: Polynomial Extrapolation in RPL

*Message #9 Posted by **Marcus von Cube, Germany** on 17 Oct 2005, 6:26 a.m.,*
in response to message #8 by Valentin Albillo

Quote:

Maximum number of pieces of (3D) cake we get with N cuts: 1, 2, 4, 8, 16, ?

Quote:

> Here you are, a new challenge just for you: to try and get more than 31 pieces ouf of a 3D-cake with the next cut. You'll find it impossible, 31 is the correct solution and there's no exponential to be seen here.

Valentin,

I don't get the meaning of "cutting a 3D cake". If you simply look at the numbers, the next number is twice its predecessor. For me, this is just the exponential function 2^(n-1), n=1,2,... Computers don't cut cakes, they just deal with the numbers. For *me*, 31 is wrong and 32 should be the result.

Bram's solution seems to give the same results as mine. He must have looked up the resulting coefficients in a text book. Mathemtically, both solutions should be equivalent. But I must admit that, from a programmers standpoint, solving the equation each time is overkill...

What do you think is the best possible solution for case #11? I would say, a linear approximation (least squares) whould give a much more reasonable result than the polynomial.

Marcus

Re: Polynomial Extrapolation in RPL

*Message #10 Posted by **Valentin Albillo** on 17 Oct 2005, 7:25 a.m.,*
in response to message #9 by Marcus von Cube, Germany

Hi again, Marcus:

Marcus posted: *"I don't get the meaning of "cutting a 3D cake".*

You get a typical cake, any 3D-shape as long as it's convex; a regular, cylindrical one will do. You then get some suitably planar cutting object, say a knife, and give the cake a planar cut along any plane that you like. You'll get 2 pieces. You then proceed to administer the poor cake yet another cut, trying to maximize the number of pieces you get. Lo and behold, you'll get four pieces. And so on ... by the time you've administered five such cuts, you'll be in posession of 31 pieces, not 32. Try it.

"If you simply look at the numbers, the next number is twice its predecessor."

That's a 'fortunate' coincidence and nobody told you to 'simply look at the numbers'. The exact wording of test case #10 is:

```
    10.: Maximum number of pieces of (3D) cake we get with N cuts: 1, 2, 4, 8,
16, ?
```

and it's very clearly stated from the start that said numbers represent maximum number of pieces of 3D cake we get with N cuts. I don't see why you decide to ignore the challenge's terms and decide that you'll simply 'look at the numbers' instead. Of course, you're entitled to do that, if you feel like it, but then you're not entitled to be surprised when you fail to get the correct result.

"For me, this is just the exponential function 2^(n-1), n=1,2,...

For me, as I clearly stated in the problem, this is a case of cake-cutting, which happens to return a polynomial number of pieces, not an exponential one. You ignore the stated conditions at your own peril.

"Computers don't cut cakes, they just deal with the numbers. "

Computers don't 'just deal with numbers', they deal with complex electronic interactions between particles and fields and such. That you decide to interpret them as numbers, text, images, or sounds, is up to you.

*"For *me*, 31 is wrong and 32 should be the result."*

Fine with me. I'm not going to get into a quarrel with you for this, couldn't care less, actually. Your problem is, IMHO, that you don't read and/or understand what I stated in the challenge: there is an infinite number of functions f(x) that happen to include any given sequence of datapoints. Among them, you were asked to select the simplest, and mathematically, polynomials are far simpler than exponential functions.

To further eliminate ambiguities, I specifically stated that said values represented the number of pieces you get when administering planar cuts to a 3D cake. This narrows it all to polynomials, once again.

Of course, it goes without saying that I selected this example to make people intuitively fall for 32, an thus be annoyed that their programs were producing 31 instead. They would search for a bug, find none, search the web or experiment a little, and eventually be pleasantly surprised to discover there was no bug after all and their program was smarter than themselves because in real life, contrary to intuition, you do get 31 pieces of cake, not 32. Seems you haven't reached to that point yet.

(your reply to Bram) It's one way to compute the next number, but who decides what is really meant with the given sequence?"

That would be *me*, because I am the one issuing the original challenge, and I clearly state that these numbers are pieces of cake, etc. So that's the meaning of the given sequence for this particular sequence in this particular challenge that I, in particular, issued. :-)

Stop the weeping at having miserably fallen for #10 and have a look at these URLs: this one and this one, too

"What do you think is the best possible solution for case #11?"

Under the conditions given and clearly stated in the challenge, the best possible solution for case #11 is 11.

Thanks again for your interest and

Best regards from V.

Edited: 17 Oct 2005, 7:41 a.m.

Re: Polynomial Extrapolation in RPL

*Message #11 Posted by **J-F Garnier** on 17 Oct 2005, 9:36 a.m.,*
in response to message #10 by Valentin Albillo

Hi Valentin

I appreciated your challenge, as usual!

One question: *To further eliminate ambiguities, I specifically stated that said values represented the number of pieces you get when administering planar cuts to a 3D cake. This narrows it all*

to polynomials, once again.

How do you know (or demonstrate) that the number of pieces is given by a polynomial?

J-F

Re: Polynomial Extrapolation in RPL

*Message #12 Posted by **Valentin Albillo** on 17 Oct 2005, 9:52 a.m.,*
in response to message #11 by J-F Garnier

Hi, Jean-François:

Jean-François posted:

"How do you know (or demonstrate) that the number of pieces is given by a polynomial?"

It's a simple problem of combinatorics. I first read about it decades ago in some Martin Gardner's book about recreational mathematics.

You can find a lot of good references here:

Sequence A000127

Best regards from V.

Re: Polynomial Extrapolation in RPL

*Message #13 Posted by **Marcus von Cube, Germany** on 17 Oct 2005, 9:48 a.m.,*
in response to message #10 by Valentin Albillo

Hi Valentin!

> Quote:
>
> They would search for a bug, find none, search the web or experiment a little, and eventually be pleasantly surprised to discover there was no bug after all and their program was smarter than themselves because in real life, contrary to intuition, you do get 31 pieces of cake, not 32. Seems you haven't reached to that point yet.

:-)

In the meantime I wasn't searching the internet but busily cutting a spherical "cake" with an imaginary knife in my head and I started to discover what the callenge meant. I had just been "looking at the numbers" before...

All your test cases were deliberately choosen to be represented by polynomials either excatly or with reasonable accuracy (ln, sin); therefore a polynomial fit would always produce the desired result.

Why is my program so overly complicated? I simply didn't remember any suitable formula, so I started from scratch and tried to figure one out for myself. On my 49g+ it just worked the way it was intended. Bram's solution (and yours will be too) is much more elegant, programming wise. From a mathematical standpoint, they are equivalent.

Re: Short & Sweet Math Challenge #11: Who's Next ?

*Message #14 Posted by **Bram** on 17 Oct 2005, 4:06 a.m.,*
in response to message #1 by Valentin Albillo

Hi Valentin,

I must admit that I didn't find the mathematical approach myself, but no problem: the challenge is in the programming.
So I wrote a program for my HP-48G:

```
<< DUP OBJ-> 0 -> N S
  << 1 N
    FOR I
      -1 I 1 - ^ N I COMB * * 'S' STO+
    NEXT
    S + >>
>>
```

It reads a list with the series in it from the stack and adds the next element to the tail of this list. So {8 27 64 125 216} becomes {8 27 64 125 216 343}, ready for the next run (that will add 512).

```
The program gives the following answers:
1.      21
2.      -49 (-(7^2))
3.      343 (7^3)
4.      77.76
5.      17
6.      0.479.. (=SIN(0.5))
7.      0.405.. (=LN(1.5))
8.      16
9.      72
10.     31
11.     11
and {0 1} => {0 1 2} as required
```

I wonder. Does #4 have a special "meaning"? I notice that the second decimal is increasing and that after 5 runs the prediction comes out (exactly?) 1000. That's kind of special, isn't it?

By the way, is it a coincidence that you came up with 11 test cases for this S&SMC#11 and that the answer of the 11th case is 11? I guess you did this on purpose ...

groeten,
Bram

Re: Short & Sweet Math Challenge #11: Who's Next ?

*Message #15 Posted by **Marcus von Cube, Germany** on 17 Oct 2005, 4:38 a.m.,*
in response to message #14 by Bram

Bram,

your results are the same as mine but your solution is way shorter! You admit that you didn't work out the math yourself but can you at least explain what your FOR loop is doing?

Re: Short & Sweet Math Challenge #11: Who's Next ?

*Message #16 Posted by **Bram** on 17 Oct 2005, 6:21 a.m.,*
in response to message #15 by Marcus von Cube, Germany

With pleasure, Marcus,

```
1.      At first I didn't have a clue how to compute the next element.
```

```
        It has something to do with curve fitting was all I could come up with.
2.      Someone posted a link
3.      I read and tried to understand the article
4.      I took formula (4), expanded it to a 4 point situation and
        filled in all x's and y's for the "function" (1,a), (2,b), (3,c) and (4,d)
        that I defined for my list of {a b c d} in order to compute (5,e)
5.      it appears that P(5)=e=-1.a+4.b-6.c+4.d
6.      I happen to spot Pascal's triangle in the "coefficients"
7.      I concluded that the general formula is the sum of (sign . binomial .
element)
8.      sign = (-1)^(I-1), binomial = COMB(N,I), element = element from stack after
OBJ->
9.      I tried the sigma-function on the HP-48G, but I couldn't figure out
        how to get an indexed array or list element into the formula.
        Fortunately the OBJ-> command converts a list into about the ideal format to
process.
        I need to know the length first to enter the FOR loop and
        then one by one the elements are fed into the algorithm.
```

I was very surprised to achieve such a short program.

Re: Short & Sweet Math Challenge #11: Who's Next ?

*Message #17 Posted by **Marcus von Cube, Germany** on 17 Oct 2005, 6:36 a.m.,*
in response to message #16 by Bram

Bram,

your answer has just crossed my response to Valentin where I assumed you had the solution looked up in a text book. But you obviously did a lot of thinking yourself :-)

What I think can be easily proven (haven't it tried yet) is that both solutions are simply the same. Solving the matrix equation for the next element (named fp or f(-1) in my post) symbolically should reveal the very same coefficients.

Your solution is quite elegant! But I'm still not convinced that the polynomial approach is always the best solution. It's one way to compute the next number, but who decides what is really meant with the given sequence? (See me argument with Valentin about cutting a cake.)

Marcus

Re: Short & Sweet Math Challenge #11: Who's Next ?

*Message #18 Posted by **Bram** on 17 Oct 2005, 10:41 a.m.,*
in response to message #17 by Marcus von Cube, Germany

> Quote:
>
> (...) But I'm still not convinced that the polynomial approach is always the best solution. It's one way to compute the next number, but who decides what is really meant with the given sequence?

Initially I thought that my program would stock 19 as the next number into the list {21 22 25 27 29}, but polynomically you'll have to opt for 36. Apparently real life doesn't always chooses the simplest solution .... ;-)

Re: Short & Sweet Math Challenge #11: Who's Next ?

*Message #19 Posted by **Valentin Albillo** on 17 Oct 2005, 6:46 a.m.,*
in response to message #14 by Bram

Hi, Bram:

Bram posted: *"I must admit that I didn't find the mathematical approach myself, but no problem: the challenge is in the programming."*

First of all, thanks for your continued interest in my S&SMCs and your kind contributions. I did find the mathematical approach myself, it's actually quite easy, but once you do, the programming is simple and the challenge, at least for me, is to optimize it as much as possible for program size, memory requirements and speed.

"So I wrote a program for my HP-48G:"

My original solutions (a 19-step RPN program for the HP-15C and a one-line program for the HP-71B) are quite similar to yours, except they're even simpler, making no use of the COMB functionality (which the HP-15C has but the HP-71B lacks), and thus can be easily adapted to most any HP model, including the HP-25C, HP-10C, or HP-12C, in 25 steps or so, say, with absolutely minimal memory requirements as no datapoints need be stored.

"The program gives the following answers:"

```
1.      21
2.      -49 (-(7^2))
3.      343 (7^3)
4.      77.76
5.      17
6.      0.479.. (=SIN(0.5))
7.      0.405.. (=LN(1.5))
8.      16
9.      72
10.     31
11.     11
and {0 1} => {0 1 2} as required
```

All of them absolutely correct, of course, except #6 and #7 return approximations to sin(0.5) and ln(1.5), not the exact values. Most people would think that #10 should be 32, but it isn't, you can't get more than 31 pieces by giving that number of planar cuts to a convex 3D-cake, here human intuition guesses 32 and flunks out.

"I wonder. Does #4 have a special "meaning"? I notice that the second decimal is increasing and that after 5 runs the prediction comes out (exactly?) 1000. That's kind of special, isn't it?"

Yes, the values for #4 were generated by y = x^5/100, for x from 0 to 5, so the next value is 6^5/100 = 7776/100 = 77.76, and you eventually get to 10^5/100 = 100000/100 = 1000, exactly. It was an attempt to obfuscate things a little by adding decimals, probably quite successful. Without the decimals (i.e.: 0, 1, 32, 243, 1024, 3125) the generating function is probably easier to guess (y = x^5).

"By the way, is it a coincidence that you came up with 11 test cases for this S&SMC#11 and that the answer of the 11th case is 11? I guess you did this on purpose ..."

Yes, that's no coincidence at all. :-) I thought it would be fun for smart readers like yourself to see S&SMC#11 include a test case #11 which features an 11-element sequence whose next element is precisely 11. :-) The nice touch is to make sure that this 11-element sequence looks interesting and its next element is far from obvious, so it comes as a nice surprise when you realize its value is exactly 11.

Best regards from V.

S&SMC#11: My solutions & comments [LONG]

*Message #20 Posted by **Valentin Albillo** on 18 Oct 2005, 4:31 a.m.,*

in response to message #1 by Valentin Albillo

Hi, all:

Thanks to all of you interested in my S&SMC#11, most specially to those who contributed their own solutions and comments.

S&SMC#11 asked for a program to compute the *next* element of a given sequence. As some of you observed, this could be considered a case of *polynomial fitting*, where we first compute the coefficients of a polynomial which includes all values in the sequence, then we evaluate the polynomial to get the next value.

However, though workable, this is simply *overkill* as we're not interested in making further predictions or interpolations, just getting the *very next element*, so we can do without the complexity, time, and memory resources necessary for a full-fledged polynomial fit. We'll use a much simpler mechanism, based in **finite differences**.

The details are better understood with an example. Imagine we're asked to predict the next element of the sequence which begins (8, 27, 64, 125). We then form the following disposition, where the first row contains the sequence's elements and each number in the rows below is computed as the difference of the two above it, like this:

```
                      n1    n2    n3   n4
                     ---------------------
 original sequence:   8    27    64   125
   1st differences:     19   37    61       (19 = 27- 8, 37 = 64-27, 61 = 125-64)
   2nd differences:        18   24          (18 = 37-19, 24 = 61-37)
   3rd differences:           6             ( 6 = 24-18)
```

where we stop as soon as there's a *single value* in the last row. Now, to predict the next element, lacking futher information we simply assume that the last, Nth differences are constant, and proceed to compute the next entries *adding upwards*, row by row, like this:

```
                      n1     n2    n3   n4      n5
                     -------------------------------
 original sequence:   8     27    64   125 ..  216   (predicted next element = 125 + 91)
   1st differences:     19    37    61 ..   91       (91 = 61 + 30
   2nd differences:        18    24 ..  30           (30 = 24 + 6)
   3rd differences:           6  ..  6               (3rd differences are constant = 6)
```

and so we get **216** as the predicted value for the next element. In this particular case, the original elements were 2^3, 3^3, 4^3 and 5^3, so we would expect 6^3 to be the next element, which it is (6^3 = 216).

Given this simple, finite-difference algorithm, we could write a short program to input the original sequence, then compute the finite differences to form a triangular disposition as seen above, and use it to obtain the predicted next value. But we can proceed more economically by having a closer look at how the predicted value is computed. In the example above, the predicted value (216) is computed like this:

```
216 = 125 + 91
    = 125 + 61 + 30
    = 125 + 61 + 24 + 6
    = 125 + (125-64) + 24 + 6
    = 125 + (125-64) + (125-64)-(64-27) + 6
    = 125 + (125-64) + (125-64)-(64-27) + [(125-64)-(64-27)]-[(64-27)-(27-8)]
    = 125 + 125 - 64 + 125 - 64 - 64 + 27 + 125 - 64 - 64 + 27 - 64 + 27 + 27 -8
    = 125*4 - 64*6 + 27*4 - 8
```

this is, in the notation above:

```
n5 = n4*4 - n3*6 + n2*4 - n1
```

Doing likewise with 5- and 6-point sequences, we similarly get:

```
n6 = n5*5 - n4*10 + n3*10 - n2*5 + n1
```

and

```
n7 = n6*6 - n5*15 + n4*20 - n3*15 + n2*6 - n1
```

and the coefficients which multiply the n's immediately reminds us of **Pascal's triangle**:

```
             1
           1   1
         1   2   1
       1   3   3   1
     1   4   6   4   1
   1   5   10  10  5   1
 1  6   15  20  15  6   1
```

where each number is the *sum* of the two above it. But every element in each row of Pascal's triangle is given by a *binomial coefficient* **C(m,n)** (*number of combinations of m elements taken n at a time*), so, for the last row above we have:

```
n7 = n6*C(6,5) - n5*C(6,4) + n4*C(6,3) - n3*C(6,2) + n2*C(6,1) - n1*C(6,0)
```

and similarly for the general case. This can be readily implemented in any HP model, no matter how small (say HP-10C, HP-12C, HP-25), because:

- no elements need to be stored: each is used only *once*, so they can be input one at a time, interactively, to be immediately used.
- no need to compute each C(m,n) = m!/n!/(m-n)!, because each binomial coefficient can be computed *from the preceding one* by performing just one integer multiplication and one integer division.

Here's the resulting 19-step RPN program for the HP-15C:

```
   LBL A
   STO I     store the number of elements
     1       initialize an auxiliar counter
    CHS
   STO 0
   STO 1     initialize running binomial coefficient
    CLX      initialize running sum
  *LBL 0
    R/S      accept input from the user
   RCL 1     update binomial coefficient
   RCL* I
   RCL/ 0
   STO 1
     *       update running sum
     +
   DSE 0     update auxiliar counter
  *LBL 0
   DSE I     update primary counter
   GTO 0     if not done, go for another input
             done, stop with next element in display
```

which uses no allocatable registers (just the permanent registers R0, R1, RI) and works very fast for any number of elements. The sequence's elements are introduced one at a time, in reverse order (this saves a few extra steps at no cost since you press exactly the same keystrokes as you would if entering them in order). Here's a couple of trial runs:

Sequence 8, 27, 64, 125, ?

```
FIX 2
    4  [A]  125 [R/S]  64 [R/S]  27 [R/S]  8 [R/S] -> 216.00
```

Sequence 0, 0.01, 0.32, 2.43, 10.24, 31.25, ?

```
    6  [A]  31.25 [R/S] 10.24 [R/S]  2.43 [R/S]
             0.32 [R/S]  0.01 [R/S]     0 [R/S] ->  77.76
```

This program can be very easily translated to most any HP model, an HP-25 version or HP-12C version are about 25 steps long. It can also be converted straight away to an **HP-71B** version, namely the following *one-liner* (78 bytes):

```
1 INPUT "N=";I @ A=I+1 @ B=1 @ S=0 @ FOR I=-I TO -1 @ INPUT "X=";X @ B=B*I/(A+I) @ S=S-X*B
@ NEXT I @ DISP S
```

Trial run, test 4: 0, 0.01, 0.32,2.43, 10.24, 31.25, ?

```
>RUN


N=6       [ENTER]


X=31.25   [ENTER]
X=10.24   [ENTER]
X=2.43    [ENTER]
X=0.32    [ENTER]
X=0.01    [ENTER]
X=0       [ENTER]


 77.76
```

That's all. Thanks again for your interest and

Best regards from V.

Re: S&SMC#11: My solutions & comments (edited)

*Message #21 Posted by **Arnaud Amiel** on 18 Oct 2005, 9:13 a.m.,*
in response to message #20 by Valentin Albillo

Thanks, and as usual it all looks so simple now. I will try to find time to get it working on my 55.

However, I have always been reluctant to use interpoling beyond the interval where I have data as it usually produces rubbish (unless you know which "physics" law to follow. Anyone knows of rules validating the use of interpolation beyond the interval?

Thanks,

Arnaud

Edited: 18 Oct 2005, 10:52 a.m.

Re: S&SMC#11: My solutions & comments

*Message #22 Posted by **Bram** on 19 Oct 2005, 5:06 a.m.,*
in response to message #20 by Valentin Albillo

Hi Valentin,

Thank you for your explanations and your programs, which are very compact indeed. The first one runs on my HP-32SII apart from the duplicate label. The 32SII doesn't allow this. As it is a dummy line to ignore a skip of the DSE 0, it can of course be replaced with another label.

All in all it was nice exercising.

S&SMC#11: Flubbing Fibonacci?

*Message #23 Posted by **Karl Schneider** on 19 Oct 2005, 11:53 p.m.,*
in response to message #20 by Valentin Albillo

Valentin --

Thanks for posting a clever and interesting exercise. The method and HP-15C program you provided seems fairly clever; I'll try the HP-71B version when I get more proficient with it.

Curiously, while the program (adapted just slightly for the HP-41C and HP-42S) works as advertised for the examples you provided, it does not give the correct results for the simple Fibonacci sequence:

$a_{n+1} = a_n + a_{n-1}$

0, 1, 1, 2, 3, 5, 8, 13, 21, ...

I get either 0 or twice the correct value as the next term (depending upon how many terms were specified).

I have not analyzed the technique to explain why this is so. Would you have some mathematical insights about this?

Thanks,

-- KS

Re: S&SMC#11: Flubbing Fibonacci?

*Message #24 Posted by **Crawl** on 20 Oct 2005, 12:14 a.m.,*
in response to message #23 by Karl Schneider

The Fibonacci sequence isn't a polynomial sequence.

The nth term can be given in closed form

Fn = ((1 + sqr(5))^n - (1 - sqr(5))^n)/(sqr(5)*2^n)

S&SMC#11: Followup to "Flubbing Fibonacci"

*Message #25 Posted by **Karl Schneider** on 20 Oct 2005, 3:19 a.m.,*
in response to message #23 by Karl Schneider

I posted,

> Quote:
>
> Curiously, while the program (adapted just slightly for the HP-41C and HP-42S) works as advertised for the examples you provided, it does not give the correct results for the simple Fibonacci sequence:
>
> $a_{n+1} = a_n + a_{n-1}$
>
> 0, 1, 1, 2, 3, 5, 8, 13, 21, ...
>
> I get either 0 or twice the correct value as the next term a_{n+1}(depending upon how many terms were specified).

The program gives 0 as the next term a_{n+1} for odd n > 1; it gives double the correct value of the next term for even n > 1. So, if a_{n+1} represents the correct value of the next term,

$a_{n+1} * [1 + (-1)^n]$ is returned.

It's somewhat correct... ;-)

-- KS

Re: S&SMC#11: Flubbing Fibonacci?

*Message #26 Posted by **Arnaud Amiel** on 20 Oct 2005, 3:30 a.m.,*
in response to message #23 by Karl Schneider

That was my concern, see message 21 above. However I didn't have time to find an example. I didn't have time to think about the challenge either but I wouldn't have found the answer, exactly because of this.

Arnaud

Re: S&SMC#11: Flubbing Fibonacci?

*Message #27 Posted by **Valentin Albillo** on 20 Oct 2005, 5:44 a.m.,*
in response to message #23 by Karl Schneider

Hi, Karl:

Karl posted:

"Would you have some mathematical insights about this?"

Yes, the finite difference algorithm my solution implements will produce the 'correct' next element (in the sense given) for any sequence generated by evaluating polynomials of any degree at equally spaced data points.

The Fibonacci sequence you give is usually defined as a linear recurrence, in which the Nth term depends on a linear combination of preceding terms. These kind of recurrences usually result in sequences generated by either exponentials or trigonometrics (which are nothing more than exponentials for complex arguments), but not polynomials except in degenerate cases.

Your sequence is 1,1,2,3,5,8,13,21,..., where each term is computed from the preceding ones like this:

$$a_{n+2} = a_{n+1} + a_n$$

i.e., each term is the sum of the two preceding ones. Thus, its nth-term can be expressed as a function of n in this way:

$$a(n) = C_1.x_1^n + C_2.x_2^n$$

where C_1,C_2 are suitable constants and x_1,x_2 are the two roots of the equation associated to the recurrence, namely (notice how closely it mimics the form of the recurrence itself):

$$x^2 = x + 1$$

so x_1 and x_2 are, respectively, (1+sqr(5))/2 and (1-sqr(5))/2, and you can determine C_1,C_2 by making use of the initial conditions:

```
a(1) = 1
a(2) = 1
```

resulting in the values:

```
C1 = 1/sqr(5)
C2 = -1/sqr(5)
```

so you finally get:

```
a(n) = (((1+SQR(5))/2)^n-((1-SQR(5))/2)^n)/SQR(5)
```

which, certainly, it's *not* a polynomial.

If the roots of the associated equation turned out to be complex, then the general term would involve trigonometrics, but the details are fairly similar. Which is more, you can leave everything the same, with exponentials of imaginary values, and if your HP model allows you to compute them, it would work perfectly Ok.

After all, who needs a sin(x) function when you can compute it as (e^(i*x) - e^(-i*x))/(2*i) ? :-)

Best regards from V.

Thank you, V [Re: S&SMC#11]

*Message #28 Posted by **Karl Schneider** on 20 Oct 2005, 10:43 p.m.,*
in response to message #27 by Valentin Albillo

Thank you, Valentin -- an excellent and informative explanation, as usual.

The test case 4 sequence:

0, 0.01, 0.32, 2.43, 10.24, 31.25

I could ask what its definition is, but I expect that I could find out by running your recently-posted HP-71B polynomial curve-fitting routine. Could the HP-41C Stat Pac PC-F routine also find it (maximum order = 3)?

-- KS

Re: Thank you, V [Re: S&SMC#11]

*Message #29 Posted by **Valentin Albillo** on 21 Oct 2005, 4:23 a.m.,*
in response to message #28 by Karl Schneider

Hi, Karl:

Karl posted:

"Thank you, Valentin -- an excellent and informative explanation, as usual."

You're welcome, I'm really fortunate to have such kind, keen, and appreciative 'readers'. :-)

"The test case 4 sequence: 0, 0.01, 0.32, 2.43, 10.24, 31.25 I could ask what its definition is, but I expect that I could find out by running your recently-posted HP-71B polynomial curve-fitting routine. Could the HP-41C Stat Pac PC-F routine also find it (maximum order = 3)?".

It is:

P(x) = (x^5)/100

for x= 0,1,...,5 and yes, any curve-fitting routine worth its salt can find it, provided it copes with degrees up to 5, so perhaps the PC-F routine will be unable to find this one (the best a 3rd-degree polynomial can achieve with these data is to have an absolute maximum error H=0.52, see below). Next element is, of course, (6^5)/100 = 7776/100 = 77.76.

My HP-71B Minimax Polynomial program that you mention can (of course!!) find this, but it's absolutely *overkill* ! We have an idiom in Spanish for this, namely *"Matar moscas a cañonazos"* which literally means *" To kill flies with a canon"* but properly translates in English as *"To crack a nut with a sledgehammer"*. Nevertheless, a sample run of my program goes as follows:

```
>CAT

   MINIMAXP   BASIC  3018 07/09/04 06:14

>RUN

     Verbose ? (Y/N):  N
  [K]bd,[D]ef,[F]ile=  K
           # Points=  6
            #1: X,Y=  0,0
            #2: X,Y=  1,0.01
            #3: X,Y=  2,0.32
            #4: X,Y=  3,2.43
            #5: X,Y=  4,10.24
            #6: X,Y=  5,31.25
            Store in  *
             Degree=
         Max. error=  0


      Degree 1 ... H= 8.16000000000   (max. error for a 1st-degree
polynomial)
      Degree 2 ... H= 2.76666666690   (max. error for a 2nd-degree
polynomial)
      Degree 3 ... H= 0.52000000000   (max. error for a 3rd-degree
polynomial)
      Degree 4 ... H= 0.03750000000   (max. error for a 4th-degree
polynomial)
      Degree 5 ... H= 0.00000000000   (max. error for a 5th-degree
polynomial)


      A0= 0.00000000000
      A1= 0.00000000000
      A2= 0.00000000000
      A3= 0.00000000000
      A4= 0.00000000000
      A5= 0.01000000000
```

Thus, it has found that these datapoints are perfectly represented (absolute maximum error H = 0.00000000000) by the 5th-degree polynomial:

```
      P(x) = A5*x^5 = 0.01*x^5 = (x^5)/100
```

Thanks again for your interest and kind words and

Best regards from V.

Edited: 21 Oct 2005, 4:34 a.m.

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41c battery types

*Message #1 Posted by **Hal** on 13 Oct 2005, 12:52 a.m.*

I'm a bit confused about the different types of batteries that can be used in a 41c. I just acquired a 41c, and it's battery pack has the short cells (1/2 N's??) with the rectifier built into the end of the pack. I've seen photo's of 41c battery packs that use cells that run the full length of the pack, with no rectifier (obviously these would have to be externally charged)..are these N cells? Were these full length cell packs an aftermarket item, and can anyone tell me where I can get one? Thanks for any insight into this. Hal

Re: 41c battery types

*Message #2 Posted by **Vassilis Prevelakis** on 13 Oct 2005, 4:46 a.m.,*
in response to message #1 by Hal

```
 Hal wrote:
> I just acquired a 41c, and it's battery pack has the short
> cells (1/2 N's??) with the rectifier built into the end of the
> pack.
```

This sounds like the optional HP-82120A multipurpose rechargeable battery pack. You need a HP-82059B (110 Vac) or HP-82066B (220 Vac) charger for this pack.

```
> I've seen photo's of 41c battery packs that use cells that run
> the full length of the pack, with no rectifier.
```

This is the standard battery pack that was supplied with every HP-41. It is designed to take non-rechargeable cells, so there is no need for a rectifier.

Some people put NiCd or NiMH cells in the standard pack and recharge them on an external (commercially available) charger.

However, there was a discussion on this very point just a few days ago and the consensus was that its not worth the bother. Just put alkaline N-size cells and change them once every 12 to 18 months.

**vp

Re: 41c battery types

*Message #3 Posted by **Hal** on 13 Oct 2005, 12:34 p.m.,*
in response to message #2 by Vassilis Prevelakis

Vassilis, thanks very much for the info. Now I just have to find a standard battery pack and n-cell alkalines. Best regards, Hal

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Our favorite bubba has increased his prices

*Message #1 Posted by **blurdybloop** on 12 Oct 2005, 11:53 p.m.*

Now he's asking $449 for his HP-35 with the noisy ON/OFF switch.

http://cgi.ebay.com/HP-35-Scientific-Calculator-Complete-Box-Set_W0QQitemZ5818436919QQcategoryZ58039QQssPageNameZWDVWQQrdZ1QQcmdZViewItem

Gee. I have one of those.

Sadly, it seems that his HP-45 and HP-80 haven't kept their value as much, being only $349. But his HP-16C is $489.

Re: Our favorite bubba has increased his prices

*Message #2 Posted by **Mike DiGirolamo** on 13 Oct 2005, 12:16 a.m.,*
in response to message #1 by blurdybloop

Hi B-bloop,

If you click on "View seller's other items" you'll really get an eyefull of shocking prices! This seller must often be getting their price because most or all of their auctions have only "buy-it-now" pricing. I also recognize this name as one frequently seen bidding on HP items.

Mike

Re: Our favorite bubba has increased his prices

*Message #3 Posted by **Hal** on 13 Oct 2005, 1:09 a.m.,*
in response to message #2 by Mike DiGirolamo

I've also noticed that when "our favorite bubba" bids on an HP item, he drops out when the bidding gets above fifty bucks or so. I've seen him open with bids of less than $10. Incredible.

Re: Our favorite bubba has increased his prices

*Message #4 Posted by **blurdybloop** on 13 Oct 2005, 11:10 a.m.,*
in response to message #3 by Hal

He seems to be interested in HP-16C calculators lately, bidding up to $90.88 (he seems to like that fractional dollar figure) for one with manual.

Since he seems to be located in the land of fruits and nuts, I wonder if he's paying the California inventory tax on his business.

Re: Our favorite bubba has increased his prices

*Message #5 Posted by **Mike3** on 13 Oct 2005, 4:02 p.m.,*
in response to message #4 by blurdybloop

What? Say Hal, how about giving a little credit and respect to us, the Fruits and Nuts at HP. After all, we created those God Damn Calculators!

Re: Our favorite bubba has increased his prices

*Message #6 Posted by **Hal** on 13 Oct 2005, 7:55 p.m.,*
in response to message #5 by Mike3

Hi Mike3, Are you sure you didn't mean for your last rebuttal to be directed at someone else? I never used the term "fruits and nuts" in any of my posts. The inference of my post was that while "our favorite bubba" wants to charge absolute premium prices for his offerings, he wants to acquire HP's for far less that they're worth (sometimes ridiculously so).

If you were at HP making those calculators, then my hat's off to you...you guys made the best products in the world by far. Hal

Re: Our favorite bubba has increased his prices

*Message #7 Posted by **blurdybloop** on 13 Oct 2005, 8:21 p.m.,*
in response to message #6 by Hal

Indeed, no offense intended to the people at HP Palo Alto. Although it has been a long long time since any calculators came from there.

Nevertheless, it's an interesting question as to whether or not the bubba is paying his California inventory tax. He has a demonstrated willingness to cheat his sellers, his buyers, and eBay. He's probably cheating the taxman too.

Re: Our favorite bubba has increased his prices

*Message #8 Posted by **Namir** on 13 Oct 2005, 10:21 p.m.,*
in response to message #7 by blurdybloop

I agree with you about cheating all these entities. I think there may be a problem with jailing cobubba. After 12 hours in his cell he will turn into a mouse (or most likely a rat) and escape home to the sewers (where he has all these calculators stashed).

Re: Our favorite bubba has increased his prices

*Message #9 Posted by **I, Claudius** on 14 Oct 2005, 9:47 a.m.,*
in response to message #8 by Namir

You have marvelously wicked sense of humor!

Re: Our favorite bubba has increased his prices

*Message #10 Posted by **Namir** on 14 Oct 2005, 12:08 p.m.,*
in response to message #9 by I, Claudius

All for the glory of Rome!

Ooops ... Sorry Hal ... My Goof

*Message #11 Posted by **Mike3** on 16 Oct 2005, 1:57 p.m.,*
in response to message #6 by Hal

Must be my age!

In Praise of good eBay sellers

*Message #12 Posted by **Namir** on 13 Oct 2005, 1:39 a.m.,*
in response to message #1 by blurdybloop

Cobubbua sells so-so quality. I buy sometimes from cjd55 and mr.tolossa who sell very good quality at good-to-high prices. I have bought from both and not been disapointed. I don't mind mr.tolossa's higher-than-average prices, because he seems to deliver quality AND is not out to take advantage of newbie buyers.

"Works Great...ON switch sensitive, but works with a few tries."

*Message #13 Posted by **I, Claudius** on 13 Oct 2005, 10:08 a.m.,*
in response to message #1 by blurdybloop

He had this for sale a while back with the same description. He must be or have a been a used car salesman. I don't think he's selling a lot of calculators.

Edited: 14 Oct 2005, 6:44 p.m.

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Can anyone source the 41 xrom 29 contents?

*Message #1 Posted by **donald wallace** on 12 Oct 2005, 9:46 p.m.*

Hi all.

I am hoping someone can source the rom contents for X functions module rom "1D".

Thanks in advance.

DW

Re: Can anyone source the 41 xrom 29 contents?

*Message #2 Posted by **Raymond Del Tondo** on 12 Oct 2005, 11:56 p.m.,*
in response to message #1 by donald wallace

Hi Don,

just disassemble the associated part of the
related *.ROM or *.BIN file for Emu41 or V41.
For disassembly I'd use Warren's SDK41 (see TOS)

HTH

Raymond

Re: Can anyone source the 41 xrom 29 contents?

*Message #3 Posted by **Donald Wallace** on 13 Oct 2005, 12:12 a.m.,*
in response to message #2 by Raymond Del Tondo

Hi Raymond,

Thanks so much for your reply.

My confusion was that I was not sure the existing MOD file contains that actual data... I thought (maybe I am wrong) that it had "1A, 1B and 1C" data pages in there and not "1D", which looking at Mathias great catalogue seems like it's in a later module.

Looking over my listing notes I realise I was mistaken and that call is to an IR printer module, so I was totally off-track...(!)

Thanks again Ray.

DW

Can anyone source the 41 xrom 29 contents?

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HP 49g+ Graphing Help Needed

*Message #1 Posted by **John Bower** on 12 Oct 2005, 3:00 p.m.*

I have a new HP 49g+ and I'm having touble with graphing a certain function. The textbook asked me to graph this function: g(x)=x(x-1)(x+2)(x-3). But when I ty to do it, the calculator gives me an "Error: Invalid User Function." Thanks.

John

Re: HP 49g+ Graphing Help Needed

*Message #2 Posted by **Gene Wright** on 12 Oct 2005, 3:27 p.m.,*
in response to message #1 by John Bower

First guess: You've typed the function in with the implied multiplication. Can't do it that way. You'll have to type X * (x-1)*(x+2)*(x-3) in the EQ section of the plot setup window.

Second guess: You put the g(x) portion of the equation somewhere.

Take a look here for help with the basics of plotting equations:

http://www.hp.com/calculators/docs/learning_modules/49gplus/49gPlusPlotting.pdf

Gene

Re: HP 49g+ Graphing Help Needed

*Message #3 Posted by **Eddie Shore** on 13 Oct 2005, 8:15 a.m.,*
in response to message #1 by John Bower

John,

The 49g+ does not accept implied multiplication. It will be important to actually put the multiplication sign between each factor.

e.g. g(x)=x*(x-1)*(x+2)*(x-3)

Since you want to define the equation as g(x) [instead of y##(x)] you make want to put the equation on stack and executing the STEQ (Store Equation) command. STEQ is only available on the catalog or it is easier to just type the command.

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I just fixed my HP-48G+ ...

*Message #1 Posted by **HrastProgrammer** on 12 Oct 2005, 8:03 a.m.*

... and I am so happy that I must share this with the others.

I have one HP-48G+ which suffered a lot of very bad "maintenance" (multiple falling on the floor and some "beating") from one high school student (not from me, of course, otherwise it would be in a perfect condition). Many keys didn't work (especially ones which you need a lot, like ON, +, -, *, /) or, precisely, they work sometimes when you press the calculator hard beneath the display, around C key. So, I decided to see if something can be done regarding this because it would be a shame not to try to fix it these days when HP-48 is no more manufactured and every working unit is precious.

There are a few methods for opening a 48 on http://www.hpcalc.org/hp48/docs/opening as mentioned in another thread and I decided to try one which claimed you can open a calculator without damaging it and using only one tool (http://www.hpcalc.org/hp48/docs/opening/openhp48.zip). In short: if you carefully follow the instructions, you can open a 48 without a need for any drilling or something like that. You don't even have to remove the faceplate! I succeded to open it in about 10 minutes using just a simple kitchen knife. Of course, some patience is needed but if I was able to do it then anyone can do it because I am not known as a very patient man.

The result was a disassembled 48 with the upper part containing keyboard, display and PCB separated from the lower part containing battery compartment. The PCB is fixed in place with six of "something" (I don't know how they are called in english, maybe fasteners or something like that). One of these fasteners was very interesting to me because it is located almost right there where you have to press the calculator to start registering some keys. I thought it could be lose so I tightened it a little bit (just a little bit) and also tightened the others. You must be very careful not to scratch the PCB doing this. And to avoid static electricity, too. Then I partially assembled the calculator, put batteries and pressed ON. It didn't react but I reseted it through a reset hole and it started to work. I didn't believe when I pressed a few keys: they were working! Amazing! Then I assembled the calculator to make some other tests. I used it for about 30 minutes or so and it registered all keys.

Just for practice and curiosity, I decided to open it again. This time I separated the PCB from the upper part to see what is underneath and to clean some contacts if needed. There was some dust around the display connector and I removed it with a soft, dry cloth. After doing this, I fixed the PCB again in place (this is a little tricky) and reassembled the calculator again. If you are reasonably careful then there won't be any scratches on the calculator and you cannot even notice it has been opened. After putting the batteries back, ON+E test displayed OK-48. Then I installed all my HP-1XE series emulators (HP-11E, HP-12E, HP-15E and HP-16E) and used them for more than a hour without any problem. All keys functioned properly.

Of course, I must use the calculator for a few more days to see if this was just a momentary luck or a permanent solution but I am very happy to know that I can (try to) fix some of my three HP-48GXs in case they will ever show similar behavior. Next week my friend and I will try to fix his old HP-48SX with exactly the same problem.

Perhaps this experience will be useful for someone ...

Of course, I am not responsible if someone burns his calculator trying to open it.

Edited: 12 Oct 2005, 9:28 a.m.

Re: I just fixed my HP-48G+ ...

*Message #2 Posted by **bill platt** on 12 Oct 2005, 9:53 a.m.,*
in response to message #1 by HrastProgrammer

Hi Hrast,

Thanks very much for posting this!

Re: I just fixed my HP-48G+ ...

*Message #3 Posted by **Les Bell** on 12 Oct 2005, 8:22 p.m.,*
in response to message #1 by HrastProgrammer

Thanks for posting that, Hrastprogrammer - I always enjoy a "happy ending", especially when the prospects of seeing new calculators with the quality of the 15, 41, etc. are so dim.

Best,

--- Les
[http://www.lesbell.com.au]

Re: I just fixed my HP-48G+ ...

*Message #4 Posted by **Ed Look** on 12 Oct 2005, 11:01 p.m.,*
in response to message #1 by HrastProgrammer

Wow!

I have a 48G (no +, no X) I dropped once and now there is a blank line through the display, right in the middle of the the third stack level. It's very annoying.

I am going to have to gather my courage and try your method.

If you have any more details or extra advice, please post it!

Re: I just fixed my HP-48G+ ...

*Message #5 Posted by **HrastProgrammer** on 13 Oct 2005, 3:27 a.m.,*
in response to message #4 by Ed Look

Next week we will try to fix a friend's old HP-48SX with the same display problem (beside the keyboard problems as I mentioned before) - some lines are blank. Then we'll see if this is just a bad connection or the display is broken ...

Re: I just fixed my HP-48G+ ...

*Message #6 Posted by **J-F Garnier** on 13 Oct 2005, 6:39 a.m.,*
in response to message #5 by HrastProgrammer

I have an early 48SX (ROM ver A) with a few display columns being blank, but I was told that it's more an electronic issue (driver?). Let us know if you succeed to fix it!

J-F

48SX LCD (missing columns)

*Message #7 Posted by **Matt Kernal (US)** on 13 Oct 2005, 8:03 p.m.,*
in response to message #6 by J-F Garnier

I once had a 48SX that had three missing columns toward the left edge of the LCD. Apparently there were a batch of bad LCD's on a certain range of 48SX serial numbers. Here's an OLD blast-from-the-past that describes the problem:

> Quote:
>
> **---------- Article:3937 of comp.sys.hp48 From: akcs.joehorn@hpcvbbs.cv.hp.com (Joseph K. Horn) Date: Mon, 14 Sep 1992 06:40:02 GMT**
>
> **For those suffering from failing HP48 LCD's, the following "official" posting about it from HP's BBS sysop is the final word. Due to its importance, it was included on Goodies Disk #7, in the POSTINGS subdirectory. Hope it helps. -jkh-**
>
> **========== (Feedbackto.hp) Item: 248 Resp: 3 by sanker@hpcvbbs.cv.hp.com Author: [Greg Sanker] Date: Tue Apr 07 1992 14:35**
>
> **I checked with the Hardware folks, and here is the scoop:**
>
> **There was a specific problem that may or may not occur in a limited production of units. The problem has been isolated to the LCD and has been resolved with the vendor. The potentially defective LCD's were installed in HP 48's with serial numbers ranging 3013AXXXXX thru 3044AXXXXX. Symptoms of the problem are a pronounced black spot in the upper left hand corner of the display and/or dark/missing columns 3,5,7 and/or 9.**
>
> **If a unit is failing for the above reasons, subject to verification by the Corvallis Service Center, it will be covered as part of the standard warranty, even if the standard warranty period has expired.**
>
> **Greg (SYSOP) ==========**

Oh, I tried to get HP to replace my 48SX, but they didn't bite.

Matt

Re: 48SX LCD (missing columns)

*Message #8 Posted by **J-F Garnier** on 15 Oct 2005, 3:55 a.m.,*
in response to message #7 by Matt Kernal (US)

>The potentially defective LCD's were installed in HP 48's with serial numbers ranging 3013AXXXXX thru 3044AXXXXX. Symptoms of the problem are a pronounced black spot in the upper left hand corner of the display and/or dark/missing columns 3,5,7 and/or 9.

Altough my 48SX serial number (3010A*****) is out of this range, the symptom is similar: columns 5 and 7 missing.

J-F

Re: I just fixed my HP-48G+ ...

*Message #9 Posted by **Ed Look** on 13 Oct 2005, 3:36 p.m.,*
in response to message #5 by HrastProgrammer

Hmmmm... mine is a 48G and the blank line is a row across in the middle of the the third stack level from the bottom, not a column. I wonder if there is a relation.

Re: I just fixed my HP-48G+ ...

*Message #10 Posted by **don wallace** on 15 Oct 2005, 10:05 p.m.,*
in response to message #1 by HrastProgrammer

Hi Hrast!

Thanks for your great post.

I've always wanted a graphing calc and maybe I'll get a 48 or 49? It's really handy to know how to get them apart just in case they arrive intermittent.

Now the only thing is to figure out which of the various options of machine is best for me...

DW

Re: I just fixed my HP-48G+ ...

*Message #11 Posted by **Arnaud Amiel** on 16 Oct 2005, 10:31 a.m.,*
in response to message #10 by don wallace

Given the prices, if you really want a graphing calculator, a 49g+ is really what you want but make sure you have a 2005 model (the keyboard is good now). Of course if you don't like painte keys or a golden calculator you will have to go for a 48.

Arnaud

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OpenRPN Progress

Message #1 Posted by . on 12 Oct 2005, 5:58 a.m.

Hello,

I have not heard any updates about the OpenRPN Project recently. Is it still on track? Will we ever see high quality RPN calculators again?

.

Re: OpenRPN Progress

*Message #2 Posted by **Bill Wiese** on 12 Oct 2005, 2:05 p.m.,*
in response to message #1 by .

> Quote:
>
> I have not heard any updates about the OpenRPN Project recently. Is it still on track? Will we ever see high quality RPN calculators again?

No, unfortunately. It appears folks keep worrying about trivial details like which CPU to use, etc. Furthermore, some folks apparently want HP48-like functionality instead of returning to the prime of the RPN era, the HP15C/41C/42S.

The real issue is manufacturability at a reasonable startup cost - making cases, keys + legends, etc. That's hard work and people would rather keep arguing MSP430 vs PIC vs 80C51 vs 68HC05, when all these CPUs are faster/ more powerful than the Nut chips in the HP calcs and all will serve fine.

Bill Wiese
San Jose, CA USA

Re: OpenRPN Progress (What can we do?)

*Message #3 Posted by **Frank Travis** on 12 Oct 2005, 2:44 p.m.,*
in response to message #2 by Bill Wiese

Bill I remember several months posting a topic about getting the U.S. to compete with overseas labor (mainly China, Mexico, and India). I brought up the fact that over 80% of Sears Craftsman tools are made in the U.S. and carry a lifetime warranty. You commented that Craftsman tools get lots of business from the "Made in the U.S." folks and they don't want to lose it. The tooling/metal quality etc. is better than any schlocky import (excepting quality European imports like Proto). It was a terrific response, but I don't have room here to enter it all. I am glad that I made a printout of your response. What I would like to know is what can I do as an American to safeguard (and in some cases to bring back) quality manufacturing jobs in the U.S. (i.e., contact U.S. Congressman, boycott cheap imports made in sweatshop conditions, etc.)? I attended HHC 2005 in Chicago, IL and gave a presentation on bringing back an enhanced version of the HP 15C. There is a website on this topic http://hp15c.org:8086 There were others at HHC 2005 thinking

along those lines (i.e., bringing back enhanced HP 41 CX, etc.). Cyrille DeB. and Lee Kuan Goh of HP were there and said that HP would have to do their own research to see how much the research and development of new calculators would costs, and how many they could sell to recoup their costs. This was my first HHC attended. I hope to attend more and will gladly pass on feedback to HP persons there. Frank

Re: OpenRPN Progress / Bringing back the 15c and why that will not happen

*Message #4 Posted by **Gene Wright** on 12 Oct 2005, 3:42 p.m.,*
in response to message #3 by Frank Travis

I think greater knowledge and understanding of accounting and business will help to answer why HP has not yet brought back the 15c.

First, there's an assumption that HP's calculator division has more people in it than there really are. Second, there's an assumption that of the people who are in the division, there are a large number of engineers.

It would appear that HP had the 12cp re-engineered from "scratch" a few years ago and when it came out, it had several "problems" that have required time to fix.

The question might arise: "If HP could do that with the 12c, why can't they with the 15c?"

Because it is probably not profitable for them to do so. My guess is that the HP12c and HP12c platinum sell 20-50X more units than the 15c ever did. HP repeatedly came out with newer (better?) financial calculators in what appeared to be an attempt to kill off the 12c in favor of the newer product. Of those, the 12c is still made. The replacements are the ones no longer made.

The 15c did not sell well enough to continue making it. Same thing for my beloved 42s.

Assume a development cost of $10,000,000.

Assume HP gets 10% of the retail price to its bottom line.

Now, convince HP brass that at certain price points, the sales volume estimates in your analysis will prove true, whatever price point you pick.

Scenarios:

(1)

Price $99, sales units per year = 400,000 HP nets $9.90 each x 400,000 = $3,960,000 "profit" each year, taking nearly 3 years to earn back the investment.

This would be laughed out of the room.

(2) Price $299, sales units per year = 50,000 HP nets $29.90 each x 50,000 = $1,495,000 "profit" each year, taking nearly 7 years to earn it back.

This is the picture.

Why a development cost of $10,000,000? If HP works like most other large corporations, each product/project is allocated costs of the enterprise. This may be a cost for each product number in the catalog, it may be an allocation based on some other method.

The time it takes the VERY few HP technical people to spec out the 15c replacement OR to test the one made by an out-sourced vendor is time that/those people are not fixing "bugs" in the 49g+, they

aren't fixing decimal points in the 33S, they aren't improving the "i" solve routine in the HP12c platinum. Etc.

Why are prices so high on ebay for 15c calculators? Because there aren't thousands of them available all the time. If there are a dozen a week, they may well sell for $150-300 each (My last 15c on ebay I got for $80).

It just won't work these days. Not enough people will pay $299 for a new 15c.

So, we can either dream aka waste out time calling for HP to bring it back, or we can try living in the real world of economics. Personally, I enjoy dreaming at times, but then since I have a couple of working 15c calculators, why do I care if HP makes a new one?

Gene

P.S. Other examples of things that haven't worked include JYA's attempt to make a scientific PDA (couldn't raise the $$ it appears) and so far, the Open RPN project. I've been skeptical of the OpenRPN project all along that it would ever really bring anything to fruition and that appears to be it's fate.

P.P.S. Perhaps I should start a new petition drive to Unisys: Bring back the Univac!

Re: OpenRPN Progress / Bringing back the 15c and why that will not happen

*Message #5 Posted by **Namir** on 12 Oct 2005, 5:23 p.m.,*
in response to message #4 by Gene Wright

Well said Gene!!! Sounds like you have given it much thought and expressed it very well. Many folks are clinging to the past and also to the perception that the HP calculator division is basically the same one 20 years ago. Boy are they in for a surprise!!!!

Among all of the projects you mentioned, I see Eric Smith as possibly having a chance to produce something. Even in Eric's case, the cost is STILL paramount.

Ironically, the very same PCs/Laptops we are using to communicate here are essentially the ones who have unseated calculators as the "personal computers" (remember the ads for th HP-65, 67, and 41?).

Namir

Re: OpenRPN Progress / Bringing back the 15c and why that will not happen

*Message #6 Posted by **Gene Wright** on 12 Oct 2005, 5:53 p.m.,*
in response to message #5 by Namir

Gene: Hi again, Namir. I too think Eric may make a go of it, but he's emulating old calculators, not developing a new one. And, he's not a large corporation having to live by lots of rules. Even Eric saw that people won't pay too much $$ for such a "toy". :-)

Re: OpenRPN Progress / Bringing back the 15c and why that will not happen

*Message #7 Posted by **Howard Owen** on 12 Oct 2005, 5:25 p.m.,*
in response to message #4 by Gene Wright

Quote:

> So, we can either dream aka waste out time calling for HP to bring it back, or we can try living in the real world of economics. Personally, I enjoy dreaming at times, but then since I have a couple of working 15c calculators, why do I care if HP makes a new one?

It's worse than that for me. I want the world to want an HP-41C. That way, companies like HP would be designing and bringing to market *new* calculators that built on the model of the older RPN models. I want a four level stack that I can expand if I want to. I want straight RPN by default, or RPL at my discretion. I want a fairly simple and very robust keyboard and a backlit LCD display. I also want to (rdp|vnc|x11) access to the calculator's innards so I can have a software user interface too. I want the batteries to last as long as the Voyagers to boot. (Chya, right.)

I also want the whole world to sing along in perfect harmony, so none of these weird eastern instruments using non-western scales. (Actually, I kind of like non-western scales, or some of them anyway.)

I *know* I'm not going to get any of that. I've also learned that for me, it is fruitless to not want something by conscious choice. The best I can do is laugh along with my absurd desires, and/or do the next best things I'm capable of, but in any event, not make myself miserable from lack of impossible things.

Re: OpenRPN Progress / Bringing back the 15c and why that will not happen

*Message #8 Posted by **Gene Wright** on 12 Oct 2005, 5:54 p.m.,*
in response to message #7 by Howard Owen

Hi Howard. I want them too, but I suppose I have surrendered to my version of "realism". I hope to influence, but know deep inside there are definite limits to what I will ever get back. Sigh!

Re: OpenRPN Progress / Bringing back the 15c and why that will not happen

*Message #9 Posted by **Karl Schneider** on 12 Oct 2005, 11:52 p.m.,*
in response to message #4 by Gene Wright

Gene --

Many good points in your post, but I can't agree with all of them...

> Quote:
>
> It would appear that HP had the 12cp re-engineered from "scratch" a few years ago and when it came out, it had several "problems" that have required time to fix.

Au contraire about "scratch" (but not, alas, the "problems"). KinHPo seems to have developed "new" models (12CP, 17BII+, 33S, 49G+) only from legacy HP-engineered models (12C, 17BII, 32SII, 49G) that were still in production when the efforts were first undertaken. That way, the precious tried-and-true *source code* was available. The problems probably stemmed from porting the old code to the new processors, by whatever means was used (emulation?).

While KinHPo knew what new features they wanted to include in the new models, they didn't really understand or address the functional shortcomings of the legacy HP models (besides limited

RAM, which nowadays is cheap and easy to remedy). Thus:

- The first 12CP was not significantly faster than the slow Voyager-based 12C; it had the same terrible programming paradigm (but with 400 steps!); and it added algebraic-entry without parentheses.
- The 33S retained rudimentary complex-number functions; lacked equation editing; introduced unintuitive algebraic-entry (at least parentheses were already present!); and, introduced unprecendented mathematical bugs.

> Quote:
>
> HP repeatedly came out with newer (better?) financial calculators in what appeared to be an attempt to kill off the 12c in favor of the newer product. Of those, the 12c is still made. The replacements are the ones no longer made.

The 10B, 14B, and 17B, although faster and generally more capable, were all strictly algebraic-entry, and lacked the gold-bezel, horizontal-layout design that looked good and worked well on a desktop. The only true "successor" in appearance and RPN functionality -- the 17BII -- lives on as the 17BII+ (albeit with malfunctioning Let and Get), no doubt thanks to having all of the legacy model fully available.

> Quote:
>
> The 15c did not sell well enough to continue making it. Same thing for my beloved 42s.

I'd suspect that production (as well as sales?) of the 15C were drastically curtailed when the successor Pioneer-based 32S and 42S were introduced around 1988. I have yet to see a 15C later than 1987. While neither the 32S or 42S offered the 15C's combination of functionality and ease of use, the two successors were worthy, all things considered.

I wonder if the 42S and the 48S/48G/48G+ mutually stole sales from each other -- RPN die-hards chose the 42S, while price/feature disciples bought the 48-series models. If that was so, maybe one had to go...

I question whether KinHPo would want to re-introduce the 15C while the 33S is being produced, because few users would want to forego alphanumerics on a high-end, programmable, non-graphing calculator. But the absolute show-stopper (based on the unfortunate history Eric Smith has told us), is the lack of the 15C *documented source code*.

My ideal for such a product would combine the speed, alphanumerics, equations, and fractions of the 32SII with improved-upon complex-number functions and matrix operations of the 15C.

-- KS

Edited: 13 Oct 2005, 12:43 a.m.

Re: OpenRPN Progress / Bringing back the 15c and why that will not happen

*Message #10 Posted by **Garth Wilson** on 13 Oct 2005, 1:51 a.m.,*
in response to message #4 by Gene Wright

Gene,

Maybe I can change your ideas of the economic realities of developing a product.

I'm sorry to hear that openRPN has been unable to settle on basic things like what processor to use. I have no doubt however that they have the capability to make the new calculator(s). I have not been visiting the site and participating in the forum recently because almost no one shared my interests in a hand-held controller like the 41 and 71. I'm not pouting or faulting anyone of course, just realizing that the majority seem to have different goals which are not as relevant to my own work. That's ok.

As an electronics engineer who has brought many new products to market myself however, I know you don't need ten million dollars to develop a new product-- or even one million. If all of the openRPN contributors are just volunteering their time, I expect that once they settle on what the hardware will consist of, they can get this thing going with possibly not much more than $10,000, in spite of the custom LCD and keyboard which are the highest-development-cost parts that come to mind. If they made a custom injection-molded plastic case (instead of using an off-the-shelf deep-drawn aluminum box or ABS plastic case), that would be several thousand more for the tooling.

Of course HP's engineers won't design a new product without being paid, as if it were just an interest group, but HP's major cost in bringing a new calculator to market would seem to be the software. If what others here have said about all that work going in a dumpster at HP years ago is true, that would be a cryin' shame-- absolutely stupid. But I've witnessed some of their management's bad decisions myself.

I did my most complex production design in 1993, a high-end intercom for private aircraft which, if you order all the options, has nearly a thousand parts on 9 or 11 printed circuit boards, most being 6- or 12-layer. You can see what's inside the main box at http://www.6502.org/users/garth/projects.php?project=2 . I'm the only engineer in our 6-man company, and I did the entire design myself with the exception of the cosmetics on the control panel(s) which you can see at http://www.drecomm.com/symproduct.htm . (Please forgive our website's dire need of updating and maintenance.) We developed the entire product, including software and the installation and user manuals, for about $20,000 (twenty thousand). We have an excellent reputation in the industry. I couldn't do it again now for that price, but maybe for twice as much. The only custom parts we used were the control heads' faceplates (cutting and silkscreening), the cover plate for the main box, and the PC boards.

The next year, I did another intercom design for private aircraft, on a slightly smaller scale. You can see the front panel of the resulting product at http://www.drecomm.com/244eproduct.htm . The annunciators (PILot ISOlate, EXTension, etc) are dead-front, so they don't normally show until the ultrabright green LED behind one or more is lit. (Our president just put a white light behind it so they'd all show for the picture.) The knobs are also pushbuttons to change modes. When fully equipped, the unit has about 500 parts on 5 printed circuit boards in a box hardly bigger than a bar of soap. I wish I could show you the inside. This one was also developed for no more than $20,000. Both of these models are still in our product line today, their last revisions being about seven years ago. Most of the cost was just my own paycheck. Each one took about 8 months while I concurrently spent time on things like technical customer service for other products we were already selling.

Garth

Re: OpenRPN Progress / Bringing back the 15c and why that will not happen

*Message #11 Posted by **GE** on 13 Oct 2005, 11:59 a.m.,*

in response to message #10 by Garth Wilson

I am impressed. That is just real engineer work. Should be the norm, alas is not. Congratulations.

Re: OpenRPN Progress / Bringing back the 15c and why that will not happen

*Message #12 Posted by **Gene** on 13 Oct 2005, 5:26 p.m.,*
in response to message #10 by Garth Wilson

Garth, congrat's.

I was talking about BIG corporations, which operate quite differently than smaller shops.

Centralized costs will be allocated.

New Projects must be sure-fire bets to payback their costs very quickly.

And, I just don't see enough demand that would actually materialize for a 15c platinum.

And, remember, I would like to SEE such a calculator, but I'm realistic enough to know it just won't ever happen.

Sad, but ...

There is a way, perhaps, to bring back the 15C, or similar, at low cost...

*Message #13 Posted by **Bruce Horrocks** on 13 Oct 2005, 11:54 a.m.,*
in response to message #4 by Gene Wright

And that is for HP to release a 12C emulator for the PC with only the guts of the ROM - i.e. enough to drive the screen, handle keystrokes etc. The open source people, i.e. us, fill in the rest. The constraints are that the screen and the keyboard layout must remain the same.

There are some very nice calculators out there for PDAs (are you reading this Hugh?) that could cross-compile and we'd need to add programmability, key layout, solver, functionality trade-offs etc. etc. A lot of work to be sure, but able to be done by volunteers.

At the end of it, there will be a "working" calculator that fits the existing 12C hardware. HP can then relatively easily manufacture it. The retooling cost is limited to producing a new ROM, a new set of keys/keycaps and keyboard overlay, case colour etc.

The "US quality manufacturing jobs" portion of Frank's post

*Message #14 Posted by **Gene Wright** on 12 Oct 2005, 3:46 p.m.,*
in response to message #3 by Frank Travis

Frank wrote: "The tooling/metal quality etc. is better than any schlocky import (excepting quality European imports like Proto). It was a terrific response, but I don't have room here to enter it all. I am glad that I made a printout of your response. What I would like to know is what can I do as an American to safeguard (and in some cases to bring back) quality manufacturing jobs in the U.S. (i.e., contact U.S. Congressman, boycott cheap imports made in sweatshop conditions, etc.)?"

Gene: There really isn't much you can do, unless you really want to pay higher prices for things, and

while you and a couple of thousand others do that, the rest of the country will continue buying the cheapest alternative.

Consider...because of overt protectionism in congress, Americans pay 3X the world price for sugar, to help sugar farmers in Louisiana, California and Hawaii. That affects everything we buy that has sugar in it. Is that really what we want with all our goods?

A free market is the best method ever found to maximize the allocation of resources and maximize progress.

ALL attempts to interfere with the market mechanism distort reality and eventually fail, sometimes catastrophically.

A rising tide lifts all boats. Adam Smith still lives.

Gene

Re: The "US quality manufacturing jobs" portion of Frank's post

*Message #15 Posted by **bill platt** on 12 Oct 2005, 5:22 p.m.,*
in response to message #14 by Gene Wright

Another way to look at this:

We are all saddened that we can no longer find calcuators built to the quality of the 15c.

Now, just think back to 1982. At that time, many were lamenting that "cars aren't built like they used to be" or "boy, those old-fashioned ____ tools were so solidly constructed" etc.

So, we never really "lose" the quality--we just see a shift take place--qualtiy calculators instead of quality whahaveyou.

Similarly, we will, in 20 years time, look at something that was made in 2005 and say, "now *that* was a really well-made ****.

Some products which are really at a state-of-the-art right now:

good canoes (Bell, We-no-nah, others) good kayaks (wilderness systems, others)

These boats are made using a combination of hand-made skill and well-engineered automation, using epoxy, carbon fiber, kevlar. They are extremly light, remarkably durable, fast, stable and able, and beautifully crafted. In a few years, they will no longer be on the market, the tide will shift. But they are made in the USA right now, and they are a relative bargain, and at the top of their art. Soon, the plastic boat revolution will run its course and the market will be saturated.

I just happen to know about these. Someone else can probably comee up with examples from other industry sectors.

We should not lament the loss of production of these gems; rather, we should enjoy our collections--and recollections.

Sometimes I too lament--but today I thought I would show another side...

Re: The "US quality manufacturing jobs" portion of Frank's post

*Message #16 Posted by **donald wallace** on 12 Oct 2005, 8:36 p.m.,*

in response to message #15 by bill platt

Hi all.

Note: contents may meander slightly off-topic (?)

Of course, maybe we shouldn't forget the fact that (we in the) the first world has to a degree which varies a lot over time, lived off the back of the developing world, which often either exploits its poorer social class or cheaper labour again from the third world.

I think the true cost of all this electronics technology was "accurate" in the sixties and very early seventies when most of the components were made in england or the U.S. Remember computing components from Mullard and RCA? Few of us are that old, or have the education of that amount of hindsight.

At first the Japanese, then Korea and now finally China stepped in with "cheap copies", etc. I remember only 10 to 15 years ago in my retailing PCs that people wanted really CHEAP stuff but were concerned about "country of origin". How bizarre?! I remember the blank looks when I asked them if they would pay $10,000 for an Australian computer (assuming we really had the technology!).

I think it's amazing that Electronics Engineering "as Art" is (to me at least) very interesting from a social and historical perspective. That includes politics and geography.

Visitors have turned up so I will cut this post short with a final comment. What happens when the first worlds source of "cheapnis", clean "infinte source, infinte sink" environment, cheap oil and cheap labour, dries up? Grab your calculators and PCs/Macs and brace yourselves for a HARD LANDING, folks...

Military intervention a.k.a theft of natural resources and meddling in other countries politics won't bail us out of THIS one...

dw

R.I.P. New Orleans...

Re: The "US quality manufacturing jobs" portion of Frank's post

*Message #17 Posted by **Palmer O. Hanson, Jr.** on 12 Oct 2005, 10:33 p.m.,*
in response to message #14 by Gene Wright

A rising tide drowns those who don't have boats, or as in the case of New Orleans, those who don't have a means of transportation to leave.

Re: OpenRPN Progress

*Message #18 Posted by **Hugh Evans** on 13 Oct 2005, 6:48 p.m.,*
in response to message #1 by .

I was planning to post another update here soon. It appears there are many misconceptions floating around here I would like to clear up first:

There are a handful of CPUs capable of doing everything we might ask of them. Figure in fully static operation and the number drops to very few. However, these are minor details since our software is and will be developed in a hardware-independent manor. We also don't want to announce a final decision until the hardware platforms are about to go into production. The bulk of the work right now is out of the public view,

investing in manufacturing equipment and designing processes, tooling, etc. Everything is being held to the highest possible production standards, most of the parts will be produced by a business created in part for OpenRPN. Final assembly, testing, and quality assurance will take place in-house.

Too much focus was being placed on an RPL-like programming language until recently. I proposed and created space on the site to support development of a *pure* RPN environment as well. The command set of the 42s has been adopted, and I anticipate this will spark quite a bit more interest from this community.

Much of the discussion in the OpenRPN forums is outdated and could be misleading. There is a good chance that they will be archived and restarted as a clean slate.

Feel free to contact me via e-mail, or post them as questions in this thread. I want to clear up the obvious confusion as much as possible.

Thanks to everyone for your continued interest. I never said this would be a fast process, but it will be done right.

Best Regards, Hugh

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Manual of HP92198A

*Message #1 Posted by **Gonzalo Fernandez (Spain)** on 11 Oct 2005, 9:14 p.m.*

I recently purchased in Ebay an HP92198A HP-IL to 80column video interface made by Mountain company. I would like to know if someone can send by email the scanned manual of the HP92192A. I have both the hpmuseum dvd and the TOS dvd, but the manual is not available. Also, what SF? or CF? command must be input to the HP41 in order to get every key you type appears in the monitor? I don´t remember the SF sequence.

thanks

Re: Manual of HP92198A

*Message #2 Posted by **Vassilis Prevelakis** on 11 Oct 2005, 9:48 p.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

Strange I thought I had sent it to the MoHPC. Anyway this is the manual for the MC00710A.pdf which is the machine the Mountain company produced before OEMing it to HP.

Anyway, here it is, I am also uploading to the MoHPC ftp site.

http://www.series80.org/Misc/MC00701A.pdf

**vp

Re: Manual of HP92198A

*Message #3 Posted by **Raymond Del Tondo** on 12 Oct 2005, 12:02 a.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

Hello,

SF 15 for Trace mode.

Regards

Raymond

HP-41 Flags

*Message #4 Posted by **Vassilis Prevelakis** on 12 Oct 2005, 5:34 a.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

```
Gonzalo Fernandez (Spain) wrote:


> what SF? or CF? command must be input to the HP41 in order to
> get every key you type appears in the monitor?
```

Flags 15 and 16 control the setting of MAN, NORMAL and TRACE modes.

Following is a list of the various HP-41 flags and their function:

```
flags.txt
00      \
01       |
02       |
03       |
04       |
05        > User Flags
06       |
07       |
08       |
09       |
10      /
11      Auto Execute
12      Double width
13      Lower Case
14      Protection Override
15      Print Control Flag 1 (15 Clear: 16 Clear = MAN, 16 Set = NORM)
16      Print Control Flag 2 (15 Set  : 16 Clear = TRACE, 16 Set = TRACE/STACK)
17      Suppress LF/CR (Record Incomplete)
18      Interrupt Enable (HP-IL Dev Module)
19
20
21      Printer Enable
22      Number Input
23      Alpha Input
24      Range Error Ignore
25      Error Ignore
26      Audio Enable
27      USER Mode
28      Decimal Point
29      Digit Grouping
30      Catalog Flag
31      Date Format (Set=DMY, Clear=MDY)
32      HP-IL Manual I/O Mode
33      IL Lock (HP-IL Dev Module)
34      Auto Address (XIO Module: Set=ADROFF, Clear=ADDRON)
35      Disable Auto Start (Mass Duplication Module)
36      Number of Digits (4)
37      Number of Digits (3)
38      Number of Digits (2)
39      Number of Digits (1)
40      Display Format (Fix)
41      Display Format (Eng)
42      Grad Mode
43      Rad Mode
44      Continuous On
45      System Entry Flag
46      Partial Key Sequence
47      Shift Set Flag
48      Alpha Mode Flag
49      Low Battery Flag
50      Message (PROMPT, VIEW, AVIEW)
51      SST Flag
52      PGRM Flag
53      I/O Request Flag
54      Pause Flag
55      Printer Existence
```

Re: HP-41 Flags

*Message #5 Posted by **Gonzalo Fernandez (Spain)** on 12 Oct 2005, 8:06 a.m.,*
in response to message #4 by Vassilis Prevelakis

Thanks for your help! After 30 min. powered on, the plastic case of the Mountain interface gets very hot (due to the power regulator metal dissipator), but the screen remains stable, an almost imperceptible flicker shows up from start (when the interface is cold) and after 30 min. (plastic case hot). It is normal this behaviour? It seems to me that the flicker is due to the monitor (Hantarex 9 inch. monitor) and not the interface.

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HP-12C: Corrosion on Negative Terminal

*Message #1 Posted by **Mike Brady** on 11 Oct 2005, 9:13 p.m.*

Does anyone have a solution for preventing copper oxide corrosion from developing at the negative battery terminal (the platted plunger type contact). I'm guessing the copper oxide is caused by cathodic corrosion which is developing between the two different metals of the battery's negative surface and the calculator's non-tinned negative terminal.

Re: HP-12C: Corrosion on Negative Terminal

*Message #2 Posted by **donald wallace** on 11 Oct 2005, 9:27 p.m.,*
in response to message #1 by Mike Brady

Try tinning the copper contact spring near and at where it touches the battery. Solder is less reactive than copper.

dw

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FORTH41 control program listing

*Message #1 Posted by **donald wallace** on 11 Oct 2005, 7:53 p.m.*

Hi all.

If anyone is interested I am writing out the FORTH41 control program listing. The program is called EDA and is an editor and interactive control program for running Forth on the hp 41.

I'll have it posted on my website in a few days or so.

dw

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HP Xpander Battery Compartment / Changing

*Message #1 Posted by **Eric** on 11 Oct 2005, 7:13 p.m.*

I need some help opening the battery compartment on my HP Xpander.

I've done a search in these forums and can get it started to be opened. I push the clips in and can get it almost opened. I know the rest is held on by double sided tape and takes a firm grip to get off.

I'm scared of breaking it. Does anyone have a picture of the battery compartment door so I know which way to pull- outward (away from the calc) or upward (toward the top of the calc). I'm wondering how the tabs are placed on the back battery compartment door so I don't break them.

Any help or a picture that someone could host would be appreciated.

Eric

Help?

*Message #2 Posted by **Eric** on 22 Oct 2005, 7:25 p.m.,*
in response to message #1 by Eric

Anyone? Help? I want to get those darn batteries out of my Xpander before they leak without breaking anything..!!

Re: Help?

*Message #3 Posted by **Arnaud Amiel** on 23 Oct 2005, 5:03 a.m.,*
in response to message #2 by Eric

I don't have a digital camera but basically, your main problem is the glue. Once you have released the top clips, rotate around the tabs, they are big enough and there is plenty of space behind them so if something breaks it will not be the tabs but whatever is held with the glue: the battery cover itself.

Arnaud

Re: Help?

*Message #4 Posted by **Chris B.** on 23 Oct 2005, 7:30 p.m.,*
in response to message #2 by Eric

Hi Eric,

I have posted photos of the battery compartment and battery door here. There is an adhesive strip about 0.75" square at the lower left of the battery compartment door. The door itself has three tabs on the bottom inside edge. The procedure I used with success was to pry open the two tabs at the top of the door, pivot the top up slightly (just enough to clear the 2 top tabs from the back of the unit), then pull the door slightly forward -- i.e., toward the top of the Xpander -- to clear the bottom tabs a little from their slots. The door

will still be held by the adhesive. Then, you want to work the upper left of the battery door from top to bottom to gradually pry it away from the adhesive, making sure the bottom tabs are free enough that they won't break as you continue to pry the door open. Once you free the door from the adhesive, it will pull off loosely. Hope that helps.

Chris

Re: Help?

*Message #5 Posted by **Eric** on 23 Oct 2005, 8:14 p.m.,*
in response to message #4 by Chris B.

Thanks a bunch- I seriously appreciate it... I was able to get the battery cover off knowing what the cover looked like and knowing where the adhesive was- it wasn't as bad as I expected. I'd just rather be safe than sorry.

I know the Xpanders have a bug where if the battery is totally discharged it won't charge them up at all.

I also understand that you *CAN* replace the rechargeables with some standard AAA's, but not to plug it in or else it will charge the non-rechargeables.. Right?

So, what's the best batteries to run? The batteries in there looked pretty odd- no nipple on the + side of the battery..

Thanks again for all your help! Eric

Re: Help?

*Message #6 Posted by **Chris B.** on 23 Oct 2005, 11:25 p.m.,*
in response to message #5 by Eric

The batteries you need are AA's, not AAA's. I have only used NiMH rechargeables with an external NiMH charger -- I don't know if AA alkalines will fit properly, due to the + terminal nipple which you noted. The following thread in the Archives is the most comprehensive discussion I have seen on this topic:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv013.cgi?read=40096

There is also a discussion forum at http://www.xpander.org, although it doesn't seem to be very active.

Best wishes, Chris

Re: Help?

*Message #7 Posted by **Arnaud Amiel** on 24 Oct 2005, 3:41 a.m.,*
in response to message #6 by Chris B.

The nipple less NiMH batteries are readily available in most electronic shops. However they usually come with a tab attached which I removed. It works fine now althoug I don't use the Xpander much.

Arnaud

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New HP49g+ ROM operating system!!!!!

*Message #1 Posted by **Boco** on 11 Oct 2005, 6:49 p.m.*

http://h10025.www1.hp.com/ewfrf/wc/genericSoftwareDownloadIndex?lc=en&cc=us&softwareitem=ca-31429-1

Re: New HP49g+ ROM operating system!!!!!

*Message #2 Posted by **Gene Wright** on 11 Oct 2005, 6:57 p.m.,*
in response to message #1 by Boco

Isn't that over 4 months old now? Rom 2.00 has been out for quite some time.

I mean, we're glad if you just found this, but the date on the link you give for this file is back in June.

:-)

Gene

Yeah, you are right.

*Message #3 Posted by **Boco** on 12 Oct 2005, 8:40 a.m.,*
in response to message #2 by Gene Wright

Sigh. That's what was pointed out on the other HP forum board. I guess I read the current date as the release date. I have trouble with dates, (can't even get one!)

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48SX ON/OFF button

*Message #1 Posted by **Seb** on 11 Oct 2005, 11:36 a.m.*

My ON/OFF button is defective. It only works some of the time. I'm able to turn it on by pressing the "a" and the "ON" at the same time. Can't turn it off.

Is there a way to clean the contacts or better yet, program other buttons to be ON/OFF.

Thanks for the help

Re: 48SX ON/OFF button

*Message #2 Posted by **Randy** on 11 Oct 2005, 7:46 p.m.,*
in response to message #1 by Seb

The ON/C button is a dedicated function, no other keys can be used to wake up the processor.

The problem is typically the loss of connection between the keyboard and logic board. There are of course other possibilities but if it is the loss of connection, pressing the raised area above the B and C keys simultaneously when pressing the ON button will most times restore normal operation. If the problem persists, the only long term solution is repair which requires opening the unit. There are several methods detailed here: http://www.hpcalc.org/hp48/docs/opening

Edited: 11 Oct 2005, 7:47 p.m.

Re: 48SX ON/OFF button

*Message #3 Posted by **Seb** on 12 Oct 2005, 3:32 p.m.,*
in response to message #2 by Randy

Works

Thanks

Re: 48SX ON/OFF button

*Message #4 Posted by **Vassilis Prevelakis** on 12 Oct 2005, 5:49 a.m.,*
in response to message #1 by Seb

Although turning the machine ON requires that you press the ON key, you can at least use the command OFF (PRG NXT [RUN] NXT OFF) to turn it off.

**vp

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48SX ON/OFF button

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hp 41c battery pack replacement

*Message #1 Posted by **Russ Henderson** on 11 Oct 2005, 10:01 a.m.*

I have been using LiPo batteries for my RC hobby and it occurred to me that 2 or 3 very small LiPo packs (3.8mm x 15mm x 33mm) in series coupled with a small BEC (reduce 7.4V/11.1V down to 5.5V) could feasibly fit in the battery compartment. These small LiPo's are 130mAh and with the BEC would yield a major increase in over-all pack capacity. Getting a charger for this would be very easy, however refitting this into the existing battery holder may be the big show stopper.

So, what do you think? Does this sound nuts? Sounds like a major reengineering project to me, but winter is coming...

I appreciate all input.

Re: hp 41c battery pack replacement

*Message #2 Posted by **David Smith** on 11 Oct 2005, 10:43 a.m.,*
in response to message #1 by Russ Henderson

Capacity is not the issue with HP41 batteries (unless you are using the card reader a lot). N cells usually last over a year. Self discharge of most rechargable batteries means you will be charging them monthly. If you have to take your modified pack out of the machine to do so, then you might loose memory,

Re: hp 41c battery pack replacement

*Message #3 Posted by **donald wallace** on 11 Oct 2005, 4:39 p.m.,*
in response to message #1 by Russ Henderson

The main issues for me is leakage, the CX or a C/CV with a timer module draws enough current to slowly flatten nicad bateries to the point where they leak chemicals without even indicating "lowbat". Once this happens you may get some corrosion in the battery compartment.

You can get nicad N cells. Retrofitting something else at a different voltage is possible but I don't see much point in it except to save a few bucks...

?

DW

Re: hp 41c battery pack replacement

*Message #4 Posted by **CRT** on 12 Oct 2005, 2:14 a.m.,*
in response to message #3 by donald wallace

Where can we get NiCa size N?

Re: hp 41c battery pack replacement

*Message #5 Posted by **donald wallace** on 12 Oct 2005, 2:49 a.m.,*
in response to message #4 by CRT

Hi CRT,

Try an alarms system company, or a battery specialist.

NiCad N size bateries are available.

DW

Re: hp 41c battery pack replacement

*Message #6 Posted by **Garth Wilson** on 12 Oct 2005, 4:22 a.m.,*
in response to message #4 by CRT

Mouser www.mouser.com is one of the big distributors in the U.S. that sends thick paper catalogs (1500+ pages) to everyone in the elctronics industry and a lot of hobbyists every couple of months. They have Sanyo NiCad N cells as catalog number 639-N150N.

My 41cx (which BTW includes timer module, built in) goes a year or two on a set of alkaline batteries. Even when it was getting used all day every day controlling automated production testing almost 20 years ago (plus some other work in the late evenings), a set of alkalines lasted weeks. The low-battery indicator goes on when the batteries are down to about 1.2V, which is almost what you'll get from NiCads when they're fully charged. It wouldn't be worth fooling with them, especially since they have a pretty high self-discharge rate, unless you were constantly using the card reader or the optical wand (or both).

Re: hp 41c battery pack replacement

*Message #7 Posted by **donald wallace** on 12 Oct 2005, 5:01 a.m.,*
in response to message #6 by Garth Wilson

Couldn't agree with you more, Garth.

My Nicads didn't last as long and caused me some grief.

Another idea that is good in theory but fails in practice.

dw

Re: hp 41c battery pack replacement

*Message #8 Posted by **Jon** on 12 Oct 2005, 5:48 a.m.,*
in response to message #7 by donald wallace

I have seen that NiMH cells have a very low self discharge rate. They last a lot. I have battery packs refurbished with 1/3AAA (150mAh) that work fantastic. As I couldn´t find NiMH N sized cells I bought also 2/3AAA NiMH cells (300mAh) which are same lenght as N but 10mm diameter instead of 12mm. I have compensated the diameter with a plastic tube and I am using them in my 41CX. That is the best solution that I have found. I have to charge them outside the calculator but I can do it in 1h with a fast charger. I have two sets of those cells so I don´t lose

the memory.

Re: hp 41c battery pack replacement

*Message #9 Posted by **David Smith** on 13 Oct 2005, 8:57 a.m.,*
in response to message #8 by Jon

Actually NiMH cells tend to have a slighly higher self discharge rate the NiCads...

Do you still need "N" size NiCds ?

*Message #10 Posted by **Roberto** on 14 Oct 2005, 12:39 a.m.,*
in response to message #4 by CRT

Hi !

I have about 100 "N" size NiCd batteries (190 mAh) and I have no use for them, if you or anyone else reading this thread needs a few, just let me know and I will send you some...(shipping is on you).

Please note... I am NOT selling these cells, I have no economic interest in this, I am just trying to help.

Regards;

Roberto

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Finding RPN Calulators example program!

*Message #1 Posted by **peter** on 11 Oct 2005, 6:20 a.m.*

hi, i'm peter and would like to find example programs of RPN calculator that can add, subtract, multiply and divide. PLs email me if you had the source. THANK YOU

Re: Finding RPN Calulators example program!

*Message #2 Posted by **Valentin Albillo** on 11 Oct 2005, 8:26 a.m.,*
in response to message #1 by peter

Have a look a this simple source code (scroll down the page once it opens):

The Reverse Polish Notation Calculator

Best regards from V.

Re: Finding RPN Calulators example program!

*Message #3 Posted by **donald wallace** on 11 Oct 2005, 9:24 p.m.,*
in response to message #1 by peter

Hi Peter,

Have a look at:

http://home.att.net/~srschmitt/script_reverse_polish.html#source

I found it by google searching using "rpn calculator source code"

Hope this helps.

Mr Moderator, I notice that I have to log in all the time again.... ?

DW

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HP 19B not working

*Message #1 Posted by **GChu** on 10 Oct 2005, 11:18 p.m.*

I have a HP 19B. I have replaced the batteries, but it does not seem to turn on. Is there a self test or any additional test I can perform? When pressing ON, the screen does not display anything. Is this calculator worth repair? Thx in advance.

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HP 12C keypad - loose keys...nonresponsive buttons...aargh

*Message #1 Posted by **Bubba** on 10 Oct 2005, 11:10 p.m.*

About 2 years ago I purchased a then-brand new HP 12C Platinum. After about a year or so I noticed some of the number keys had become crooked. Some were very loose. Over the last year this has become worse, and to make it more annoying some of the buttons (usually some numbers & operator keys) have become unreliable. Sometimes the keys work, sometimes they dont. I'm pressing some keys harder than I should to be sure they actually register and show the number on the screen. Some buttons dont click anymore, and barely move when I press them. Its like they're pushed in already and you have to press them the right way to get them to respond. This is very annoying. Other than buy a new calculator (I need a 12C for the CFA exams), is there a way to fix it? If not, should I buy a new one, ie 12C instead of 12C Platinum? Thanks.

Re: HP 12C keypad - loose keys...nonresponsive buttons...aargh

*Message #2 Posted by **Stephen Easterling** on 11 Oct 2005, 1:03 a.m.,*
in response to message #1 by Bubba

I had problems with two recently-purchased 12C Platinums (one made Dec04 the other made May05). I ended up getting rid of them and bought the regular 12C. It's much slower, but other than that, it is very reliable and the buttons are true and fast and can keep up with fast fingers without having to worry about not registering the number, etc. So go buy a regular 12C and report back tomorrow.

BTW, a newly revised version of the 12C Platinum is now out IF you can get your hands on one. I'm told the STO and RCL buttons have teh (and) signs on them. I wonder if their keypads will be better.

Re: HP 12C keypad - loose keys...nonresponsive buttons...aargh

*Message #3 Posted by **Bubba** on 11 Oct 2005, 6:10 a.m.,*
in response to message #2 by Stephen Easterling

Just curious...how did you "get rid" of the calculator? Do you toss them out, sell them on ebay, or just leave them in a desk drawer? I paid like $70 for it, other than some of the bad buttons it generally works okay. Seems like a waste to toss it out. Oh well...

Re: HP 12C keypad - loose keys...nonresponsive buttons...aargh

*Message #4 Posted by **Stephen Easterling** on 11 Oct 2005, 7:47 a.m.,*
in response to message #3 by Bubba

By getting rid of I mean returned to seller, assuming the design of the keypad just wasn't for me since I'm more of a fast poker and not a pusher (buttons too hard to "poke" to register a number). Many folk won't have my problem due to the way they "push" the buttons. Since no one else ever complained about this keypad (or the 17BII+), I assumed, and still believe, that I am all along in this world when I say that I had a problem. I would never just throw away a calculator. I ended up getting a regular 12C because at the time I just wanted a working 12C but wanted it right away, and this worked for me. This is the only advice I can give to you (reason for my post).

Re: HP 12C keypad - loose keys...nonresponsive buttons...aargh

*Message #5 Posted by **Bubba** on 20 Oct 2005, 9:23 p.m.,*
in response to message #2 by Stephen Easterling

> Quote:
>
> So go buy a regular 12C and report back tomorrow.

Well I just got a brand new 12C, purchased off of eBay for a pretty good price. It was still in the blister pack. After opening it, I shook the calculator before I even turned it on. I could unfortunately hear some of the buttons rattle a bit. Oh well. At least the buttons are much more responsive to than my Platinum 12C. Anyway only tried a few functions so far, but I like it.

Gotta admit it wasn't an essential purchase. If I push the Platinum buttons hard enough they will usually register. However if the platinum really does break while I'm taking the CFA exam I would probably go on a shooting spree, so I view owning 2 calculators as insurance. There's also something I like about now owning a calculator that is only RPN mode. Makes me feel more like a serious finance guy, just like the big boys at work (investment co), many of whom have the golden 12C on their desks, haha.

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HP 34c needs help

*Message #1 Posted by **David Derrer** on 10 Oct 2005, 3:03 p.m.*

This great forum has inspired me to try to repair my 34c, which I have had since new around 1981. So far, thanks to all the helpful posts, I have managed to rebuild the battery, open the case, and repair the lost digit in the display. However, I have made no progress dealing with Pr Error every time it is turned on, and STO ENTER returns Error 9. Clearing Error 9 returns 0.0000. It seems to have no memory at all - I cannot program or use storage registers (the stack does work). This is a solderless unit, and I have double checked chip positions and locations (I'm sure I am the only one to have opened this one). I have twice cleaned all the flex PCB connections. One other oddity - I cannot enter decimal point from the keyboard, although I can enter Pi. It does display decimal points correctly resulting from division of integers.

Thanks to all who have shared their knowledge,

David Derrer

Re: HP 34c needs help

*Message #2 Posted by **Tony Duell** on 11 Oct 2005, 7:01 a.m.,*
in response to message #1 by David Derrer

In the -C spice series, the memory (8 pin) chip closest to the display gets a separate power connection from the other chips -- it gets power all the time to maintain the continuous memory.

I _think_ the power pin is pin 8, I can check this on the schematic.

With the machine switched off (but a battery pack fitted), you should measure a little less than the battery voltage between the power pin of that chip and ground (-ve side of the battery). With the machine on, you should see the same voltage there (or a _little_ less) than on the power pins of the other memory chips.

If either/both of those voltages is incorrect, you have a problem on the flexiprint, or on the power converter PCB (open-circuit diode?). If they're both OK, I would, alas, suspect that memory chip.

Re: HP 34c needs help

*Message #3 Posted by **David Derrer** on 11 Oct 2005, 12:18 p.m.,*
in response to message #2 by Tony Duell

Thanks for the help Tony. I am not reading any voltage between pin 8 for any of the three 8 pin ICs and battery (-). Battery is at 2.68 volts. Yet it turns on, and seems to work fine for ordinary calculations and built-in functions (except decimal point entry). So the CPU must be getting power, and the power PCB must be at least partially working. I wonder if this suggests a problem on the flex, or is the power for the CPU separate on the power PCB from the power for the memory chips?

Thanks again, David

Re: HP 34c needs help

*Message #4 Posted by **Tony Duell** on 12 Oct 2005, 7:41 a.m.,*
in response to message #3 by David Derrer

The most likely explanation is that I've mis-remembered which is the power pin for that IC. I will check tonight (the schematics are at home...)

Re: HP 34c needs help

*Message #5 Posted by **Tony Duell** on 13 Oct 2005, 6:37 a.m.,*
in response to message #4 by Tony Duell

I checked the schematic last night. Pin 8 _is_ the power pin, and pin 7 is ground. If you're not getting any voltage between pin 8 and the -ve side of the battery on any of the memory chips, then I don't see how the thing can possibly work.

Just to check the obvious. There must be a battery pack in the calculator for this test. Pin 8 is the right hand side one nearest the display (to the right of the notch on the IC package). The machine should be turned on to get voltage on the front 2 chips.

Re: HP 34c needs help

*Message #6 Posted by **David Derrer** on 13 Oct 2005, 9:13 p.m.,*
in response to message #5 by Tony Duell

Thanks again Tony. I think I haven't cleaned it adequately. After another round of cleaning, I checked continuity on the flex, and power on the little bit of flex attached to the power PCB (with battery connected). Both were okay. I then reassembled and did your test again on pin 8 (yes, with battery connected and power switch on). While applying a fair amount of pressure to the ICs, I briefly registered voltage (about 6.5v I think) on the number 8 pins. I'm going to try cleaning again, this time I've gotten some deoxIT. I'm also considering increasing the pressure that the plastic backing piece applies to the chips by adding a tiny strip of electrical tape where it lays over the pins. The underlying foam has a pretty good impression after 25 years. I also wonder if the slightly higher voltage of alkaline batteries would make a difference. Regards, David

Re: HP 34c needs help

*Message #7 Posted by **Vassils Prevelakis** on 13 Oct 2005, 5:03 a.m.,*
in response to message #3 by David Derrer

I would suggest that you purchase the HP Calculator Schematics CD-Rom from

http://www.hpcc.org/cdroms

These are schematics that Tony Duell made by tracing the PCBs of the various computers in the collection. He then graciously donated the collection to the HPCC club. The earning from the sale of this CDROM go to HPCC, Tony is not earning a penny from this operation.

So I think purchasing this CDROM is worthwhile to (a) support HPCC and (b) get a better understanding of what is going on with your calculator.

Tony graciously gave me a copy of the 9915 schematics to help me debug by (now working) 9915 computers. Eventually I purchased the CDROM to get access to the other schematics.

**vp

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improved hp 33s-reason for hope?

*Message #1 Posted by **brian healy** on 10 Oct 2005, 2:14 p.m.*

I recently purchased an HP33s from wal-mart, serial number CNA 50201642, and it has the improved decimal point and also seems to have a better tactile feel to the keyboard. They addressed the decimal point crowding by downsizing the numbers so there is more space for the decimal. While I realize the good old days of HP are behind us, I am optimistic that HP will stay in the RPN calculator business because they have at least expended some effort to address the shortcomings in their (actually kinpo) calculators. By addressing the decimal point, I feel that they have finally made the 33s a usable calculator. Overall, I am satisfied with it, and I hope that they will work on a successor to the 33s.

In terms of quality, my 33s doesn't compare to my 11c or my early 32sii, but I do think it competes in quality with the latter 32sii's that were manufactured in Indonesia. My 32sii's from Indonesia feel cheap, the keys make annoying clicking sounds, etc.

Re: improved hp 33s-reason for hope?

*Message #2 Posted by **John** on 10 Oct 2005, 3:39 p.m.,*
in response to message #1 by brian healy

It certainly shows that HP is not asleep at the wheel, as some have charged. I'm confident at the progress being made by such a small group of HP employees. Keep up the good work.

Re: improved hp 33s-reason for hope?

*Message #3 Posted by **CB** on 10 Oct 2005, 4:34 p.m.,*
in response to message #2 by John

Recent observed units with serial nos. beginning with CNA 527XXXXX (versus the remaining ones with serial nos.435XXXXX) have the LCD modified for readability of the decimal point. Raadix legibility was probably the most serious (and valid) criticism of this . Other criticisms of hp33s include: - Build & feel are not as good as the previous historical units such as 32S, 32SII & 42S - Display readibility (view angle & shadowing) - Unit is larger - Controversial style/design

My assessment is that this calculator is certainly more functionally capable than its predecessor (ie, 32SII) and, in general, represents a reasonable upgrade. True, it is not the build quality of my hp32S, but it is quite useable nevertheless. No doubt HP had to contain costs (as there is not much profit in calculators), and this may turn out to be throwaway due to failure associated with build quality (time will tell). However, after testing it, I certainly would buy a new hp33s rather than bid for a used 32SII on ebay.

Re: improved hp 33s-reason for hope?

*Message #4 Posted by **brian healy** on 10 Oct 2005, 4:37 p.m.,*
in response to message #2 by John

I can understand why some have made that charge. I think they were asleep at the wheel, but have started to wake up a bit. I still can't believe that they let the 33s go to market with the obscured decimal point. I do

really like the 2 line display though. My next wish is for a big enter key and to be able to have multi-character variable names. I'm also not crazy about the styling of it, but it's not so bad when compared to the other offerings out there.

Re: improved hp 33s-reason for hope?

*Message #5 Posted by **John** on 10 Oct 2005, 4:52 p.m.,*
in response to message #4 by brian healy

True. While they may have been asleep, it does not appear they are sleeping now. That is a good thing.

Re: improved hp 33s-reason for hope?

*Message #6 Posted by **Stephen Easterling** on 10 Oct 2005, 7:55 p.m.,*
in response to message #5 by John

I am also optimistic that the current HP calculator division is still working hard on their products. This is definitely true with their new 49G+ with its new ROM upgrade and their new 12C Platinum (and 33S). When I was having problems with my 49G+, someone from the HP calculator division actually called me to see how I was doing and helped me solve my problem. This kind of support keeps a guy like me a customer for life. They (HP) does realize that there is a dedicated group of users that will support them, and they are listening and reading these forums to bennefit their line. Thanks HP! Based on my conversation with the HP guy that called me and his overall concern for our satisfation, I would not be surprised if we saw a 15C Platinum coming soon. I really don't know for sure (and don't have an inside scoop), but predict this to come to fruition within a year. Of course, I could be way off!

Reality check

*Message #7 Posted by **Namir** on 10 Oct 2005, 8:59 p.m.,*
in response to message #6 by Stephen Easterling

I agree that HP is not sleeping behind the wheel. I too am glad to see improvments on the newer calculator models. You should keep in mind that these improvements are quietly introduced to avoid a massive replacement drive by customers. What will HP do with the "earlier" models? What can they do?

While hope is beautiful there is also reality. The HP calculator division (mostly located in San DIego) is about 20 people. Cyril de Brebison (sp?) is, from what I understood, the one-man R&D department in Boise, Idhao. It's Cyril who sets the specs for the new machines and sends them to Kinpo. I'm not clear on who else looks at the specs.

For those who want to see the HP-15C back, I say contact Eric Smith. My guess is that you will have better luck convincing eric to bring back a "version" of the 15C. Of course be prepared (assuming Eric says yes) to pay something like $400, $500, or even a $1000 per unit. If you truly Looooooooooove the 15C, a thousand dollars would be a MINUTE token of your love and devotion to the 15C.

So the ball in Eric's court.

Re: Reality check

*Message #8 Posted by **Vassilis Prevelakis** on 10 Oct 2005, 11:44 p.m.,*
in response to message #7 by Namir

```
Namir wrote:
> For those who want to see the HP-15C back, I say contact Eric
> Smith. My guess is that you will have better luck convincing
> eric to bring back a "version" of the 15C. Of course be prepared
> (assuming Eric says yes) to pay something like $400, $500, or
> even a $1000 per unit [...]
```

I am sure this has been discussed before, but since the HP12C form factor and display is identical to that of the HP-15C and the HP-15C code is (I think) available, then by changing the CPU chip in a 12C with one emulating the 15C (or even the 16C) you can have your 15C.

The main problem is (of course) the keyboard. But the current 12C models have painted keycaps, so perhaps they can be painted over with the new assignments. E.g.

Modifying the keyboard is tricky but it can be left as an exercise to the new owner, so the real cost in producing a 15C would be the development of the CPU mod (one off) and the cost of retrofitting it (per unit).Given that retrofitting the 12Cs is probably too labor intensive, the mod will be provided as an upgrade kit installable by the end-user (who may even buy the 12C separately)

Assuming a small production run (about 1k units?), then charging $100 over the cost of a 12C would provide a development and production capital of $100k.

Some kind of agreement with HP would be necessary to ensure that no copyright issues are raised. I am sure that for a 1k production run (i.e. not smth that would create competition with the main HP calculator production, PLUS the fact that it WILL sell HP-12C calculators) there may not be any real problem. If this is dressed up as some kind of publicity stunt (resurrecting the 15C in time for its 2*x*th anniversary) HP may actually provide token support for the project.

**vp

Edited: 11 Oct 2005, 12:25 a.m.

Re: Reality check

*Message #9 Posted by **Eddie Shore** on 13 Oct 2005, 8:22 a.m.,*
in response to message #7 by Namir

I may have never had a 15C before, but I would like to see it come back. I like the landscape of the 12C(P). However, I feel that HP would like to go in a new direction, or build on the 33S and 9G for the lower-end calculators.

Also, let us point out that the 19B were supposed to be part of the released family of 2003. I have yet to see the 19B in the market or on HP's web site.

Re: improved hp 33s-reason for hope?

*Message #10 Posted by **brian healy** on 11 Oct 2005, 6:49 a.m.,*
in response to message #6 by Stephen Easterling

I have never had the pleasure of owning the 15c, I was a user of the 11c which had all the capability that I needed. I do however realy like the design of the voyager series, and would like to see a successor to the 33s that is in the voyager case and has the functionality of the 33s but with improvements. The main improvement that I would like to have is multicharacter variable names in equations. I would like to have larger equation libraries in my 33s (and 32sii) but am limited by single character variables. The equations capability fills a niche that is useful to me in my line of work (structural engineer). Most of my day to day calculations do not need a computer, (nor is a computer always apropriate) and the equations capability improves my productivity, especially when roughing out various alternatives. But I digress.

I hope that HP sees that there is a continuing demand in the market for a basic RPN calculator, and will continue to service it, and to listen to what the sonsumers of its products want.

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Minimax Polynomial Fit

*Message #1 Posted by **Valentin Albillo** on 10 Oct 2005, 10:24 a.m.*

Hi all,

Busy as always, just a quick post to let you know that a new article from mine appears published in the latest September-October issue of Datafile (V24 N5), namely:

HP-71B Minimax Polynomial Fit

This is a 12-page article including two programs, namely a *3-liner* to compute the Least-Squares Nth-degree polynomial which best fits a given set of (x,y) datapoints in the least-square sense, and a *50-line* program to compute the minimax Nth-degree polynomial fit to an arbitrary set of datapoints (x,y), which can be entered from the keyboard, automatically generated by evaluating an arbitrary user-provided function, or read/stored from/to a data file.

The user can specify the degree of the polynomial or else specify instead a maximum absolute error and let the program select the lowest degree which will achieve it. Once the coefficients have been computed, the user can *evaluate* the resulting polynomial at any given arguments right from the keyboard (even as part of more complicated expressions), and can also *scan* any given interval for maximum errors in it, at whatever step size desired.

For example, when asked to automatically produce the minimax polynomial of lowest degree which fits **y = Gamma(x)** in the interval [1,2] with maximum absolute error less than 0.00005 (i.e.: 4 correct decimal places), my program produces the 5th-degree minimax polynomial:

```
P(x) = A0 + A1*x + A2*x^2 + ... + A5*x^5
```

with

```
A0 =  3.73459956
A1 = -6.72738793
A2 =  6.54439953
A3 = -3.37095678
A4 =  0.91923039
A5 = -0.09992158
```

Once computed, we can use the automatic scan option to check the [1,2] interval at 0.01 steps to confirm that it has absolute maximum error app. 0.00003812 (<0.00005) at x=1.06

```
>FNE(1, 2, 0.01)

   1.06000000   (x-coordinate where the max. err. occurs)
   0.00003812   (absolute maximum error in [1,2])
```

and can evaluate it for any argument, say Ln(Pi), like this:

```
>FIX 5 @ FNF(LN(PI))

    0.93479     (P(Ln(Pi)) = predicted value of Gamma(Ln(Pi)))
```

while the correct value is

```
GAMMA(LN(PI)) -> 0.93480
```

i.e., we sure got 4 correct decimal places, more nearly five.

Any and all comments are very welcome.

Best regards from V.

Re: Minimax Polynomial Fit

*Message #2 Posted by **Gerson W. Barbosa** on 10 Oct 2005, 12:31 p.m.,*
in response to message #1 by Valentin Albillo

> Quote:
>
> The user can specify the degree of the polynomial or else specify instead a maximum absolute error and let the program select the lowest degree which will achieve it.

Hello Valentin,

Thanks for letting us know of your new article. Just one question: can the user also specify polynomials with odd or even powers only? This would be particularly useful when fitting odd and even functions, as less coefficients would be needed for a given accuracy.

Best regards,

Gerson.

Re: Minimax Polynomial Fit

*Message #3 Posted by **Valentin Albillo** on 11 Oct 2005, 4:40 a.m.,*
in response to message #2 by Gerson W. Barbosa

Hi, Gerson:

Gerson posted:

"Can the user also specify polynomials with odd or even powers only? This would be particularly useful when fitting odd and even functions, as less coefficients would be needed for a given accuracy."

First of all, thanks for your interest in my article. As for your question, there's no need of a separate option to achieve that effect. You just simply specify an interval where it shows that the function is odd or even, and the minimax error condition itself will guarantee that only odd or even powers are used.

For instance, let's say that you want to fit a minimax polynomial of lowest possible degree to **y=sin(x)** for values of x not exceeding Pi/2 and using just odd powers of x (as sin(-x) = -sin(x), so sin(x) is an odd function). Also, you want a guaranteed maximum error <= 1E-6.

As I've stated, you only need to specify an interval where the 'oddness' of the functions shows, in this case [-Pi/2, Pi/2] will do. For this particular function, interval, and maximum error, my program returns the following 7th-degree polynomial:

$$\mathbf{P(x) = 0.99999661 * x - 0.16664831 * x^3 + 0.00830636 * x^5 - 0.00018365 * x^7}$$

with guaranteed absolute maximum error less than 1E-6 in [-Pi/2, Pi/2]. As you can see, only odd powers of x were returned, all the remaining coefficients being zero within machine rounding limits so our minimax approximation only requires *four* non-zero coefficients.

Here's a short table of sin(x) vs. P(x):

```
>FIX 7 @ FOR X=-PI/2 TO PI/2 STEP PI/20 @ DISP X,SIN(X),FNF(X),RES-SIN(X) @ NEXT X
```

X	SIN(X)	P(X)	ERROR
-1.5707963	-1.0000000	-0.9999994	0.0000006
-1.4137167	-0.9876883	-0.9876887	-0.0000004
-1.2566371	-0.9510565	-0.9510560	0.0000005
-1.0995574	-0.8910065	-0.8910061	0.0000004
-0.9424778	-0.8090170	-0.8090173	-0.0000003
-0.7853982	-0.7071068	-0.7071074	-0.0000006
-0.6283185	-0.5877853	-0.5877856	-0.0000003
-0.4712389	-0.4539905	-0.4539903	0.0000002
-0.3141593	-0.3090170	-0.3090164	0.0000006
-0.1570796	-0.1564345	-0.1564340	0.0000005
0.0000000	0.0000000	0.0000000	0.0000000
0.1570796	0.1564345	0.1564340	-0.0000005
0.3141593	0.3090170	0.3090164	-0.0000006
0.4712389	0.4539905	0.4539903	-0.0000002
0.6283185	0.5877853	0.5877856	0.0000003
0.7853982	0.7071068	0.7071074	0.0000006
0.9424778	0.8090170	0.8090173	0.0000003
1.0995574	0.8910065	0.8910061	-0.0000004
1.2566371	0.9510565	0.9510560	-0.0000005
1.4137167	0.9876883	0.9876887	0.0000004
1.5707963	1.0000000	0.9999994	-0.0000006

and, as you can see, the absolute error never exceeds 0.0000006 < 1E-6, so the results are accurate to six decimal places plus or minus 1 ulp.

This exact same approach, but specifying the [-Pi/6, Pi/6] interval instead, yields a 7th-degree, odd-powers-only, minimax polynomial which has a guaranteed absolute maximum error e = 3.2E-11 in that interval, while using only four coefficients.

Combined with range reduction, this could form the basis of a simple yet very accurate implementation of trigonometric functions in machines lacking them, as you know. Similar approaches would allow implementing most any specialized function, say Gamma(x), Lambert's W(x), etc.

Best regards from V.

Edited: 11 Oct 2005, 5:55 a.m.

Re: Minimax Polynomial Fit

*Message #4 Posted by **Gerson W. Barbosa** on 11 Oct 2005, 9:57 p.m.,*
in response to message #3 by Valentin Albillo

> Quote:
>
> As I've stated, you only need to specify an interval where the 'oddness' of the functions shows, in this case [-Pi/2, Pi/2] will do. For this particular function, interval, and maximum error, my program returns the following 7th-degree polynomial:
>
> **$P(x) = 0.99999661 * x - 0.16664831 * x^3 + 0.00830636 * x^5 - 0.00018365 * x^7$**

Hi Valentin,

Thanks for your detailed and comprehensive reply. However, I still have another question, if you don't mind: is it possible to force the first coefficient to **1** and then recalculate the other coefficients? Just rounding the first coefficient to **1** would cause the accuracy to decrease, as we can see in the table below:

$$P(x) = x - 0.16664831 * x^3 + 0.00830636 * x^5 - 0.00018365 * x^7$$

X	SIN(X)	P(X)	ERROR
0.0000000	0.0000000	0.0000000	0.0000000
0.1570796	0.1564345	0.1564345	0.0000001
0.3141593	0.3090170	0.3090175	0.0000005
0.4712389	0.4539905	0.4539919	0.0000014
0.6283185	0.5877853	0.5877877	0.0000024
0.7853982	0.7071068	0.7071100	0.0000032
0.9424778	0.8090170	0.8090205	0.0000035
1.0995574	0.8910065	0.8910099	0.0000033
1.2566371	0.9510565	0.9510602	0.0000037
1.4137167	0.9876883	0.9876935	0.0000051
1.5707963	1.0000000	1.0000046	0.0000046

Of course the new polynomial with recalculated coefficients wouldn't be as accurate as the original one, but would be better than this. Setting the first coefficient to **1** is important to reduce the number of steps or registers necessary to implement these polynomials on a RPN calculator.

Best regards,

Gerson.

Re: Minimax Polynomial Fit

*Message #5 Posted by **Valentin Albillo** on 13 Oct 2005, 6:27 a.m.,*
in response to message #4 by Gerson W. Barbosa

Hi again, Gerson:

Gerson wrote: *"is it possible to force the first coefficient to 1 and then recalculate the other coefficients?"*

Yes, there are two ways of doing it:

- Modifying the program itself: as one of the coefficients would be fixed, you'll actually need one equation less to solve, and so one less datapoint in your tuples. A very simple *ad-hoc* modification to the **SPOLMM** subprogram, slightly affecting the part where it is building the matrix of the system to solve, and then including the fixed coefficient in the returned coefficient's array would suffice. This would be faster and most accurate, but requires modifying the program as it is now.

- You can read the reference you give in your own article, which I did, where it is explictily stated how to proceed to achieve exactly what you want, even giving a fully worked example to make it crystal-clear.

To save you the trouble of reading it, basically you transform the problem of finding a *7th-degree* minimax polynomial for y=sin(x) in [0, Pi/4], say, for the related problem of finding a *2nd-degree* polynomial for y=f(x) in [0, (Pi/4)^2], where f(x) is defined thus:

```
f(x) = sin(sqrt(x))/x^(3/2)-1/x
```

this way you get a polynomial which directly translates to your desired special-form one for the original y=sin(x) function in the original [0, Pi/4] interval.

You can achieve that with my program by simply selecting **[D]**efined function, then answering the "f(x)=" prompt like this:

```
f(x) = SIN(SQR(X))/(X*SQR(X))-1/X
```

and specifying the [0, (Pi/4)^2] interval, as stated. You'll get the results you want.

Note: As f(x) is defined, it would generate an error when evaluated at x=0. You can either specify the interval using a small number (1E-6, say) instead of 0, or else include a user-defined function, like this:

```
DEF FNY(X) @ IF X=0 THEN FNY=-1/6 ELSE FNY=SIN(SQR(X))/(X*SQR(X))-1/X
```

then answer the "f(x)=" prompt with f(x)=**FNY(X)**

Best regards from V.

Edited: 13 Oct 2005, 6:37 a.m.

Re: Minimax Polynomial Fit

*Message #6 Posted by **Gerson W. Barbosa** on 16 Oct 2005, 8:53 p.m.,*
in response to message #5 by Valentin Albillo

Hi Valentin,

Thanks for your step by step explanations, they've really helped me. And thanks for reminding me to read my own reference too :-) At the time I didn't give too much importance to these details because I didn't have any minimax tool available. As I said, I used curve fitting and did some minor adjustments by hand to get the best results I could. I got a 9.58E-11 maximum error with the three coefficients I obtained for SIN this way. The coefficients I obtained using a true minimax polynomial yielded a maximum 9.76E-11 error. Not bad! (Of course, my manual solution took much more time and would be impossible to be done for higher degree polynomials).

Using the procedure you showed me, I found the odd power coefficients for a 13th degree polynomial to approximate ATAN (of course, the coefficient indeces refer to the auxiliary 5th degree polynomial):

```
8 DEF FNY(Y) @ IF X=0 THEN FNY=-1/3 ELSE FNY=ATAN(SQR(X))/(X*SQR(X))-1/X
9 END DEF


X1,X2,N=0,3-2*SQR(2),20
.
.
.
H= 0.00000000050
A0=-0.33333333283
A1= 0.19999978075
A2=-0.14284193118
A3= 0.11072111863
A4=-0.08629967887
A5= 0.05061006653
```

Just for a comparison, here are the same coefficients calculated by an expensive mathematical software, using the tecnique shown in the reference:

```
a0=-0.3333333328040560
a1= 0.1999997758846710
a2=-0.1428416640124080
a3= 0.1107161126831530
a4=-0.0862630685349892
a5= 0.0505192312223211
```

The slight difference observed is due, of course, to different machine precisions. Anyway, the maximum absolute errors are 5E-10 and 7E-11, respectively. A remarkable achievement for both programmer and HP-71B! You program is a joy to use, I wish I only had a real 71B!

Best regards,

Gerson.

P.S.: Below are my approximations to ATAN and SIN. Maximum errors observed in a spread sheet were 6.6E-11 and 9.8E-11 respectively, but I am curious to see how they would behave in a HP-12CP. Any simulator available?

```
-----------------------------------------------------------------------


               a = -0.3333333329
               b =  0.1999997763
               c = -0.142841662
               d =  0.1107161
               e = -0.0862632
               f =  0.05052

       atan(x) = x*(1+x^2*(a+x^2*(b+x^2*(c+x^2*(d+x^2*(e+f*x^2)))))),

                                                [0 <= x <= sqrt(2)-1]

       atan(a) = 2*atan(sqr(1/(a^2)+1)-1/a)


-----------------------------------------------------------------------


               a = -0.1666666652
               b =  0.008333217
               c = -0.000197282


       sin(x) = x*(1+x^2*(a+x^2*(b+c*x^2))),        [0 <= x <= pi/6]

       sin(a) = sin(a/3)*(3-4*sin^2(a/3))


-----------------------------------------------------------------------
```

Re: Minimax Polynomial Fit

*Message #7 Posted by **Valentin Albillo** on 17 Oct 2005, 8:35 a.m.,*
in response to message #6 by Gerson W. Barbosa

Hi, Gerson:

Gerson posted: *"The slight difference observed is due, of course, to different machine precisions. Anyway, the maximum absolute errors are 5E-10 and 7E-11, respectively. A remarkable achievement for both programmer and HP-71B! You program is a joy to use, I wish I only had a real 71B!"*

I'm glad you liked my program and found it useful. Owning a physical HP-71 is a real pleasure but certainly this kind of program benefits a lot from being run in an emulator (say Jean-François Garnier's Emu71 or Hrastprogrammer's HP-71X), because it's so math

intensive. This way you get results in seconds and can try different approaches with utmost ease, making the 'fitting experience' rather enjoyable, IMHO.

Also, it's a real testimony to HP-71B/Math capabilities that this kind of functionality, which usually requires advanced software to accomplish, can be implemented in a mere 50 lines of code, and moreover, providing three different input methods (including mass storage) and two modes of output. A basic implementation would surely fit in 30 lines of code or so.

And it's minimaxing, no less ! :-)

Best regards from V.

Impressive! [Re: Minimax Polynomial Fit]

*Message #8 Posted by **Karl Schneider** on 11 Oct 2005, 10:59 p.m.,*
in response to message #3 by Valentin Albillo

Valentin --

Looks like an impressive effort! However, I'll have to delve into my HP-71B manuals in order to try out your work.

I saw no mention of this program needing a Math ROM, but I have one with the manual. Now all I need is a HP-71B Surveying Pac manual to go with the ROM...

-- KS

Re: Impressive! [Re: Minimax Polynomial Fit]

*Message #9 Posted by **Valentin Albillo** on 13 Oct 2005, 7:00 a.m.,*
in response to message #8 by Karl Schneider

Hi, Karl:

Karl posted:

"I saw no mention of this program needing a Math ROM, but I have one with the manual."

Thanks for your continued interest in my humble productions. Yes, I didn't mention that a Math ROM is needed, but of course it is.

If you've followed my posts since long, you'll know that when I write "HP-71B" it goes without saying that it includes a Math ROM, because if not, it is ***not*** the real HP-71B originally designed by its wise creators, but the maimed thingy they were forced to release when it was clear the System ROMs were going to exceed the allotted 64 Kb of ROM space.

The original HP-71B did include most functionality now present in the Math ROM, including complex numbers definition and functionality, of which some scraps still remain in a bare-bones HP-71B (try to enter the program line: 10 A=(2,3)+SIN((4,5)) and see it being duly accepted, no syntax complaints), and so for me an HP-71B deserves that name *if and only if* it includes a Math ROM.

Else, you should change its name, perhaps "HP-71BL" for "Light" will do, though "HP-71BM" would be better, or even "HP-71BFU" ... ;-)

BTW, don't miss my upcoming **S&SCM #11**, due today ! :-)

Best regards from V.

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HP--01 Pen Refills

*Message #1 Posted by **Al Schwarz** on 9 Oct 2005, 9:37 p.m.*

For those of you whose HP-01 pens don't write anymore:

go to http://www.garlandpen.com tab to 'company store' download order form (.pdf)

You can order one or more refill #125 (for dual pens) in medium blue only. Their service is very good, I got mine in about two weeks.

Thought I'd pass this tip along, some folks might not know it.

<<Al Schwarz>>

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The NEW Platinum 12C

*Message #1 Posted by **Just Me** on 9 Oct 2005, 12:20 p.m.*

I'm surprised that there is so little here about the revised Platinum. They have fixed the enter key, GREATLY sped up the TVM calculations, added a backspace and undo key, a contrast control, etc.

Is this pretty much a non-story? Just wondering.

Re: The NEW Platinum 12C

*Message #2 Posted by **Namir** on 9 Oct 2005, 1:16 p.m.,*
in response to message #1 by Just Me

Hi "Just Me",

You tell me who you are and I will tell you the story. Fare enough?

Namir

Re: The NEW Platinum 12C

*Message #3 Posted by **Stephen Easterling** on 9 Oct 2005, 10:02 p.m.,*
in response to message #1 by Just Me

I hocked two 12C Platinums so I could wait for the "revised" version. How can I get one? If I call to place an order (or go to Office Depot), all they sell are the old stock versions. You can never be guaranteed of getting the latest copy via phone order, even through HPShopping. If you have a source, I'd be happy to order through them.

Re: The NEW Platinum 12C

*Message #4 Posted by **Namir** on 10 Oct 2005, 1:35 a.m.,*
in response to message #3 by Stephen Easterling

Stephen,

To make sure you get the new version of the 12C Platinum you have to go in person to place where the machine is physically availabl. The new version has the open and close parenthesis below the STO and RCL keys. ORDERING ONLINE FROM ANYWHERE DOES NOT GUARANTEE YOU THAT YOU GET THE LATEST VERSION.

Namir

Re: The NEW Platinum 12C

*Message #5 Posted by **Stephen Easterling** on 10 Oct 2005, 12:39 p.m.,*
in response to message #4 by Namir

I agree in that it would be best to see what I'm buying before I buy. I'll have to look around my community to find the latest revision. I hope that the distributors aren't going to fill standing orders for six months with older models. (Sometimes when a seller gets a "new" shipment, they're getting new old stock.)

Re: The NEW Platinum 12C

*Message #6 Posted by **Jeff** on 10 Oct 2005, 2:27 p.m.,*
in response to message #5 by Stephen Easterling

I bought my new one almost a month ago at Office Depot.

Re: The NEW Platinum 12C

*Message #7 Posted by **Stephen Easterling** on 10 Oct 2005, 7:57 p.m.,*
in response to message #6 by Jeff

I've already checked everywhere in my town and no one has the new 12C Platinum (the revised version) yet. Too bad! I'd like to get my hands on one.

Re: The NEW Platinum 12c

*Message #8 Posted by **Woody Larkin** on 10 Oct 2005, 8:24 p.m.,*
in response to message #7 by Stephen Easterling

I went to Office Depot today (in Indianapolis, IN) to look for the new 12c Platinum. The demo unit was the old model. I pulled the order card and requested one be brought out from stock for me to look at before buying. It was the new model; as reported in earlier posts, the STO and RCL keys have left and right parentheses; the backspace key is on the minus (-) key; the undo is a left downward curving arrow on the divide key. These functions are in blue and are used with the blue (g) key. Overall, I'm impressed with the quality and appearance of the unit. The keyboard has a good tactile feel and the display is clear. I think Office Depot is a good bet to look for one...just don't look at the demo units; they probably have been sitting around quite a while.

Re: The NEW Platinum 12c

*Message #9 Posted by **Stephen Easterling** on 11 Oct 2005, 1:15 a.m.,*
in response to message #8 by Woody Larkin

I already checked out my local Office Depot and other local stores that would carry it,... none of them have it (yet). You know, I had two 12CP and had terrible keypad problems where the numbers wouldn't register after feeling and hearing the click. Both models were like this. HP told me to just go buy a regular 12C, so I did and it solved the problem. However, I really want a 12CP and want the keypad to work as well as the older, regular 12C models. How do you like the new keypad on the "revised" 12CP?

Re: The NEW Platinum 12c

*Message #10 Posted by **Bubba** on 13 Oct 2005, 10:10 p.m.,*
in response to message #9 by Stephen Easterling

Whoa that's funny! You bought 2 12C platinums and HP told you to just get a regular 12C? Wow so they basically admitted that platinum has quality problems. I wasn't expecting to read that. Maybe I should just buy a regular 12C, too. I'm afraid

one of the buttons on my platinum that semi-works will stop working altogether when I take the CFA exam. Ugh....

Re: The NEW Platinum 12c

*Message #11 Posted by **Stephen Easterling** on 14 Oct 2005, 2:51 p.m.,*
in response to message #10 by Bubba

Sort of. I should say that I owned two 12CP. The story goes like this: I bought a 12CP from Office Depot and I wasn't happy with the keypad, so I called HP Service and they apologized because they'd never heard of problems like that. So they sent me another one. I asked "I'll send you my old one so you can see the problem and make sure the issue isn't reproduced in other calcs." The guy said they didn't need it back. So I got the replacement and it was worse. I called HP Service back and explained my findings. Again, they seemed surprised. I told him I owned many other HP calcs and didn't expect keypads problems like this. I guess he figured I just lightly poked at the keys and I figured the 12CP was just designed for hard pushers, like the new 17BII+. So I just wrote off the new 12CP, figuring that's just the way it is and that my "problem calcs" were not real problems, but just a manifestation of design of the keypad. So I returned the one calc back to Office Depot and sold the other. After I got a new 12C, I was very happy with the keypad, but disappointed with the slow speed. Let me know if you find an acceptable 12CP and I'll buy it (new, of course).

Re: The NEW Platinum 12C

*Message #12 Posted by **Eddie Shore** on 13 Oct 2005, 8:27 a.m.,*
in response to message #3 by Stephen Easterling

Has anyone found a picture of the "new" 12PC on the internet? Please.

Picture of the new HP 12c platinum

*Message #13 Posted by **Gene** on 14 Oct 2005, 7:09 p.m.,*
in response to message #12 by Eddie Shore

Enjoy!

http://home.comcast.net/~genela/new12cplat.jpg

Still ugly and substandard -- the new HP 12c platinum

*Message #14 Posted by **Karl Schneider** on 15 Oct 2005, 12:32 a.m.,*
in response to message #13 by Gene

Well, if the objective is to produce a well-desgned calculator, KinHPo still doesn't "get it":

1. They kept the funky and hard-to-read red and blue shift keys on a metallic background -- not ergonomic like yellow and blue shift keys on a dark brown background.

2. Parentheses have belatedly been added, but they are shifted -- inconvenient.

3. "CLx" (instead of backarrow, which is *essential* for ease of use) is still in its familiar location from the 12C and 10C. Does the shifted backarrow on the "-" key do the same thing as on the 41C, 11C, 15C, and Pioneers?

4. That horrible 10C/12C programming functionality remains, with an ample-but-useless 400 programming steps.

5. Why is "CLEAR PREFIX" still there? Pioneers did away with that by having the user press the shift key again to clear it (like the 41C did), and adding "SHOW" (like "MANT" on the older models) to show the full mantissa.

6. Does "ON" serve as "CLx" as on the Pioneers? If not, why is "OFF" now shifted?

7. Why wasn't "Roll Up" added?

8. How about making "Sx" and "Sy" separate calculations, to prevent perplexing error messages caused by irrelevant-but-corrupted y-data?

9. How about making regression coefficient "r" a separate calculation? It needn't be recalculated each time an x- or y-estimate is performed without new data.

I'd bet that hardly anyone actually *programs* on these low-end financial calculators -- particularly this one, with such a bad programming paradigm. If the 12C Platinum were to be a non-programmable (as the 10C should have been), all of the following could be eliminated:

P/R, R/S, PSE, SST, BST, GTO, CLEAR PRGM, x<=y, x=0, MEM

That would leave plenty of room for making "(" and ")" (or maybe "sqrt" and "x^2") unshifted, and adding things that were left out.

-- KS

Edited: 15 Oct 2005, 1:34 a.m.

Re: Still ugly and substandard -- the new HP 12c platinum

*Message #15 Posted by **valentino ducati (switzerland)** on 15 Oct 2005, 5:14 a.m.,*
in response to message #14 by Karl Schneider

Hi Karl

I - partly - second you. I suppose there i no discussion about the fact that a 12C(P) is definitly NOT a good programmable calculating device. I think it is ok for keystroke oriented repetitive tasks. But nothing more, compared to the other Voyager or Pioneer models. Or even the few new hp/Kinpo calculators araound.

But it is definitly an improvement.

> Quote:
>
> 1. They kept the funky and hard-to-read red and blue shift keys on a metallic background -- not ergonomic like yellow and blue shift keys on a dark brown background.

Agree! Look at all the hp (and TI) series of calculators since the seventies: gold/blue/white is best on a black plate. I have an original 12C and - beside the well known programming flaws - it looks very luxury (gold finish) but still well readable with its black plate. On silver they should go away from the traditional f=yellow/g=blue matrix.

Quote:

3. "CLx" (instead of backarrow, which is essential for ease of use) is still in its familiar location from the 12C and 10C. Does the shifted backarrow on the "-" key do the same thing as on the 41C, 11C, 15C, and Pioneers?

6. Does "ON" serve as "CLx" as on the Pioneers? If not, why is "OFF" now shifted?

I agree regarding the double functionality of [g]<-- and [CLx]. But the Pioneer you refer to, are also not strightforward. E.g. the 32SII: It has indeed [<--] (Backspace) and above [f] CLEAR. That is the same functionality like 41x. But the [C] key is a mix of an ON, ESC or CANCEL key and again the CLx function, depending on the situation you hit it. And yes, to turn off the 32SII you must key [g] OFF.
With this discussion I will show the venue that not only the hp/Kinpo people have big problem with well designed UI, but also the former hp engineers.

My examples
If you look at a keyboard of a calculator you should be able to inuitive identify the toggle functions and the others. As a designer of the layout you can even preserve more keys using good toggle conventions. Back to the 12CP: This calculator has many toggle functions (with only two states), but only two are realized the good way.
[R/S] is quite intuitive and changes from RUN to STOP and back.
[f] P/R is not 100 % clear but it means PROGRAM mode and RUN mode (should better read calculator mode)

But what about B/E? No, they used one more key to toggle BEGIN and END.
And DM/MDY? They also used one more key to toggle between DMY and MDY date format.
And new for the 12CP, they don't use a toggling key R/A to change from RPN to ALG...

Maybe hp (and other manufacturer) should better look at the proposals of the involved user groups: hundreds of brains can find more and better solution for the same problem then a punch of maybe high qualified engineers.

My 2 EURO-cents

Edited: 15 Oct 2005, 5:19 a.m.

Re: Still ugly and substandard -- the new HP 12c platinum

*Message #16 Posted by **Marcus von Cube, Germany** on 15 Oct 2005, 3:22 p.m.,*
in response to message #15 by valentino ducati (switzerland)

Quote:

But what about B/E? No, they used one more key to toggle BEGIN and END.
And DM/MDY? They also used one more key to toggle between DMY and MDY date format. And new for the 12CP, they don't use a toggling key R/A to change from RPN to ALG...

I disagree for a programmable device: If you write a program and want to make sure that the calc is in a certain state, a toggle function is the worst you can encounter, especially if no way is provided to question the current state.

Re: Still ugly and substandard -- the new HP 12c platinum

*Message #17 Posted by **valentino ducati (switzerland)** on 16 Oct 2005, 12:37 p.m.,*
in response to message #16 by Marcus von Cube, Germany

> Quote:
>
> I disagree for a programmable device: If you write a program and want to make sure that the calc is in a certain state, a toggle function is the worst you can encounter, especially if no way is provided to question the current state.

Marcus: I agree for this item. I thought more flag oriented; but this doesn't rule for the 12C.

Valentino

Re: Still ugly and substandard -- the new HP 12c platinum

*Message #18 Posted by **Michael Barry** on 15 Oct 2005, 12:30 p.m.,*
in response to message #14 by Karl Schneider

Before I was a convert to RPN, I used the 10B extensively. The key that I found most useful was the back arrow key. When I converted over to RPN and the 12C, not having the back arrow key was harder to get used to than the new (to me) RPN method. When I heard about the 12CP, my hopes were that they would incorporate a back arrow into the new calculator. My hopes were dashed. When I read in this forum that they had actually incorporated the back arrow key into a newer version of the 12CP, I was ready to buy one. Again, my hopes were dashed. I don't know about everyone else, but I view the back arrow key on a calculator just as I do the backspace key on a keyboard. It's next to impossible to work without it. Try typing your next message in this forum without using the backspace key! Can you imagine the uproar if the computer Gods got rid of the backspace key and put in a clear-all key. I know this is unreasonable, but you get my drift. This half-hearted attempt at the back arrow key just doesn't cut it.

Re: Picture of the new HP 12c platinum

*Message #19 Posted by **bill platt** on 16 Oct 2005, 9:09 a.m.,*
in response to message #13 by Gene

I am utterly baffled by this "upgrade". Between this one, and the 33s, it seems as if HP is so afraid of changing anything from the originals, that they change everything--except that which actually needs to be changed. By this I am referring to the basic logic of the key naming and key placement.

With this upgrade, would it have been difficult to make the clearX key an un-shifted backspace, and put the CLx into another spot?

I have an answer to my own question, which is that because the original design uses keycodes in programming (a thoroughly out-dated method!) they could not "move" a key without destroying 1:1 compatibility with "legacy" user program code.

So, a useless machine merely becomes even more useless...Why on earth is the 12c still popular? Answer: because those who buy it do not write programs for it. (My conjecture).

This begs the question, "so the purpose of the 12cp is....?"

Re: Picture of the new HP 12c platinum

*Message #20 Posted by **valentino ducati (switzerland)** on 16 Oct 2005, 12:50 p.m.,*
in response to message #19 by bill platt

> Quote:
>
> This begs the question, "so the purpose of the 12cp is....?"

Bill:

I got my 12C spring 2005 from a banker; mint condition. I discussed a few minutes with him about the calculator and he told me, he "programmed" **only two** complicated interest formulae into the memory. And **he worked 4 years** with only this two programs. All the other daily work was done with todays broker tools or with the keyboard functions of the 12C.

Let me now answer your question: The purpose of the 12cp is to offer
a good looking white collar pocket calculator
with all the basic functions for daily use in financial environment
and minimum programmability for repetitive tasks
.

If *this was* the purpose, then the 12c(p) matches it.

Re: Picture of the new HP 12c platinum

*Message #21 Posted by **Gene** on 16 Oct 2005, 6:10 p.m.,*
in response to message #19 by bill platt

If this was done, then it wouldn't be an HP12c.

Changing where the keys are located is very bad. HP had to do it for lastX, but I'm sure wanted to minimize them.

Making wholesale changes would not leave you with an HP12c platinum.

Why is this model out there? It is an HP12c with algebraic entry.

And, if you think it is useless, good for you. :-) The millions and millions of finance people using this will just continue to disagree with you.

And, more HP12c's have been sold than any of the measly non-finance machines...perhaps even combined. :-)

Re: Picture of the new HP 12c platinum

*Message #22 Posted by **bill platt** on 17 Oct 2005, 12:28 p.m.,*
in response to message #21 by Gene

> Quote:
>
> And, more HP12c's have been sold than any of the measly non-finance machines...perhaps even combined. :-)

Yes, yes, combined--and including all the Sharps and Novus calculators too I suspect...

Still, it seems like lock-in to me. As essentially none of the finance guys actually program it, then why not make it better, rather than a swank but crippled "evolution"? The fact that keys have changed isn't going to bother the finance guys--as they aren't going to have lots of legacy programs to migrate, anyway.

What good is a shifted backspace? That's worse than a shifted parenthesis by far.

Oh well. Anyone still use their betamax machines?

Edited: 17 Oct 2005, 12:31 p.m.

Re: Picture of the new HP 12c platinum

*Message #23 Posted by **Gene** on 17 Oct 2005, 12:46 p.m.,*
in response to message #22 by bill platt

Again, I just don't think you understand what HP has done with this "upgrade".

There is now an HP12c with algebraic mode. Big deal to you? But perhaps not to the great masses in the real estate and finance world who have so far stayed away from the 12c because of RPN (yes, such people exist).

If you "make it better", then you would break all existing programs that are out there for the HP12c. Yes, finance guys program this machine. Take a look at the HP12c platinum solutions book and you'll see lots of programs for it. People in industry and real estate use programs. Start messing around with keycodes much and these will break.

My only guess is that you just speak from a lack of knowledge. Since you appear not to be a finance guy, then you just don't know.

And, if you aren't a finance guy, why would you care what HP did?

They now have an HP12c built on current technology that has RPN and algebraic modes, 4 times the program memory, more space for cash flows, and on this "upgrade" from the original 12c platinum, the algebraic mode has parentheses too.

This appears to be the method to make these changes with the least amount of splash to existing users and the least amount of breaking of existing programs.

A BIG reason the finance people still buy the 12c is because they already know how to use it. If it does what they want, why buy another machine? Why should they buy something that is different even if improved?

Given that HP appears to have tried to kill off the 12c several times in the past, unsuccessully, finance users have spoken. With the HP12c platinum, HP now has a chance to reach people in these industries who would never buy an RPN model.

As to the location of the parentheses and backspace, I can't address that. HP didn't ask my advice. :-)

But, you still don't seem to understand how dominant the 12c is and has been.

It may have outsold ALL other HP calculators combined over its lifetime. Change it to make its usual users learn a new way to use it? Why take that risk? If they want to upgrade, let them buy the 17bII+.

And, your electronic snobbery shows in the betamax comment.

HP will laugh all the way to the bank while you give it a sneer. Who comes out the winner? :-)

Re: Picture of the new HP 12c platinum

*Message #24 Posted by **bill platt** on 17 Oct 2005, 2:42 p.m.,*
in response to message #23 by Gene

Hi Gene,

Sorry--I didn't phrase/punctuate very well---I meant to make my statement "Finance guys don't program these" to be a question. My brother doesn't bother programming his, nor my cousin; both are "finance guys". My hedge fun friend (from high school) has always had a 17bii and could never understand the fascination with the 12c.

I perfectly understand the dominance of the 12c. I have seen it more often than any other hp--in real estate offices, in the president's offiec, in the VP's office, on the stock broker's desk, etc etc. Yes, they are everywhere. I even met a real estate agent who had one with all the paint rubbed off. She had used it for 20 years non-stop. (I have met a lot of real estate agents and seen more 12c thatn any other single calc). (For some reason, the car dealers all use some sort of printing adding machine and some sort of byzantine method of manual calculation--and it takes like 20 minutes to "run the numbers" -- must be a psychological weapon).

I see what you mean about trying to reach the "algebraic" customers. In that respect it is a long-overdue effort. Essentially it looks like people who did not like RPN all ran off to the TI BA. For some reason, the other HP's just did not interest them. Perhaps this platinum, well marketed as an Algebraic Capable machine, just might make a showing.

Oh, as far as betamax goes, I never owned one:-)

Edited: 17 Oct 2005, 2:44 p.m.

Re: Picture of the new HP 12c platinum

*Message #25 Posted by **Bubba** on 17 Oct 2005, 9:18 p.m.,*
in response to message #24 by bill platt

I am studying for the CFA Level I exam. Only 2 types of calculators are allowed the 12c (and the platinum) and one by Texas Instruments. The CFA Institute only allows those 2 calculators becuase its easier include them rather than make a big list of which ones are not allowed. If you add more functions to the 12c then it might become too modern and then it wouldn't be allowed on the exam, because exam takers wouldn't be memorizing the formulas, they'd be using pre-programmed functions instead. I bet HP gets a lot of business from CFA exam candidates.

Re: Picture of the new HP 12c platinum

*Message #26 Posted by **bill platt** on 18 Oct 2005, 11:37 a.m.,*
in response to message #25 by Bubba

It seems that exams are the only market for their calculators, now. The 33s is the only approved calc for the Engineering license exams.

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Help requested to restart a severely crashed HP49G

*Message #1 Posted by **Antoine M. Couëtte** on 9 Oct 2005, 8:59 a.m.*

Oct 09, 2005

Hi to all!

I just loaded 2 HP48GX programs + their 2 associated variables into my HP49G just to see whether they would work in it. Unfortunately I got a very hard crash ,,, to the extent that I can no longer restart my HP 49G , be it through ON+A+F or through inserting a pin in the back hole. A few times it started prompting something like " Restore memory Yes / No ? " , I first choose YES a few times and as nothing happened I subsequently chose NO afterwards. HP49G did not recover even with a memory lost.

Now it no longer reacts to anything I know of .

I also put new batteries in it. No joy , so I removed its 3 batteries for the time being .

CAS is the Beta version released some 2 years ago.

It looks like I might have corrupted its internal system :-((!!!

Any wizard reading me who could help ?

Thanks in advance

Antoine M. Couëtte

antoine.m.couette@club-internet.fr

Re: Help requested to restart a severely crashed HP49G

*Message #2 Posted by **I, Claudius** on 9 Oct 2005, 9:27 a.m.,*
in response to message #1 by Antoine M. Couëtte

The Try To Remember Memory? TTRM crash you experienced was most likely due to a SysRPL program for the 48 you loaded into your 49, where there are different entry points. It is unusual that it should crash the machine to the point you describe. The only thing I can think of is to try to reflash the ROM, if the machine can turn on to connect with your pc. For possible answers with better solutions post this to Google Group comp.sys.hp48

Edited: 9 Oct 2005, 9:32 a.m.

Re: Help requested to restart a severely crashed HP49G

*Message #3 Posted by **Antoine M. Couëtte** on 9 Oct 2005, 9:54 a.m.,*
in response to message #2 by I, Claudius

Thank you "I, Claudius" for your quick reply. Unfortunately, the machine doest not restart at all, so it does not seem possible to reflash the ROM which certainly looks the unavoidable step to get it back in order.

I have been extremely talented to inadvertently crash some machines or some software to the extent that it has been known in my community that if a system works with me , it means that it is fully debugged and it will therefore fully work with anybody else!!!

Antoine

WARMEST THANKS to both SITES Re: Help requested to restart a severely crashed HP49G

*Message #4 Posted by **antoine.m.couette@club-internet.fr** on 9 Oct 2005, 11:57 a.m.,*
in response to message #3 by Antoine M. Couëtte

To you again to you "I, Claudius" ,

Somebody from "the other site" you suggested to me asked me " Are the programs libraries? If so, HOLD the backspace key on startup. That will stop them from attaching. Then use the filer to delete the offending libraries. "

AND IT WORKED !!!

So thank you very much to all of you on both sites, i.e. this one and TOS because you thanks to BOTH sites I am out of trouble now

Antoine m. Couëtte

antoine.m.couette@club-internet.fr

Re: WARMEST THANKS to both SITES Re: Help requested to restart a severely crashed HP49G

*Message #5 Posted by **Tim Wessman** on 10 Oct 2005, 11:16 a.m.,*
in response to message #4 by antoine.m.couette@club-internet.fr

Oh, I read here too. I just feel left out here since I ONLY have 20 calculators or so, and all of them are 48g or newer. I just don't fit in with the SERIOUS collectors. . . ;-)

Tim Wessman

Re: Help requested to restart a severely crashed HP49G

*Message #6 Posted by **bill platt** on 9 Oct 2005, 1:40 p.m.,*
in response to message #3 by Antoine M. Couëtte

> Quote:
>
> I have been extremely talented to inadvertently crash some machines or some software to the extent that it has been known in my community that if a system works with me , it means that it is fully debugged and it will therefore fully work with anybody else!

Hi Antoine,

A perfect description for my experience as well.

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Copy Lif disk (disk copy) Help !!!

*Message #1 Posted by **Gileno** on 8 Oct 2005, 5:15 p.m.*

How do I make one copy of safety of my disks (LIF) using the windows 2000? Does some program that makes the diskette copy exist (LIF) for another diskette (disc copy)? Thank's

Re: Copy Lif disk (disk copy) Help !!!

*Message #2 Posted by **Howard Owen** on 8 Oct 2005, 5:37 p.m.,*
in response to message #1 by Gileno

See my response about series 80 disks. It's the same issue.

You can make backups within the LIF environment. Depending on what you are using, it could be easy or more challenging. Wha are you running that accesses LIF disks? What sort of computer, what sort of floppy, and so forth.

Re: Copy Lif disk (disk copy) Help !!!

*Message #3 Posted by **Gileno** on 8 Oct 2005, 6:28 p.m.,*
in response to message #2 by Howard Owen

9114B 1.44 disk 41CX HP-IL

Re: Copy Lif disk (disk copy) Help !!!

*Message #4 Posted by **Howard Owen** on 8 Oct 2005, 8:33 p.m.,*
in response to message #3 by Gileno

OK. The 41-CX makes it a little tough to do automatically, but what you can do is to write a program to copy a list of files one at a time from disk to memory, then baclk to disk. In the meantime you swap in a new disk, of course.

That is a huge pain, but it will do the trick. Another possiblility, is to read the disk under MS-DOS with TELEDISK.EXE (Available at retrocalculator.com among other places. It will read single sided media, but it won't write to it. But if the "single-sided" disk is really a DS/DD disk, or even an HD floppy like you say you are using, and if you tape over the second hole in the disk (opposite the one with the slider) , and if you further specify to teledisk to only read and write side 0, you might be able to do a disk-to-disk backup that way. Otherwise, you will end up with an image file on your PC's hard disk that will be in TELEDISK's "unique" format. I don't know how to decode this currently. (There is some code to do so in the net, but it doesn't work on the TELEDISK images I have access to.) So a TELEDISK image will only serve as a backup if you can write it back out to floppy at some point in the future.

TELEDISK.EXE will not run under any form of Windows. It does low-level access to the floppy controller that drives Windows insane. It must run under MS-DOS.

Re: Copy Lif disk (disk copy) Help !!!

*Message #5 Posted by **don wallace** on 8 Oct 2005, 9:48 p.m.,*
in response to message #4 by Howard Owen

Hi Howard.

WARNING ;-P This may be OT...

have you heard of a (very) old DOS utility called alien? file=alien.com It had about 50 odd ss/ds non-dos formats you could pick from to read/write to. Wang, CPM, etc.... circa 1987 (!)

People shuld note that there's a hardware problem writing to old formats due to the thinner heads used in the 1.2MB diskette drives. If anyone has any old (IBM compat.) 360 kB drives, that would probably solve that problem.

DW

Re: Copy Lif disk (disk copy) Help !!!

*Message #6 Posted by **Howard Owen** on 8 Oct 2005, 10:42 p.m.,*
in response to message #5 by don wallace

Hi, Don.

Those are 5-1/4" capacities you are quoting. The 9114 and 9121 are both 3-1/2" drives. Like I say, the problem is twofold. First, LIF disks for both drives have a sector size of 256 bytes, which is half the standard size. Modern BIOS do not include the calls to enable reading from sectors of this size, according to several (more than three) authorities I've run across. TELEDISK is the only utility I've found that will read such disks, at least on my circa 1993 Pentium/75 Presario. I have not exhaustively tested all such utilities, of course. and I've only tried the one system, so I'm unwilling to say firmly that TELEDISK is the only solution.

The second problem has to do with single sided vs double sided disks. Both the 9114 (HP-IL) and 9121 (HP-IB) drives are single sided. Using TELEDISK, I was able to read single sided media for the 9816, which had been written to a 9121 drive. Once again, this is the only utility I have found that can do that. I have also successfully written single sided images to standard HD disks. I had to cover the second hole, opposite the write protect tab in order to then use these disks on a 9121, but it worked. What even TELEDISK can't do is to write to single sided media on my Presario. This sounds like a problem deeper than the BIOS, since TELEDISK can get around the lack of proper BIOS calls for the case of reading the same media it fails to write to.

TELEDISK makes some interesting grinding noises while reading and writing single sided, 256 B/sector media. I suspect this is due to skipping the read or write from/to side 1 of the disk. I guess it could be due to the smaller sector size too. (You'd have to play with the motor speed in the latter case, whereas you'd be advancing the head at an abnormal time in the former.)

Regards,

Howard

Re: Copy Lif disk (disk copy) Help !!!

*Message #7 Posted by **Vassilis Prevelakis** on 9 Oct 2005, 4:42 a.m.,*
in response to message #1 by Gileno

If you have access to an MSDOS environment (i.e. be able to boot into a non-GUI mode) then I would strongly suggest LIFUTIL ftp://ftp.hpmuseum.org/lif/lifutil

If you would rather use your HP-41 for the backups, then you may want to have a look at old PPC journals (Jake Schwartz has a CD collection with all the articles, http://www.waterw.com/~jakes/

I would stay well away from teledisk, I had a chance to look at the format it is using and its very bad for archiving [1].

**vp

[1] teledisk just copies the sectors from the diskette to a computer file and when restoring files reverses the process. The computer file will have the PHYSICAL structure of the diskette, not the logical structure that the OS presents to you. E.g. if the diskette is interleaved, then your sequentially allocated file will be all over the place. Also sometimes teledisk saves both sides of a one-side diskette (I have seen disk images like that in hpmuseum.net), then your diskette image file will contain junk as well as data.

Thus, to be able to use teledisk images you need to connect to your PC the appropriate physical drive (e.g. 5.25 in). This goes counter to my idea of preservation, whereby if you have the floppy image you can simply extract the files without messing with vintage hardware.

For example if I give you a teledisk image of a Series80 5.25 floppy, you have to find a PC, a 5.25 drive and a 5.25 floppy to recreate the original diskette. Then you have to find a 5.25 floppy drive for your series 80 computer to read the files. If you were just given the files themselves, you could xfer them to your Series 80 computer with a technique that is most convient to **you** (e.g. serial link, 3.5 floppy, HP-IL, HP-IB, etc.).

Re: Copy Lif disk (disk copy) Help !!!

*Message #8 Posted by **Howard Owen** on 9 Oct 2005, 1:57 p.m.,*
in response to message #7 by Vassilis Prevelakis

Yup, that works under real MS-DOS, I've just determined.

My problem in the past was I wasn't covering the second hole on the disk. I knew you had to do tht before the 9121 would use it, but it is also necessary on DOS if you are writing or reading a single sided image.

Re: Copy Lif disk (disk copy) Help !!!

*Message #9 Posted by **Vassilis Prevelakis** on 9 Oct 2005, 3:42 p.m.,*
in response to message #8 by Howard Owen

```
Howard Owen wrote:
> My problem in the past was I wasn't covering the second hole on
> the disk. I knew you had to do tht before the 9121 would use
> it, but it is also necessary on DOS if you are writing or reading
> a single sided image.
```

What the hell are you talking about? That hole is the Quad Density hole it has NOTHING to do with sides. The behavior should be the same with both DS/DD and SS/DD diskettes.

**vp

Re: Copy Lif disk (disk copy) Help !!!

*Message #10 Posted by **Howard Owen** on 9 Oct 2005, 4:28 p.m.,*
in response to message #9 by Vassilis Prevelakis

You know, Vassilis, you've been very helpful to me, and our interests seem to coincide, but you can be one rude son-of-a-geek sometimes! Please tone down the "you must be an idiot" knob just a notch or two, will you?

I'm sorry if you don't like that result, but if I leave the tape off the quad density tab, writing a single sided image doesn't work on my hardware/OS/software stack. An explanation would be intersting, but it's irrelevant to what I want to do: writing images to floppies that the 9114 and 9121 can read.

Edited: 9 Oct 2005, 4:38 p.m.

Re: Copy Lif disk (disk copy) Help !!!

*Message #11 Posted by **Vassilis Prevelakis** on 9 Oct 2005, 11:16 p.m.,*
in response to message #10 by Howard Owen

```
Howard Owen wrote:
> Please tone down the "you must be an idiot" knob just a notch or two, will
you?
```

Only if you promise to power up your brain before you post messages.

Saying that the QD hole somehow indicates a single-sided diskette is like saying the if your car has no central locking, then it must take leaded gasoline. It may occur (by coincidence) but they are not related!

**vp

Re: Copy Lif disk (disk copy) Help !!!

*Message #12 Posted by **Howard Owen** on 10 Oct 2005, 12:14 a.m.,*
in response to message #10 by Howard Owen

> Quote:
>
> My problem in the past was I wasn't covering the second hole on the disk. I knew you had to do tht before the 9121 would use it, but it is also necessary on DOS if you are writing or reading a single sided image.

I stand by that statement 100%. Where does it say that the hole is used to distinguish between anything and anything else?

I said the hole had to be covered to write a single sided image on my system.

I'll bow out of the name calling, Vassilis. But I might suggest you read more carefully, or perhaps think about it longer, before throwing slurs around in public.

Re: Copy Lif disk (disk copy) Help !!!

*Message #13 Posted by **Vassilis Prevelakis** on 10 Oct 2005, 8:01 p.m.,*
in response to message #12 by Howard Owen

```
Howard Owen wrote:
> I'll bow out of the name calling, Vassilis. But I might suggest
> you read more carefully, or perhaps think about it longer, before
> throwing slurs around in public.
```

I said:

```
> That hole is the Quad Density hole it has NOTHING to do with
> sides. The behavior should be the same with both DS/DD and SS/DD
> diskettes.
```

This is true no matter what kind of noise your drive makes or in fact whether by pure chance your drive happened to work that particular time when you ejected the disk and then placed it back into the drive.

I do not engage in name calling, asking *"what the hell are you talking about"*, is not equivalent to calling you an idiot, it is used to express my frustration at the quality of your statement. If, however, you are so offended by it, I can edit it to remove the rhetorical question and leave just the bit that says you are wrong.

```
>I stand by that statement 100%. Where does it say that the hole is
> used to distinguish between anything and anything else?
```

Exactly, it doesn't. Which is why it is wrong on two counts. (a) if covering the hole somehow worked for single-sided drives, then it should also work for double-sided drives, as *it has nothing to do with the number of sides* (I wonder how many times I have to repeat this). (b) it doesn't work anyway, because the behavior of LIFUTIL when you use a QD disk is not predictable. Mainly it has to do with what junk existed on the disk before you formatted it on the HP-IB drive.

So you can stand by your statement all you want, it won't make it anything other than misleading at best.

Take it easy

**vp

Re: Copy Lif disk (disk copy) Help !!!

*Message #14 Posted by **Howard Owen** on 10 Oct 2005, 11:53 p.m.,*
in response to message #13 by Vassilis Prevelakis

> Quote:
>
> I said:
>
> ```
> > That hole is the Quad Density hole it has NOTHING to do with
> > sides. The behavior should be the same with both DS/DD and
> SS/DD
> > diskettes.
> ```
>
> This is true no matter what kind of noise your drive makes or in fact whether by pure chance your drive happened to work that particular time when you ejected the disk and then placed it back into the drive.

It seems to me you've made several wrong assumptions, Vassilis. First, I know the difference between quad vs double density and 2 vs 1 sided media, *and I don't care!*. I'm describing a result I obtained, that's all. That brings me to your second erroneous assumption: because the result seems incredible to you, you assume I tried this once then shot my mouth off. Let me disabuse you of that notion. I was copying from both single sided/double density and double sided/quad density (HD) disks. I had two HD disks that I had written SS?DD data to, one in a 9114 and one in a 9121. The former is a work disk for my HP-71B efforts, and the latter a copy of the HP BASIC 2.0 for 200 series

(RMB) system disk I had made in the 9121 from my 9816. While copying various images to and from these two disks, and various others, I got the following results:

```
Disk      Drive  OS    sw       w/wo cover  result
-----------------------------------------------------------
Work disk 9114  Slack  lifimage without     failure
Work disk 9114  Slack  lifimage with        success
HP BASIC  9121  MS-DOS teledisk without     failure
HP BASIC  9121  MS-DOS teledisk with        success
```

The hardware was identical in both cases. The Compaq Deskpro 575 is an early Pentium machine that actually sports a couple of PCI slots. It has a Compaq custom BIOS that you need a floppy disk to access. The floppy drive is described as "tri-mode" somewhere in the literature I read when I first got the system. I've updated the BIOS to its final release level, circa 1995.

That's two discs I tried this on, running two different OS, and (necessarily) two different image copy programs. Do you detect a pattern in this data? I repeated the test twice for each disc, not because I was trying to be scientific, but because I had a hard time believing it. I don't know why it works like that. I don't *care* why it works. I just now know how to read and write images on this hardware. I couldn't do that before because I was missing this piece. No wonder it was missing! It doesn't make sense to me, but there you are.

So forgive me for interpreting your incredulity for an implication that I am stupid I would be stupid if I had gone about this in the way you seem to think I did.

Edited: 11 Oct 2005, 12:52 a.m.

Re: Copy Lif disk (disk copy) Help !!!

*Message #15 Posted by **Howard Owen** on 9 Oct 2005, 4:45 p.m.,*
in response to message #9 by Vassilis Prevelakis

My guess is that the BIOS on my circa 1993 Compac Deskpro 575 (*not* Presario) uses the existence of the quad density tab to decide what sort of RWTS routines to use. I base this on listening to teledisk trying, then failing to write to the quad density disk with the tab uncovered, versus the sound it makes when it succeeds. The failure case goes "(whisper)shhhk rattlerattle (moderate) bzzzt bzzzt .. (LOUD) brrraaaat brrraaaat.." then failure. The successful case repeats all of that. but then ends up quietly reading from or writing to the disk.

Reverse engineering by ear, as it were. 8)

Edited: 9 Oct 2005, 4:45 p.m.

Re: Copy Lif disk (disk copy) Help !!!

*Message #16 Posted by **Howard Owen** on 9 Oct 2005, 2:04 p.m.,*
in response to message #7 by Vassilis Prevelakis

Also contrary to what I thought I knew, Tony's lifimage works just fine under Slackware 10. It may be I was making the same error in not covering the second hole on an HD disk masquerading as SS/DD before trying to read it. (The 9114 doesn't care, so it seems. **update:** it does care when you are *initializing* a disk.)

I haven't tried to write with either utility yet. I'll update with details when I do.

update: Tony's lifimage doesn't do image writes.That's done by lifdump (from the same link just given.) That command works with an HD disk (preformatted on a 9114, per the man page) only if the second hole is covered. I'll try with real SS/DD media soon.

update: lifdump, like TELEDISK, won't write to my real SS/DD floppies. This isn't a big drawback since it *will* write to HD media with the second hole covered.

Edited: 9 Oct 2005, 3:11 p.m.

Re: Copy Lif disk (disk copy) Help !!!

*Message #17 Posted by **Howard Owen** on 9 Oct 2005, 2:10 p.m.,*
in response to message #7 by Vassilis Prevelakis

I agree that TELEDISK is less than optimal, with its physical format images. Not only does it demand that you are tied down to a particular disk drive type, as you note, it would also be really hard to write a single decoder for the format since you'd have to code for all the low-level physical disk format details. But other than translating the good stuff at hpmuseum.net, I can think of one application where TELEDISK would be useful. That would be in using its "disk to disk" mode to make physical disk copies. Assuming your hardware can both read and write the particular format, the problem of variable image format goes away in that situation.

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I've heard my name a few times... Wanna play?? ;-))

*Message #1 Posted by **Diego Diaz** on 8 Oct 2005, 4:42 p.m.*

Hi all,

Thanks Gene, Miki, Meindert and others for your kind words ;-))

It's just courious that you both, Gene and Miki, are the only two users that have reported bugs (already fixed) in the Clonix/NoVRAM code so far... I'm pretty sure you squeeze your modules to the limit!! Well done guys!!

I've updated my web page with some info/pics on the new NoV-32 Hardware, hope you find it of some interest.

http://www.clonix41.org/Projects/Nov32/New_HW.htm

Currently I have very little time to write/publish/discuss, in fact I'm just spending the weekend at home, will fight back to Madrid on Tuesday and back home again next Saturday.

In the meantime... I'll propose a game/challenge for those Clonix/NoVRAM users interested in finding out bugs:

During the development of the NoV-32 I found a new bug in the NoVRAM code (HEPAX emulation). It doesn't show up at all except in a very specific (and rarely used) feature of the HEPAX module.

I'll release the new version of NoVRAM-H.asm correcting the bug by the end of October.

Until then you can send me mails with the bugs you discovered in the HEPAX emulation. I'll send a free NoV-32 to the first mail(s) reporting a bug. Ovbiously, should a user report a different undocumented bug will qualify for the prize as well.

Winner(s) and bug(s) will be published at my website.

Hope you enjoy... Best wishes from the middle of the Atlantic Ocean!

Diego.

Edited: 8 Oct 2005, 6:38 p.m.

Re: I've heard my name a few times... Wanna play?? ;-))

*Message #2 Posted by **don wallace** on 8 Oct 2005, 6:54 p.m.,*
in response to message #1 by Diego Diaz

Hi Diego,

Great job on the PCB's.

I was going to ask you about the 47 ohm resistor in the cloinix circuit but it was obvious what it was for. I note you have explained it on your webpage.

I don't know what went wrong, but I haven't been able to get either the HEPAX or the SERVICE pack HEX code n your website to run in my copy of your original clonix module. I wonder what I am doing wrong?

The symptoms are that my module programmed with these hex files jusy makes the calc not want to turn on and I can't do anything with it. The forth HEX code runs fine. (Now I am figuring out how the code works and what peripherals / extra modules that system expects ;-)

Many thanks to you and to John I for doing such a marvellous design.

Don W

Re: I've heard my name a few times... Wanna play?? ;-))

*Message #3 Posted by **don wallace** on 8 Oct 2005, 7:05 p.m.,*
in response to message #1 by Diego Diaz

Deigo,

I have another few questions for you if you don't mind.

What do you think about clocking the clonix PIC a bit more slowly to get the running power consumption down a bit?

I found my module ran fine when I used an eight MHz crystal. What margin do you reckon I have running it at this speed. I ask you this as you and John I. wrote the PIC machine code. I don't have an assembler for the PIC yet and haven't looked at the number of clock cycles the routines take round the loop.

My two 41s are stock from the factory and both run at about the same speed (judging by the tones in the 41 "BEEP" ;-)

Have you found a way to write those new PIC chips yet?

DW

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Series 80 Emulator - File transfer

*Message #1 Posted by **Juergen (CH)** on 8 Oct 2005, 4:39 p.m.*

If I develop programs on the Series 80 emulator, how can I transfer these programs to my HP-85 via Floppy disks? In the S80EMU, I can write a LIF file. But I don't know how to transfer this file to the HP-85 (rawrite and fdimage do not work on my Windows PC). Any help appreciated...

Thank you, Juergen

Re: Series 80 Emulator - File transfer

*Message #2 Posted by **Howard Owen** on 8 Oct 2005, 5:04 p.m.,*
in response to message #1 by Juergen (CH)

This is a thorny question. I'm assuming you are using a 9121. The problem is twofold. First, modern PC BIOS have trouble with sector sizes other than 512 bytes. I believe your images need to have 256 bytes/sector to be readable on the HP-85. Second, even a fairly old BIOS has difficulty with single sided media. The 9121 uses single sided, double density disks. (SS/DD).

The second problem is easier to deal with. If your disk imaging software can be told to write to only side 0 of a *double* sided, double density (DS/DD) floppy then that will fool the 9121, as long as the second write enable notch is covered. (Note that these formats are both lower capacity than a standard "HD" floppy disk.) But you still need software that will do that. I don't know of anything running under Windows that will, as a matter of fact. There is a DOS program called TELEDISK.EXE that can do the trick, but it only reads its own peculiar disk image format. Fortunately, quite a lot of HP-85 software is available in that format at hpmuseum.net.

What I do is to beat a long way around the bush. I have an HP-IL card in an ISA slot of my old Pentium/75 system. I use this in conjunction with EMU41 by J.F. Garnier. That is DOS software that I run under Linux. It emulates an HP-41, but also a complete virtual HP-IL loop. If you buy the registered version from JF for 20 Euro, it will use an HP-IL card to talk to real HP-IL hardware. So out there on the real loop, I have a 9114 floppy drive. I use an HP-71B and a BASIC program to copy an HP-85 disk image file-by-file to a real floppy sitting in the 9114. This floppy I can then sneaker net over to the Hp-85 with 9121.

That's a lot of stuff to buy and tinker with just to get a program copied, though. Unless you are addicted to that sort of thing, a more practical approach might be to get an RS232-C interface for the real 85, and use the 87 emulator (if it will do that) or else hyperterm or crt to send the program over as text. It should be considerably easier to do that sort of thing, and cheaper too. Of course, it won't be nearly as much fun. 8)

Good luck!

Re: Series 80 Emulator - File transfer

*Message #3 Posted by **Juergen (CH)** on 8 Oct 2005, 7:08 p.m.,*
in response to message #2 by Howard Owen

Thank you, Owen, for this very interesting informations. I think there must be an other way:
1. From inside Series 80 Emulator, save your programs to a LIF file.

2. From this LIF file, extract the programs (with some tool not yet existing), preceded by a DSF header. I don't know what DSF really is, but it is used by LIFUTIL to preserve file type information. Anybody knows something about DSF?
3. Use LIFUTIL to save programs to a floppy disk preformatted on an HP-85.

Except for the tool mentioned in step 2, everything is working on my system. I'm currently analyzing the DSF header, but I do not understand all the bytes. If anyone could provide me some information about what exactly DSF is, I'm sure, I am able to write the missing tool.

Juergen

Re: Series 80 Emulator - File transfer

*Message #4 Posted by **Howard Owen** on 8 Oct 2005, 8:17 p.m.,*
in response to message #3 by Juergen (CH)

For # 2, you can use Tony Duell's LIF utilities for Linux. There's also a nice tool for DOS and Windows available from this site, but it is tuned for HP-41 files. For #3, I don't know of anything that works on a modern PC under Windows. Someone else here may know different. I'd love to be proven wrong. 8)

Reading this again, I see that you suggest a floppy preformatted (on a 9121?) on the HP-85. If it is single sided media, you will have difficulties. The only way I have been able to write a single sided image to floppy is using real MS-DOS, double sided (DS/DD) media and a utility that knows to only write to side 0 to simulate single sided media. Maybe LIFUTIL will do this, but I thought I had tried that without success.

Edited: 8 Oct 2005, 8:21 p.m.

Re: Series 80 Emulator - File transfer

*Message #5 Posted by **Howard Owen** on 9 Oct 2005, 2:17 p.m.,*
in response to message #4 by Howard Owen

See my detailed recantation of some of the above in this thread.

Edited: 9 Oct 2005, 2:17 p.m.

Re: Series 80 Emulator - File transfer

*Message #6 Posted by **Juergen (CH)** on 9 Oct 2005, 4:47 p.m.,*
in response to message #4 by Howard Owen

> Quote:
>
> For # 2, you can use Tony Duell's LIF utilities for Linux.

I have no Linux (shame on me ;-), but perhaps I can compile the utilities under cygwin...

> Quote:
>
> There's also a nice tool for DOS and Windows available from this site, but it is tuned for HP-41 files.

That does not work because HP41UC only handles files with type E080 (41C?) but the HP-85 files have type E020.

> Quote:
>
> For #3, I don't know of anything that works on a modern PC under Windows. Someone else here may know different. I'd love to be proven wrong. 8)

On my PC (500 MHz P3) it works perfectly with LIFUTIL. But I had to install an older 3.5"/1.44MB floppy drive.

> Quote:
>
> Reading this again, I see that you suggest a floppy preformatted (on a 9121?) on the HP-85. If it is single sided media, you will have difficulties. The only way I have been able to write a single sided image to floppy is using real MS-DOS, double sided (DS/DD) media and a utility that knows to only write to side 0 to simulate single sided media. Maybe LIFUTIL will do this, but I thought I had tried that without success.

As said before, this works on my PC. The only problem is step #2. I will continue work on this and let you know.

Thank you much for your comments!

Re: Series 80 Emulator - File transfer

*Message #7 Posted by **Vassilis Prevelakis** on 9 Oct 2005, 4:49 a.m.,*
in response to message #2 by Howard Owen

```
Howard Owen wrote:
> That's a lot of stuff to buy and tinker with just to get a program
> copied, though. Unless you are addicted to that sort of thing, a
> more practical approach might be to get an RS232-C interface for
> the real 85, and use the 87 emulator (if it will do that) or
> else hyperterm or crt to send the program over as text. It should
> be considerably easier to do that sort of thing, and cheaper too.
```

This is what I do to get stuff from my HP-87 to my Windows or Unix PC. I am using a binary program on my HP-87 that allows diskette sectors to be read/written and then a short Basic program to send the data down the serial card to the PC. More details at http://www.series80.org/Articles/uploading-disk-images.html

If you want to use LIFEXE, read http://www.series80.org/Programs/index.html

Re: Series 80 Emulator - File transfer

*Message #8 Posted by **Vassilis Prevelakis** on 9 Oct 2005, 5:07 a.m.,*
in response to message #1 by Juergen (CH)

Have a look at the following articles [1] on the series 80 web site:

http://www.series80.org/Articles/xfer-to-dos.txt which is an article posted by Greg Goebel (gvg@lvld.hp.com) to comp.sys.hp.misc on xfering data between PCs and Series 80 computers.

Also look at this summary page: http://www.series80.org/Articles/downloading-disk-images.html which contains suggestions for downloading diskette images to Series-80 floppies.

**vp

[1] articles page at http://www.series80.org/Articles

Re: Series 80 Emulator - File transfer

*Message #9 Posted by **Juergen (CH)** on 9 Oct 2005, 4:34 p.m.,*
in response to message #8 by Vassilis Prevelakis

I already read the article, and I can transfer files from HP-85 to PC and vice versa. rawrite and fdimage did not work on my PC, but LIFUTIL works perfectly. BTW, thank you much for your excellent web site!

The only thing I cannot do is transferring files from the Series 80 Emulator to my HP-85. I can export S80EMU files to a .LIF file, but how do I get this to the HP-85?

My plan is to extract single programs from the .LIF file (easy), preceed them by a DSF header (need specification!), and transfer this files via LIFUTIL to floppy disk. DSF header is needed to preserve file type information. I have no serial interface, so floppy disks are the only way for me to transfer files.

Does anybody know what this DSF header used by LIFUTIL is?

Re: Series 80 Emulator - File transfer

*Message #10 Posted by **Vassilis Prevelakis** on 9 Oct 2005, 11:05 p.m.,*
in response to message #9 by Juergen (CH)

```
Juergen (CH) wrote:
> Does anybody know what this DSF header used by LIFUTIL is?
```

Its essentially a single file LIF image (http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=24) with significantly reduced directory area. The first block (256 chars) is essentially the same as the first block of a LIF volume (differences: there is always only one file on the volume, and the volume label is always HFSLIF).

The second block contains two directory entries (same as a LIF volume) the first is the entry for your file. The really annoying thing is that the directory entry always has the name WS_FILE instead of the LIF filename (what a wasted opportunity). So you need to specify the filename your self.

The second directory entry is of type 0xffff, end of directory entry.

So you can essentially cut&paste from a LIF volume to create a LIFUTIL DSF file.

Following is some hex dumps with comments:

DSF image of file CH4.BIN (from the HP85 training pack):

```
000000000000    80004846  534c4946    00000001  10000000    *..HFSLIF........*
000000000010    00000001  00000000    00000001  00000001    *................*
000000000020    00000005  11111111    11110000  00000000    *................*
000000000030    00000000  00000000    00000000  00000000    *................*
          *** SAME ***
0000000000f0    00000000  00000000    11111111  11110000    *................*
000000000100    57535f46  494c4520    2020e022  00000002    *WS_FILE   ."....*
000000000110    00000003  00000000    00008001  f0020001    *................*
000000000120    00000000  00000000    0000ffff  00000000    *................*
000000000130    00000000  00000000    00000000  00000000    *................*
          *** SAME ***
000000000200    4d41494e  000040f0    02000000  00000000    *MAIN..@.........*
000000000210    00000000  00000000    10000c85  7f013751    *..............7Q*
000000000220    9b060343  48340e20    00064740  5a40000e    *...CH4. ..G@Z@..*
000000000230    30002f46  40474056    051f494e  434f5252    *0./F@G@V..INCORR*
```

```
 000000000240    45435420  5052494e    54455220  53504543    *ECT PRINTER SPEC*
 000000000250    49464943  4154494f    4ef0ec40  56ec4056    *IFICATION..@V.@V*
 000000000260    ec0e4000  3656052d    506c6561  73652073    *..@.6V.-Please s*
 000000000270    70656369  66792074    68652070  72696e74    *pecify the print*
 000000000280    65722e2e  2e202020    2832206f  72204f54    *er...   (2 or OT*


...
...
...
```

This is the HP85 Training pac diskette image (extracts)

1st sector:

```
 000000000000    80004241  53494320    00000002  10000000    *..BASIC ........*
 000000000010    0000000e  00000000    00000000  00000000    *................*
 000000000020    00000000  00000000    00000000  00000000    *................*
          *** SAME ***
```

Directory entry for file CH4

```
 000000000240    43483420  20202020    2020e022  0000006d    *CH4        ."...m*
 000000000250    00000003  00000000    00008001  f0020001    *................*
```

Comparing the two we see that they have only minnor differences (just the filename and the start sector on disk, which is always 2 for the DSF as the file starts on the third sector of the image (which is block 2 if you start counting blocks from 0)

Summary: To create a DSF archive you:

(a) copy the first two blocks (block 0 and 1) from an existing DSF archive.

(b) copy the LIF directory entry of the file (32 bytes) into the beginning of the second block (block 1) of the new DSF archive (absolute DSF file address 0x0100).

(c) Edit the file directory entry in the new DSF archive to change the filename to WS_FILE and the starting block to 0x00000002 (absolute DSF file address 0x010C).

(d) Append file contents to DSF archive starting from the third block (block 2), absolute DSF file address 0x0200.

**vp

Edited: 10 Oct 2005, 7:33 p.m.

SOLVED :-)

*Message #11 Posted by **Juergen (CH)** on 12 Oct 2005, 7:54 a.m.,*
in response to message #10 by Vassilis Prevelakis

Vassilis and Howard, thank you much for your valuable support. It helped me to find the following solution.

Re: Series 80 Emulator - File transfer

*Message #12 Posted by **Patrice** on 14 Oct 2005, 7:57 a.m.,*
in response to message #1 by Juergen (CH)

hello all,

There is one thing which have helped me in this case. It was to switch the floppy drive to 720Ko at BIOS setup.

Hope it helps. Patrice

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HP48GX and Windows XP

*Message #1 Posted by **George Rose** on 8 Oct 2005, 11:14 a.m.*

I have been using Windows 98 and the HPcomm program to transfer data between my 48GX calculator and my old PC with Windows 98. We purchased a newer computer with Windows XP over a year ago. But I have not used it to backup any HP48 files. I use the new computer (originally bought for the kids) more and more and would like to use it to communicate with my 48GX and maybe a 48SX I started using also. HP's web site only has HP48 communications programs for Windows 2000 and earlier versions. But an XP version is available for the 49G+ and 48gii. I have searched hpcalc.org but can't locate what I am looking for. Can anyone PLEASE HELP!!!???

Re: HP48GX and Windows XP

*Message #2 Posted by **R Lion (Spain)** on 8 Oct 2005, 12:08 p.m.,*
in response to message #1 by George Rose

I use emu48 for connecting my real 48 with a virtual copy of it. This has worked well for years, with several versions of Windows, including XP

Re: HP48GX and Windows XP

*Message #3 Posted by **I, Claudius** on 8 Oct 2005, 1:40 p.m.,*
in response to message #1 by George Rose

HPComm 3.4, available from hpcalc.org will work just fine on Win XP. I use it every day to transfer files between a Win XP pc to both a 48 and 49 with no problem at all.

Re: HP48GX and Windows XP

*Message #4 Posted by **Iqbal** on 8 Oct 2005, 9:20 p.m.,*
in response to message #3 by I, Claudius

i use hyperterminal without any problems

Re: HP48GX and Windows XP

*Message #5 Posted by **James M. Prange (Michigan)** on 8 Oct 2005, 10:31 p.m.,*
in response to message #1 by George Rose

I think HP just hasn't gotten around to updating their 48G series and 49G pages since Windows XP was released. As far as I know, the HPComm application is the same for MS Windows 95, 98, NT4.0 and 2000. Though undocumented, it's said to work with ME and XP as well.

Similarly, Conn4x (the 49g+ and 48gII application) is the same for all recent versions of Windows. Though Xmodem based, it includes an Xmodem server library that you can install on a 48G series (though not a 48SX/S). It works well with the 48G series for the most part, but some of the character translations differ for "text" mode transfers, and it may have problems with some "text" transfers that include the "counted" forms of characters strings used in the 48 series. In particular, it may get "confused" about the translations when a \

character occurs outside of a quote-delimited character string.

For more information, search the Google archive of the comp.sys.hp48 usenet group. Start from http://groups.google.com/group/comp.sys.hp48/. If you don't find an answer to your question, ask on the newsgroup.

Of course, also see http://www.hpcalc.org/.

Regards,
James

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HP Forum Archive 15

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Designing a Logic State Analyzer for calc repairs

*Message #1 Posted by **don wallace** on 8 Oct 2005, 3:23 a.m.*

Hi all.

Some may consider (parts of) this post off topic. To those people I would say respectfully: keep replies constructive and on-topic please (!)

I have a few longer term projects which a few here may find interesting given this is such an active technical community.

The relevant one is a cheap Logic State Analyzer which can be used to debug logic faults and observe the execution of code, on machines from a hp 9810 all the way up to the latest equipment.

These somewhat exotic machines range from expensive to very expensive and hobbyists don't normally have access to one. Some here are fortunate to work for firms where such equipment is accessible, or perhaps they actually own one.

Tony Duell mentioned using one in a recent post. I designed and built one from a scraped arcade video game in '87 when I was 23. Now I'm doing a much improved revamp with modern components.

I had intended to make this thing to do my expansion work on my favourite toy, the 41. In my getting involved in the forum, doing the early calc. dev. work and making my clonix clone etc. other projects and commitments were shelved and now they must have some time devoted to them as well, since I have a copy of Diego D./ John I.s rom emulator running, on which I shall build to "push the envelope" as it were. Some of the code needs work.

Anyone interested can look at my website in a few days to a week where I'll have sketchy details posted (I am re-organising my pages since my allowed 10 MB of space is a bit tight...)

The machine will run under DOS from a parallel printer port and is a general purpose machine for logic hardware / firmware debugging. Many here may find it helpful in exploring the further use and repair of their machines and also in writing machine code for controlling physical devices.

Constructive feedback is welcome. If anyone wants to bitch to or about me they have the option to send abuse to my private e-mail address. That way this forum will not be cluttered with irrelevant venom. Readers don't ask for it.

Reading over a recent thread (everyone knows which one) leaves me feeling a mixture of anger, annoyance, sadness and disgust... except for when I read what my supporters have written; thanks guys! The support from you people and the possibility I can help others are the only reasons why I still bother to post.

"Not impressed"

Don W

donwallace63@yahoo.com.au http://donwallace.customer.netspace.net.au

P.S. To Whom It May Concern: This is NOT a sales pitch, oblique or otherwise.

Edited: 8 Oct 2005, 4:29 a.m.

Re: Designing a Logic State Analyzer for calc repairs

*Message #2 Posted by **Vieira, L.C. (Brazil)** on 8 Oct 2005, 8:20 a.m.,*
in response to message #1 by don wallace

Hi, Don; good reading your posts here.

About the logic analizer: I´ve been doing some research on this subject because I want to have one single, low-budget logic analizer. When I had the need to follow some signals, I borrowed a four-channel scope from a friend of mine and used it. Not the best tool, but it helped me when no more than four lines should be used. In some cases, I used external logic (some AND/OR gates) to combine some lines... at least I could see where I had the final combination, though.

After a while, I thought it would be better in my case having an acquisition gate+memory buffer, either a FIFO, a RAM or even a fast controler to handle data, and a suitable software running in an old Linux-based PC to capture data stored in the above mentioned acquisition gadget and turn it into visible data. Control might be shared with the PC software and the local triggering capabilities of the acquisition gadget in order to enhance capture abilities.

Using an existing PC reduces hardware costs, but demands software development. I was once told by a contributor that some suitable development platform exists that help developping control software. I though of using TK/GTK to write the graphics interface and some small C/C++ routines to capture data trhough I/O connection (USB? RS232? Printer port? Custom IO card?) and build a data file to be read by the TK/GTK to build the instrument viewing window.

I tested just a few experiments my own prior to try some existing capture designs so I could, at least, have a reference, but I did not go too far. I know I have the knowledge and skills to go ahead and get to a final working prototype, but I lack available time. What do you think?

Best regards.

Luiz (Brazil)

Re: Designing a Logic State Analyzer for calc repairs

*Message #3 Posted by **don wallace** on 8 Oct 2005, 6:36 p.m.,*
in response to message #2 by Vieira, L.C. (Brazil)

Hi Luiz,

About the Logic State Analyzer (LSA)

Well it's really great that you are interested in this sort of thing.

I'm pretty out of date with "modern" stuff like USB. Meindert woke me up to FDTI's one chip USB interface (with drivers!) which is exciting and something I will play with and use eventually. Maybe sooner than later!

My opinion is that for me the simplest interface is the printer port. I plan to adapt and extend a very simple design I devised which worked fine using (very old!) 6551 cmos dual port ram. I won't be using dual port RAM in the modern design. In data acquire mode the ram is addressed in sequence with a cmos counter and written to from the circuit nodes under test. In data playback mode you have the PC step the LSA address generator counters through the ram locations and read the bits you are interested in into the PC.

ASIDE: This can also be very simply done in hardware if you have a basic oscilloscope to display the signal. I am a bit torn over whether to bother to also build a very simple LSA which just displays on a 'scope because you can't directly display HEX code easily... just a timing diagram type of display. But for tracing through logic faults like Tony mentioned it would be great for people working in an "advanced hobby" setting where the ultimate (translation of the hex code into assembler mnemonics) isn't required... No mucking around on the PC doing the "acquire/store/display quickstep". Also good for quickly seeing what going on in a design you are doing. ASIDE ENDS:

The only thing you need on the PC software side is to flip bits and write bytes to a few latches (output) in the printer port and read the input latches into some array, it's so simple. CMOS analogue multiplexors are controlled to access different blocks of ram or different bits (you can read five at a time even with very old printer port logic, a byte at a time with any modern EPP port).

This approach is primitive but perfectly adequate, simple to design and can easily be expanded.

My next favourite interface is RS232 as you still have bit mode control of lines.

USB has the advantages/disadvantages of being BLOCK mode and that's why I'm not so interested in using it at this stage. Also, the amount of data we are talking about is quite small.

On a related topic: eramco rambox revisited:

You may already know about it, but there's a new very simple CMOS logic block out which has a serial input and a byte-wide parallel latched output. The 74HC595 is very cheap and fairly fast, fine for some of the interface hardware to the 41 in a modern version of an eramco type rambox. One can easily use two of these to generate latched hp41 address data from the 41's ISA bus. It's only good to about 6.5 volts though so it's unusual CMOS logic. Ok for the 41 which runs it's regulated power bus at 6.2 volts.

A 74HC595 can also be used to convert an incoming serial data stream to byte wide parallel data for writing into conventional memory.

As people can see I am open with this info and only secretive/hesitant about stuff which I can't properly explain yet. Bad information is worse than no information sometimes...

Don W

Re: Designing a Logic State Analyzer for calc repairs

*Message #4 Posted by **Meindert Kuipers** on 9 Oct 2005, 2:32 p.m.,*
in response to message #3 by don wallace

Don and others,

I have created a LSA with a single chip USB interface and a level shifter for the HP41. This was totally painless in hardware with a commercial DIL module of around EUR 30-40 and cost me about 2 evenings in software. No memory, no counters, just send ISA, DATA and SYNC in real time to the PC and dump it in a big file that can be post processed and searched. It gives a full trace of everything happening on the HP41 bus as long as it is in sync with one of the CLK01 or CLK02 lines. Plenty of extra signals for tracing external hardware. At my work we have the DigiView commercial LSA for USB, and I really would not bother making one myself if I needed the datarates. For developing the MLDL2000 I could trace all I wanted with a scope and my 'own' USB LSA. Again I have to credit Eric Smith for the original idea of using the FTDI chip as a LSA. Eric has been able to use this device for dumping almost all HP calculator ROMs.

USB is not really block mode only, it is just more efficient when using blocks, and that is what my

HP41 analyzer uses. A parallel port is limited in speed, and difficult to program on bit level without the right drivers. Besides, I have my PC onder the desk, and a USB hub on the desk, which makes cabling with a USB device much easier (and gets power from it as well). Any bitbanging through USB or a parallel port will seriously suffer from lousy performance. The FT2232C chip from FTDI will give you serial protocols and bitbanging-like functions at very high speed with an easy software interface. I really recommend studying this chip before starting to contemplate the use of 'good old' 40xx CMOS os 74xxxx TTL chips for anything else then level conversion.

A future addition the the MLDL2000 will offer the possibility to do HP41 signal tracing. It is designed to do this in hardware, it is just a matter to implement the firmware and software for it.

I appreciate your opennes. That is how I finally succeeded to build the MLDL2000, with the help of this Forum. It is important to think out of the box, and look at new technologies. To succesfully implement the MLDL2000 I had to learn to write VHDL, program a USB interface and make PCB's for SMD devices. All exciting new stuff!

Good luck with developing your LSA and your RAMBOX!

Meindert

Re: Designing a Logic State Analyzer for calc repairs

*Message #5 Posted by **don wallace** on 9 Oct 2005, 4:59 p.m.,*
in response to message #4 by Meindert Kuipers

Hi Meindert.

Thank you for a really interesting, informative post.

I didn't know things were that easy! I will definitely check out those FDTI chips!

Cheers,

Don W

Re: Designing a Logic State Analyzer for calc repairs

*Message #6 Posted by **Gordon Dyer** on 8 Oct 2005, 6:21 p.m.,*
in response to message #1 by don wallace

A variety of kits and PC instruments are available. Here is a very cheap example (I haven't tried it):
http://www.oricomtech.com/wst100.htm

Re: Designing a Logic State Analyzer for calc repairs

*Message #7 Posted by **don wallace** on 8 Oct 2005, 6:40 p.m.,*
in response to message #6 by Gordon Dyer

Thanks for the info Gordon. Nice to know you are interested in this stuff.

I note that the BITSCOPE which started out as a hobby type project in 2000? is now a fully fledged system. It's pretty cool too...

DW

Re: Designing a Logic State Analyzer for calc repairs

*Message #8 Posted by **Gordon Dyer** on 8 Oct 2005, 6:55 p.m.,*
in response to message #7 by don wallace

Here is one to try if you like DIY, or the aticle could give you some ideas to design your own.
http://alternatezone.com/electronics/pcla.htm

Re: Designing a Logic State Analyzer for calc repairs

*Message #9 Posted by **don wallace** on 8 Oct 2005, 9:31 p.m.,*
in response to message #8 by Gordon Dyer

Hi Gordon,

Excellent link, thanks. A REAL PITY that guy hasn't got the programming files for those 1016 chips. That's the engine. I guess one could recreate them?

Sheesh...

DW

Re: Designing a Logic State Analyzer for calc repairs

*Message #10 Posted by **Bill Wiese** on 9 Oct 2005, 2:40 p.m.,*
in response to message #7 by don wallace

With cheap FPGA/PLDs there's a few cheapie-but-useful logic analyzers on the market. Some of these offer dig scope functionality too...

http://www.tech-tools.com/dv_main.htm http://www.bitscope.com http://www.usbee.com/ http://www.dynoninstruments.com/

The DigiView from TechTools is particularly cool because it offers 'transitional timing'. Many/most logic analyzers just load states into memory as the clock line wiggles - even if there's no change in state. Thus, memory can fill quickly if you're looking for, say, a glitch in a slowly changing environment and could take many capture setups and a closely-constrained test environment.

Transitional timing L.A.s only enter a new state record into memory if there's a state change. If one state lasts thousands or millions of clocks, there's still only one record stored in capture memory. This effectively magnifies the LA capture memory by millions of times and allows extended or repeated test runs that would almost instanly fill capture memory of typical L.A.

[BTW years & years ago I built a capture device to do reverse engineering of automotive engine control firmware. It used 256K x18 of expensive x9 wide fast FIFO chips (having internal dual-port RAM structure), with 2 address range filters (settable with DIP switches, using 74F521? addr comparators) ahead of it. With appropriate filtering and connected to a PC thru a fast parallel port and some DOS software, one could see 'memory movies' of ROM data accesses and/or record data accesses and external measurements to correlate firmware behavior w/outside world. (Those fast dualport FIFOs were REALLY expensive in 1993, esp in single-unit quantities.)]

One could build a nifty capture device these days... maybe 32 bits wide state w/32bit wide timing value per state, so 64 bit records wide. Use a fast PLD for multiple addr range comparisons at the front end. It also monitors change of state - each new 32 bit state resets a counter; when the state changes, the prior state and its clock-count duration are recorded into fast DP RAM or FIFOs. On the other side of this RAM/FIFO bank is a CPU+ USB2.0 or 1394 to squirt it to the PC.

However this may not be worth it as you can get the boxes listed above for around $500, and which will do much of what you want - and that money works out to 6-12 hours of work for avg electronic folks- compare that to your time to design/build/debug/provide software for a design of your own creation.

Bill Wiese
San Jose, CA USA

Re: Designing a Logic State Analyzer for calc repairs

*Message #11 Posted by **don wallace** on 9 Oct 2005, 5:03 p.m.,*
in response to message #10 by Bill Wiese

Hi Bill,

Well, that post of yours was REALLY interesting...

Transitional triggering is an area I had found frustrating due to the increasing complexity required to do the instrument. But you are right, it's nearly too important not to implement.

Very interesting design you did. It would have been worth it's weight in gold. Like the info in your post.

You and Meindert have certainly got me thinking...!

Don W

Re: Designing a Logic State Analyzer for calc repairs

*Message #12 Posted by **Bill Wiese** on 10 Oct 2005, 2:35 a.m.,*
in response to message #11 by don wallace

Ooh, this is pretty nice, and has 'transitional timing' concept (called 'compression')...

http://www.pctestinstruments.com/index.htm

$379

Bill Wiese
San Jose, CA USA

Re: Designing a Logic State Analyzer for calc repairs

*Message #13 Posted by **David Smith** on 9 Oct 2005, 5:21 p.m.,*
in response to message #1 by don wallace

I try to never build anything that I can buy. I have picked up a few nice logic analyzers on Ebay for real cheap. Not current state of the art, but far more capable than what is needed to hack around a 30 year old calculator.

Re: Designing a Logic State Analyzer for calc repairs

*Message #14 Posted by **Garth Wilson** on 9 Oct 2005, 8:55 p.m.,*
in response to message #1 by don wallace

I have an old HP logic analyzer here, a 1610 I believe, that someone gave me a few years ago. He said it

worked, but I've never used it to even verify. He works at JPL, and it sounds like he got it free from there just because it was so slow compared to the newer ones. I believe it's 10MHz, which would be plenty good for developing HP-41 products. If someone wants it, they're welcome to it. I'm in Whittier, California (about 20 miles east of downtown L.A.). It'll be free if you come pick it up; otherwise the shipping charges for this size and weight will be pretty high. I offered the logic analyzer on another forum and a fellow up in the Sacramento area claimed it, but by the time I found a box for it and was able to pack it up, I couldn't get hold of the man again to tell him how much shipping would be. IIRC, the box was too big for the post office to handle.

Re: Designing a Logic State Analyzer for calc repairs

*Message #15 Posted by **donald wallace** on 11 Oct 2005, 4:45 p.m.,*
in response to message #14 by Garth Wilson

Thanks for all the great feedback everyone.

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Nigerian Scam / 2005 Ig Nobel Prize

*Message #1 Posted by **db (martinez, ca.)** on 8 Oct 2005, 12:55 a.m.*

This has been discussed here, in relation to the classified ads, so i guess it is somewhat "on topic". Of course; real Ig Nobel winners use TIs....

The Ig Nobel Prize for Literature went to the Nigerians who introduced millions of e-mail users to a "cast of rich characters ... each of whom requires just a small amount of expense money so as to obtain access to the great wealth to which they are entitled."

This year's other Ig Nobel winners include:

PHYSICS: Since 1927, researchers at the University of Queensland in Australia have been tracking a glob of congealed black tar as it drips through a funnel — at a rate of one drop every nine years.

PEACE: Two researchers at Newcastle University in England monitored the brain activity of locusts as they watched clips from the movie "Star Wars."

CHEMISTRY: An experiment at the University of Minnesota was designed to prove whether people can swim faster or slower in syrup than in water.

Well deserved!

*Message #2 Posted by **Frank Boehm (Germany)** on 8 Oct 2005, 3:50 a.m.,*
in response to message #1 by db (martinez, ca.)

In my opinoin, the Nobel Prize for Literature is well deserved. Millions of people are able to become millionaires - they just need a computer (and a little cash handy). This is real space age! And (this is much more important, think about world peace), long lost family member appear all over. We have former ministers, sons of former presidents, princes all revealing their true identity through email. I think this is the real breakthrough. (If I only could figure out, why they don't just grab the cash and run. Maybe they are too honest...)

Re: Well deserved!

*Message #3 Posted by **David Smith** on 9 Oct 2005, 5:25 p.m.,*
in response to message #2 by Frank Boehm (Germany)

I even got an offer to help a guy named Obiwan Kenobe recover over 100 megabucks... unfortunately I crossed over to the Dark Side long ago...

Re: Well deserved!

*Message #4 Posted by **John Nguyen** on 12 Oct 2005, 12:43 p.m.,*
in response to message #3 by David Smith

I recently got an offer from the "widow of Mobutu Sese Seko." At first, I was perplexed because if one

were going to "offer" easy money, one could at least use a much nicer character as a subject. But then, I thought about it further: Mobutu was so corrupt, who better to deal with than his family, after his death, when it comes to laundered cash. Now that you've crossed over to the dark side, I could forward you that email. :)

John

Re: Nigerian Scam / 2005 Ig Nobel Prize

*Message #5 Posted by **donald wallace** on 11 Oct 2005, 9:37 p.m.,*
in response to message #1 by db (martinez, ca.)

The physics department at UQ "experiment" is actually an illustration of "superfluid" behaviour in pitch. Glass behaves the same way. I saw it and although it's boring, it's "interesting" ;-)

Also in the foyer at UQ was a really neat somewhat kitsch display, an early rainbow hologram from the 1960's of a cute (1960's "straight") blonde girl who winked at you as you went past... ;-)

Of much more troubling concern to me at that time (1982) were the bizarre multiple postings in the department halls of expositions on the subject that apparently the speed of light is changing.

Seems some fundamentalist christians couldn't cope with the universe being so very old as it is. Their explanation was the speed of light has sped up recently (since 4007 B.C. the "Time of Creation"). I found this very disturbing that people could actually seriously expound such garbage...

Oh well, it takes all kinds...

dw

Re: Nigerian Scam / 2005 Ig Nobel Prize

*Message #6 Posted by **Ed Look, fundamentalist Christian** on 12 Oct 2005, 11:20 p.m.,*
in response to message #5 by donald wallace

Mr. Wallace!

This is, after all, a calculator forum, and a pleasant one at that.

Please be mindful of possible ways your "tone of voice" may be (mis)construed!

I am a research scientist. I am a HP calculator enthusiast and am addicted to RPN over algebraic. I kin do maff and talk ennlish. I am also a fundamentalist Christian.

Don't worry, I don't believe nor teach that the speed of light has sped up, though some report that it may have slowed down (propagation of errors, anyone?). Whatever. The truth is, even with all our current knowledge and technologically improved abilities to inquire and observe, we really still don't know all that much about the universe, especially its origins, as we have to rely on old light transmitted fantastic distances and time through the old ether. Even old HP calculators like my beloved 34C can't help too much with that, seeing how it's kind of electronically decrepit and suffering from the dreaded "2 disease".

Please, though, whatever you believe, don't teach that we have our heads stuck where there is no light, new or old. Besides, not even we unedumakated phun... fon... fundies (that's the ticket!) believe Usher's 4004 terrestrial odessey anymore, just as no one believes the stuff Lamarck and Lysenko taught about heredity, or that TI, Casio and Sharp are the best.

May your HP calcs continue to give you joy and the Lord bless you anyhow.

Re: Nigerian Scam / 2005 Ig Nobel Prize

*Message #7 Posted by **David Smith** on 13 Oct 2005, 9:09 a.m.,*
in response to message #5 by donald wallace

Our holo-lady blows kisses at passersby.

BTW, I'm a Fundamentalist Pastafarian (http://www.venganza.org)

Re: Nigerian Scam / 2005 Ig Nobel Prize

*Message #8 Posted by **Ed Look** on 13 Oct 2005, 3:41 p.m.,*
in response to message #7 by David Smith

I like spaghetti, too, but not while I'm operating my HP calcs.

Re: Nigerian Scam / 2005 Ig Nobel Prize

*Message #9 Posted by **db (martinez, ca.)** on 14 Oct 2005, 12:16 a.m.,*
in response to message #7 by David Smith

David; Parmesan to you, fellow Pastafarian. Blessed arrrrrr the Pirates.

Please don't ask me how to relate this to HP calculators.

Re: Nigerian Scam / 2005 Ig Nobel Prize

*Message #10 Posted by **don wallace** on 14 Oct 2005, 7:42 a.m.,*
in response to message #9 by db (martinez, ca.)

Whoops... my karma just ran over my dogma!

Blessed are the cheesemakers...

There are only 10 kinds of people in the world: those who understand binary numbers and those who don't...

Real programmers don't... real programmers don't comment their code; if it was hard to write it should be hard to read!

What's the difference between a computer salesman and a used car salesman? A used car salesman KNOWS when he's lying...

dw

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HP 42s Feet-inch-Fractions

*Message #1 Posted by **Kelley** on 7 Oct 2005, 9:28 p.m.*

Hello All, does anyone have an F-I-F program for the HP42s? I have an F-I-F program for the 41CX but I have no idea how to do the work around mentioned by the author. I can run programs much better than I write them. I have an F-I-F for my 48GX but it is too bulky for carrying around in the field. Any help or suggestions would be appreciated. Other than buying yet another calculator.

.

Edited: 8 Oct 2005, 8:40 p.m. after one or more responses were posted

Re: HP 42s Feet-inch-Fractions

*Message #2 Posted by **Walter B** on 8 Oct 2005, 9:50 a.m.,*
in response to message #1 by Kelley

What do you mean? Shall the program do F-I-F arithmetcs (+ and -)? Shall it display the result in fathoms or yards or miles or mils? Shall it allow for multiplication to reach acres or square feet or square inches? Or shall it just convert F-I-F once into useful units? Then you can do your calculations easily and - if you are not convinced yet - reconvert into F-I-F at the end. Anyway, please specify what you want.

Re: HP 42s Feet-inch-Fractions

*Message #3 Posted by **Kelley** on 8 Oct 2005, 11:17 a.m.,*
in response to message #2 by Walter B

As with the program I found for the 41CX I only need to deal with Feet, inches and fractions of an inch from Decimal format. The program I found on this site under the 41 programs would be great if I could figure out how to get it in my 42s. Thank you.

eg; http://www.hpmuseum.org/software/41/41feet.htm

Edited: 8 Oct 2005, 8:41 p.m. after one or more responses were posted

Re: HP 42s Feet-inch-Fractions

*Message #4 Posted by **Walter B** on 8 Oct 2005, 3:13 p.m.,*
in response to message #3 by Kelley

Because HP42S is code compatible to HP41C, this program should run on both calcs. So just key it in.

While doing so, please think: for at least some 100 years, people use a *system* of units making such calculations obsolete. It is standard worldwide. Worldwide? No, less than 5% of mankind refuse to accept it and spoil the world with strange screws and more. What a waste of resources and time!

Re: HP 42s Feet-inch-Fractions

*Message #5 Posted by **Karl Schneider** on 8 Oct 2005, 3:53 p.m.,*
in response to message #4 by Walter B

> Quote:
>
> Because HP42S is code compatible to HP41C, this program should run on both calcs.
> So just key it in.

The "workarounds" mentioned by Kelley refer to this quote from the program's author (Fred Lusk):

> Quote:
>
> *The program uses several extended functions, including X<>F, XTOA, and REGMOVE, though there are workarounds.*

These three Extended Fucntions were provided on the HP-41CX and the X-Functions module for the HP-41C/CV.

XTOA is available on the HP-42S, but X<>F and REGMOVE are not. So, different means of accomplishing those functions must be used on the HP-42S.

-- KS

Feet-inch-Fractions: HP-32SII or HP-33S

*Message #6 Posted by **Karl Schneider** on 8 Oct 2005, 4:21 p.m.,*
in response to message #1 by Kelley

Kelley said,

> Quote:
>
> Any help or suggestions would be appreciated. Other than buying yet another calculator.

If you were open to the idea, the HP-32SII and HP-33S have built-in fraction-arithmetic and neares-approximation capabilities that would seem well-suited to Fred Lusk's example problems.

There are also special calculators for construction, sold in hardware stores and big-box home-supply stores, that might handle these calculations conveniently.

-- KS

Re: HP 42s Feet-inch-Fractions

*Message #7 Posted by **Fred Lusk** on 10 Oct 2005, 12:18 a.m.,*
in response to message #1 by Kelley

Kelley…

I sent you a personal response to your email, but here is the substance of it for the other participants in this thread.

"Kelley…Sorry for the slow reply, but I was completely tied up last week. One of my other hobbies is amateur

astronomy. Last week I got our club calandar ready for the printers (it's a small wall calendar that includes astrophotos by club members, a schedule of club events, moon phases, astronomical events, etc.) and I finished two PowerPoint presentations that I gave at a star party/amateur astronomy seminar this weekend at a lodge near Sequoia National Park (topics: "Beginning Astrophotography" and "A Tour of the Night Sky"). That, and I worked all week. Thank goodness last week is over. If you want to see the calendar part of the calendar, it's at http://www.cvafresno.org/calendar/. We don't post the photos because we sell the calendars.

"Unfortunately, I haven't had time to get back to finishing the rewrite of the program. I'm actually about 75% done with it, but the last several years (yes, years) have been extremely full and I have done almost no programming, except for torturing myself converting a civil engineering program I wrote for the 42S to my 48G+. I like the end product, but I will never do THAT again. Give me keystroke RPN programming any day. However, I need to get F-I-F finished because it's bugging me, and you're not the only person who has asked about the rewrite. I use my 42S more than any other calculator and I need F-I-F on it. Right now, I use F-I-F on a 41CX emulator on my computer.

"A couple of years ago, I sent someone the instructions for converting my 41CX code to the 41C/CV instruction set (which would also work on the 42S), but that was before a hard drive crash and I don't have the email anymore. Most of my notes are boxed up right now, but from I remember, you need to do the following:

"--- Convert [0 X<>F] to [CF 0 CF 1]. The original instruction clears flags 0-7, but because the program uses flags 0 and 1 and not flags 2-7, you really only need to clear flags 0 and 1. I happend to like a clean display, so I clear all of them with this instruction rather than using a different input for X<>F to clear just flags 0 and 1. "--- Convert the various REGMOVE commands. This will take a bit more work, but the concept is straightforward: REGMOVE moves a block of registers from one place to another based on the value in the X register. My 41CX manual isn't handy, but I remember that the parameter in X is defined as follows: aaa.bbbccc, where aaa defines the start of the FROM block of register, bbb defines the TO block of registers, and ccc defines the size of the block. Thus [11.001004 REGMOVE] at steps 47 and 48 will move the four registers starting at register 11 (i.e. R11, R12, R13, and R14) to the four registers starting at register 01 (i.e. R01, R02, R03, and R04). You can duplicate this with [RCL 11 STO 01 RCL 12 STO 02 RCL 13 STO 03 RCL 14 STO 04]. The other REGMOVE commands work in a similar fashion. Please note the constant in step 13 is stored in R09 and reused several times."

Fred

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HP-41C battery contacts

*Message #1 Posted by **RicDng** on 7 Oct 2005, 9:28 p.m.*

Hi. I just got a HP-41C. I do not know if it works, and I do not want to buy N (E90) cells just to see if it works. I am planning to power it with some adaptor I will do, but I need to know if central battery contacts are connected to the internal circuits or just to each other.

Bye, Ricardo

Re: HP-41C battery contacts

*Message #2 Posted by **Randy** on 7 Oct 2005, 10:03 p.m.,*
in response to message #1 by RicDng

You can test with any good, clean 4.5 to 5.5 volt dc source. Power consumption is approximately 5 ma in the active state, it varies by model. The center two connections are only a jumper, there is no connection to the 41.

http://fixthatcalc.com/images/41_connection.jpg

Re: HP-41C battery contacts

*Message #3 Posted by **RicDng** on 7 Oct 2005, 10:13 p.m.,*
in response to message #2 by Randy

Thank you, Randy

Re: HP-41C battery contacts

*Message #4 Posted by **don wallace** on 7 Oct 2005, 11:15 p.m.,*
in response to message #1 by RicDng

Hi Ric,

It's just possibly worth your while to current limit the power supply to few hundred millamps or so to test your 41C.

If there is anything along the lines of a short in the interconnections that way you will save the internal power supply regulator.

Second hand machines sure do arrive with some strange faults...

DW

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Voyager speedup side effects

*Message #1 Posted by **Gerson W. Barbosa** on 7 Oct 2005, 9:24 p.m.*

Besides some known and obvious side effects of speeding up a Voyager, has anyone experienced new problems?

After speeding up a 15C to 2.49x, I noticed some dots and commas that were not supposed to turn on would do so occasionally. For example, after a calculation the display would show something like

```
123.45 , ..
```

Perhaps that was because of the rather large inductor I used which was pressing the printed circuit board a little. I replaced the 33uH inductor I had previously used with two tiny 180uH inductors (easily found in old 5 1/4" disk drives boards). Instead of warp speed now the 15C runs at sub-warp speed (1.74x), much more suitable for a Voyager :-) At least, now it is almost as fast as a 41...

Regards,

Gerson.

---

http://fotos.aol.com.br/adAlbumFotoThumbList.aspx?Album=27187

For pictures, click on the link above and enter **1234** in Senha (Password)

Then click on **Enviar** (Send)

Click on **Salvar** (Save) to download actual size photos.

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Stat49Pro+ Impressions Please...

*Message #1 Posted by **Scott Guth** on 7 Oct 2005, 8:31 p.m.*

Hello all,

Stat49Pro+ and Stat48Pro+ ver. 3.0 will be available for the HP49G(+) and HP48G(X) calculators soon. In case you are unfamiliar with these products, a description of their capabilities is given below.

What I need is a few people who are familiar with basic and hopefully more advanced methods of inferential statistics who would be willing to try out the product and send suggestions. The HP48G(X) and HP49G(+) versions are both available for this.

If you are interested in previewing the product or seeing a detailed data sheet on the product, please send me an email at guthjun...@charter.net.

Thanks,

Scott Guth Mathematics Dept., Mt. San Antonio College

What's new in Stat49Pro+?

1. Arbitrary regression/least squares applications with inference methods. a. Linear regression with inferences on slope, rho, expected/predicted y values. b. Multivar-linear regression c. Polynomial regression d. Multivar non-linear regression e. Many tests & confidence intervals for these applications

2. Better integration with the Data Manager. The Data Manager can now be invoked from within any inference application - just press the [Data] soft-menu key, and enter your data. Once the data is stored, press the [ImPrt] soft-menu key to import whatever statistics are needed from your data set directly into your input form.

3. More ways to Describe multivariate statistical data (in the Data Manager), including Mean Vector, Variance/Covariance Matrix, and the Correlation Matrix.

4. Better inferential methods for normal-quantile plots.

The following gives an overview of the older features of the product:

Stat49Pro+ is a complete inferential statistics library written in System RPL. Essentially all methods of descriptive and inferencial statistics covered in a college level statistics curriculum are computed by Stat49Pro+. Included is a data manager which stores sample data and sends statistics directly into input forms for the various inference applications. Some non-parametric tests are supported as well, along with normal probability plots and rank sums.

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

Re: Stat49Pro+ Impressions Please...

*Message #2 Posted by **Scott** on 7 Oct 2005, 8:41 p.m.,*

in response to message #1 by Scott Guth

Sorry, my email is guthjunk77@charter.net -Scott Guth

Better Short Median Formula

*Message #3 Posted by **I, Claudius** on 7 Oct 2005, 10:53 p.m.,*
in response to message #2 by Scott

Aha, someone who knows his stats! One of the missing functions in the 48/49 stat menu is a median function. I wrote a User RPL program that uses the short formula of median position = 1/2*(n+1),

<< SORT DUP SIZE 1 + 2 / GET LASTARG FLOOR GET + 2 / >>

but it obviously won't work in all cases. Is there a better short formula for the median I can use?

Edited: 7 Oct 2005, 11:06 p.m.

Re: Better Short Median Formula

*Message #4 Posted by **Scott** on 10 Oct 2005, 12:54 a.m.,*
in response to message #3 by I, Claudius

Well, here's a quick first attempt which handles odd/even list sizes. I thought I had a shorter version, but SigmaLIST doesn't handle a list with one element! Ridiculous!

<< SORT DUP SIZE 1 + 2 / DUP FLOOR SWAP PICK3 SWAP GET UNROT GET + 2 / >>

Someone can do a smaller one, can't they?

-Scott

Re: Better Short Median Formula

*Message #5 Posted by **I, Claudius** on 10 Oct 2005, 10:01 a.m.,*
in response to message #4 by Scott

Scott: thanks!

Re: Stat49Pro+ Impressions Please...

*Message #6 Posted by **Scott** on 10 Oct 2005, 1:27 p.m.,*
in response to message #1 by Scott Guth

Thanks to all who have expressed an interest in evaluating this software. The offer is still open for others who may be interested.

Best regards, Scott Guth

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32S Brightness of the screen

*Message #1 Posted by **Colin Mahon** on 7 Oct 2005, 8:12 a.m.*

I've misplaced the operations manual. How do I adjust the brightness of the screen so that the background functions do not show up?

Re: 32S Brightness of the screen

*Message #2 Posted by **Randy** on 7 Oct 2005, 8:50 a.m.,*
in response to message #1 by Colin Mahon

Hold down the ON/C button while pressing the "-" key to decrease the contrast. Pressing the "+" while holding down the ON/C button will increase.

Re: 32S Brightness of the screen

*Message #3 Posted by **Andrew Cambridge** on 7 Oct 2005, 8:51 a.m.,*
in response to message #1 by Colin Mahon

Colin,

Hold down the 'C' key and press '+' or '-'.

Regards,

Andy

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MLDL2000 information updated, schematics available

*Message #1 Posted by **Meindert Kuipers** on 7 Oct 2005, 7:09 a.m.*

I have updated the MLDL2000 pages at www.kuipers.to/hp41 with a new version of the manual and the specifications, though the changes are minor. I have also posted the schematics and PCB layout (for Eagle CAD) and the source for the CPLD firmware.

The MLDL2000 is shipping now as a kit and assembled units are in the 'production line'. There are still a few available for those who are interested, but as a kit only (cardreader shell is included).

Meindert Kuipers

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HP 67/97 Users' Library Solutions: Beams and Columns

*Message #1 Posted by **Paul** on 7 Oct 2005, 5:45 a.m.*

Good quality photocopies of the HP 67/97 Users' Library Solutions, Beams and Columns, will be sent by airmail to the Museum in the next 5 weeks. Hopefully in time for next DVD edition. Cheers Paul O'Hare Australia

Edited: 7 Oct 2005, 5:46 a.m.

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Need help for a 32 e

*Message #1 Posted by **Jürgen Richter** on 7 Oct 2005, 1:06 a.m.*

Hallo!

I have two problems with a 32e-

First is that the thin electrical "cable" between batteries and the calculator is broken in one line, i think because of the defect of batteries in the past.

Is it possible to change or fix this line.

And the other Problem is that is that i have an non soldered version. And i forget to register how the little circuits are placed. because i don't want to take them out. But me daughter decided it was much more excitable to turn this interesting peace of toy, daddy is playing with, upside down. O she was so right, now I am excited.

Did anybody can tell me or probably have a Picture in which direction the circuits have to place?

Thanks for help Juergen

Edited: 7 Oct 2005, 1:07 a.m.

Re: Need help for a 32 e

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 7 Oct 2005, 1:37 a.m.,*
in response to message #1 by Jürgen Richter

Hi, Jurgen;

I`d guess you are in no trouble. Since yours is an HP32E, all IC's are lined up by assembling them all pointing the '#1' pin to the LED display. All of them. And there's more: if your HP32E has more than one 8-pin DIP IC (the small ones, as you surely know), keep in mind that they have all pins with the same number connected in parallel with the ones in the other IC's (these are mainly RAM and/or ROM). You can easily check for this fact by inspecting the main PCB.

The main concerns are related to the series with continuous memory (HP33C, 34C and 38C). In these cases, the first position for the small 8-pin DIP IC's, the one closer to the power supply board, must hold the RAM IC so it is always fed for as long as there is a battery maintaining the minimum supply needs to hold its contents.

If you need further advice, please, keep posting.

Best regards from Brazil.

Luiz

Edited: 7 Oct 2005, 1:41 a.m.

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HP-97 Printer Idler Gear Replacements Available Here

*Message #1 Posted by **Mike DiGirolamo** on 6 Oct 2005, 10:54 p.m.*

Anyone else with a broken idler gear in their HP-97 printer? I read the fine article by Katie Wasserman ("HP Printer Gear Replacement," 15 Nov 2000)telling how to modify a stock gear to work in the HP-97's. The cost today (considering minimum order charges, etc) comes out to nearly $30.00 for the raw materials of a gear and the nylon sleeve insert. These must be modified before they will work. I got a quote to have the exact gear made in quantities of 12ea and 25ea. The costs were approx $35 each for quan=12 with a price drop to $21 each for quan-25. Are there 12 to 25 folks out there who would like to make a group purchase of the exact gear? Please contact me for details if you are one of them. If I can get enough folks together by 10/15/05, I'll spearhead the project.

Regards,

Mike DiGirolamo, W4XN Charlottesville, VA 22901

Re: HP-97 Printer Idler Gear Replacements Available Here

*Message #2 Posted by **Chan Tran (USA)** on 7 Oct 2005, 9:52 a.m.,*
in response to message #1 by Mike DiGirolamo

I would one a gear.

Re: HP-97 Printer Idler Gear Replacements Available Here

*Message #3 Posted by **David Smith** on 7 Oct 2005, 11:43 a.m.,*
in response to message #1 by Mike DiGirolamo

I got a quote of less than $9 for 100 pieces from Stock Drive Products a year ago.

Re: HP-97 Printer Idler Gear Replacements Available Here

*Message #4 Posted by **Mike DiGirolamo** on 7 Oct 2005, 12:12 p.m.,*
in response to message #3 by David Smith

Hi David,

Did you place the order?

How many interested folks did you have?

I wonder what Stock Drive Products would charge in quan's of 12 & 25? Perhaps you could email the details of your inquiry to me at DrD@2020.com or FAX the quote you received to me at 434.296.3100? I will investigate further.

Thanks, Mike

Re: HP-97 Printer Idler Gear Replacements Available Here

*Message #5 Posted by **marais** on 7 Oct 2005, 1:13 p.m.,*
in response to message #4 by Mike DiGirolamo

I'd gladly take two!

Andreas

Re: HP-97 Printer Idler Gear Replacements Available Here

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 7 Oct 2005, 4:22 p.m.,*
in response to message #4 by Mike DiGirolamo

Hi;

I'm interested in some of these, but I think that in my case, it would be a good idea having some more Brazilian guys interested too, so we could share mailing costs.

I've been contacted by one of the Brazilian contributors in here and asked him to comment about this idea of mine.

Please, guys, let us know what comes next.

Luiz (Brazil)

Re: HP-97 Printer Idler Gear Replacements Available Here

*Message #7 Posted by **Mike DiGirolamo** on 7 Oct 2005, 6:42 p.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

Running total as of this post: 4 gears wanted.. we have AT LEAST 8 more before we reach the first level of 12. C'mon folks, anyone else out there who own the HP-97's who might like one of these gears in the drawer in case of a failure? Write me and add your name on the list..

Thanks, Mike

Re: HP-97 Printer Idler Gear Replacements Available Here

*Message #8 Posted by **David Ramsey** on 7 Oct 2005, 10:55 p.m.,*
in response to message #7 by Mike DiGirolamo

I'll take 2...

Re: HP-97 Printer Idler Gear Replacements Available Here

*Message #9 Posted by **Mike DiGirolamo** on 8 Oct 2005, 1:17 a.m.,*
in response to message #8 by David Ramsey

Okay David,

Running total as of David's post: 6 gears wanted.. we have AT LEAST 6 more before we reach the first level of 12. We might just make it.. folks, please email me at DrD@2020.com with the quantity you want so I can keep easy track of it..

Thanks, Mike

Re: HP-97 Printer Idler Gear Replacements Available Here

*Message #10 Posted by **Etienne Victoria** on 8 Oct 2005, 3:14 a.m.,*
in response to message #9 by Mike DiGirolamo

Hello Mike,

Thanks for obtaining the quote on the Hp-97 printer gears!

For $35 each, I will take 2 of them (confirmed to your mail also).

Thanks & friendly regards from France!

Etienne

Re: HP-97 Printer Idler Gear Replacements Available Here

*Message #11 Posted by **Mike DiGirolamo** on 8 Oct 2005, 6:44 a.m.,*
in response to message #10 by Etienne Victoria

Thanks Etienne,

Running total as of Etienne's post: 8 gears wanted.. we need ONLY 4 more verbal pre-orders before we reach the first level of 12. We're getting very close folks, please email me at DrD@2020.com with the quantity you want so I can keep easier track of it..

Thanks again,

Mike

Re: HP-97 Printer Idler Gear Replacements Available Here

*Message #12 Posted by **db (martinez, ca.)** on 9 Oct 2005, 12:05 a.m.,*
in response to message #11 by Mike DiGirolamo

since i have 3 of that series; i should have a spare idler gear. i'd gladly buy one.

Re: HP-97 Printer Idler Gear Replacements Available Here

*Message #13 Posted by **Mike DiGirolamo** on 9 Oct 2005, 4:58 a.m.,*
in response to message #12 by db (martinez, ca.)

Thanks "db,"

Running total as of "db's" post: 9 gears wanted.. we need ONLY 3 more verbal pre-orders before we reach the first level of 12. We're getting VERY close folks, please email me at DrD@2020.com with the quantity you want so I can keep easier track of it..

Thanks again,

Mike

Re: HP-97 Printer Idler Gear Replacements Available

Here

*Message #14 Posted by **Wilhelm Loidl** on 9 Oct 2005, 8:46 a.m.,*
in response to message #13 by Mike DiGirolamo

Hello Mike,

Thanks for handle Hp-97 printer gears!

I will take 1 of them.

Thanks

Wilhelm Loidl

Re: HP-97 Printer Idler Gear Replacements Available Here

*Message #15 Posted by **Mike DiGirolamo** on 9 Oct 2005, 10:15 a.m.,*
in response to message #14 by Wilhelm Loidl

Thanks Wilhelm,

Running total as of Wilhelm post: 10 gears wanted.. we need ONLY 2 more verbal pre-orders before we reach the first level of 12. We're getting VERY close folks, please email me at DrD@2020.com with the quantity you want so I can keep easier track of it..

Thanks again,

Mike

Re: HP-97 Printer Idler Gear Replacements Available Here

*Message #16 Posted by **David Smith** on 9 Oct 2005, 5:32 p.m.,*
in response to message #4 by Mike DiGirolamo

I never ordered the gears. I bought 25 stock gears for $4.50 each and milled down the hubs and added a bushing to the hole.

If you are going to have gears made, I would go with the 100 piece run. You will find homes for them. I used about 10 of mine, and the rest went rather quickly without me having to do any advertising.

Re: HP-97 Printer Idler Gear Replacements Available Here

*Message #17 Posted by **Mike DiGirolamo** on 13 Oct 2005, 12:22 a.m.,*
in response to message #16 by David Smith

Hi David,

May I ask, from whom did you order those gears? I'd like to give your source a call if it's different from mine.

Thanks,

Mike

BTW gang, only 2 MORE GEARS ORDERS NEEDED to reach our 12ea pricing -- let me hear from the "other 2" of you..

Re: HP-97 Printer Idler Gear Replacements Available Here

*Message #18 Posted by **David Smith** on 13 Oct 2005, 9:00 a.m.,*
in response to message #17 by Mike DiGirolamo

Stock Drive Products (sdp-si.com) has the stock gear that is easily modifed and also gave me the $9.00 quote for custom gears. Pic Designs also has the stock gear.

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solar calculator hack a school calculator

*Message #1 Posted by **bragg g7** on 6 Oct 2005, 4:47 p.m.*

heres a overflow_buffer.dgt for the casio fx-260 solar school

first you type 569874 then = then M+ and then cover the solao panle for 10-13 seconds and then it should say .0.0.0.-.E.-.0. or some thing like that or - - - real--- but the word is broken up in to segments press 8 then it should say -E- in the middle of the screen you have succesfully rewriten the firmware to a lower firmware. it's a possable way to write a type of hombrew I don't know how or what but it could happen I forgot another code which acts a a homebrew supporter I think the code is 2059.076 may be with a 6 at the end.

And yes I made up the code which does work on lower firmwares I have not made any homebrew up but it works

[

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(deleted post)
*Message #1 Posted by **deleted** on 6 Oct 2005, 3:56 p.m.*

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

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33s and 32sii keyboard issues

*Message #1 Posted by **Stan Fuller** on 6 Oct 2005, 3:51 p.m.*

Has anyone had the keys come loose within the housing of their 33s or 32sii??? I had TWO 32sii's that became unusable because of this. Now, I'm on my second 33s in less than two years and the number "1" key just broke loose. The first one I had replaced under waranty, but this second one is not covered. I LOVE the 32sii and 33s models, but at this point will not buy another one. What about the 48gII and the 49g+? Do these models have similar key construction? I'd hate to abandon HP and go TI...

Re: 33s and 32sii keyboard issues

*Message #2 Posted by **sjthomas** on 6 Oct 2005, 3:55 p.m.,*
in response to message #1 by Stan Fuller

Are you a pusher, or a poker? :-)

Re: 33s and 32sii keyboard issues

*Message #3 Posted by **Ron Ross** on 6 Oct 2005, 4:08 p.m.,*
in response to message #1 by Stan Fuller

If you had two 32sii's fail, you will certainly have no better luck with the newer Hp's. Yes, I believe the Hp48Gii and Hp49G+ have a similar construction to the newer Hp33s (perhaps even less durable).

You will certainly save money by switching over to Ti, but you will also give up features as Ti no longer makes a programmable pocket calculator either.

I suspect (and actually recommend) you will buy a Ti. And their new calculator keyboards are fairly rugged and will probably hold up longer than an Hp for your use.

I also suspect that you will buy another Hp33s in 3-6 months after using the Ti (unless you buy a good graphics), as their pocket calculators are very basic models compared to the features offered on the Hp33s. And the new Hp33s has improved the decimal point in the display.

If you had not mentioned two dead Hp32s's I would blame the new Hp keyboards, but I suspect you punch your keys and cause failures on the Hp style type keyboard. A Ti probably won't fail under the same use, as they use a different construction (no tactile feed back, but no failure either).

OT: TI keyboards

*Message #4 Posted by **bill platt** on 6 Oct 2005, 4:15 p.m.,*
in response to message #3 by Ron Ross

Hi Ron,

When did / how did Ti eliminate teh "Ti-itis" problem that was so endemic on their LED models? I seem to remember some early LCD models having the same problem. How are they made in such a way that

there is no failure from hard keypresses?

Note: I have never taken a Ti apart.

Regards,

Bill

Re: OT: TI keyboards

*Message #5 Posted by **Ron Ross** on 7 Oct 2005, 8:41 a.m.,*
in response to message #4 by bill platt

It took Ti nearly a decade to eliminate their lousy keyboards (and they didn't start out lousy, the SR-50 series was good). Ti's first LCD models had the same crappy keyboards of their earlier Ti-50 line.

Probably Ti wised up after buying and relableing a Toshiba calculator (Ti-66). But I had already switched over to an Hp15c and a friend of mine had purchased the Ti-66. That was in 85 or 86, and I had just abandoned a new Ti-55ii.

In one of my former jobs in R&D in the mid nineties the lab was swamped with Ti-30x's. They held up to all sorts of abuse and yes, we all considered them disposable. But their keyboards never failed due to use (chemical abuse was another problem, some of the chemicals were extremely volatile).

So I would have to say the corrected their problems of poor keyboards in the late 80's or early 90's.

I have never bothered to repair or even disassemble a newer Ti as stated earlier, they are disposable at $10-15. I can understand the original posters dismay, because at $50, you do expect a longer life. I also suspect he does bang hard on the keypad as it is a near statistical impossiblility that he got two BAD Hp32sii's and then a poor Hp33s (that's not quite so hard to imagine).

I did dissemble a Business model due to a bad LCD. It was as stated earlier, a poor connection between the LCD and the zebra strip. And the case was flimsy. Since I had taken it apart to see construction, and it was a business model, I never bothered to reassemble.

Re: 33s and 32sii keyboard issues

*Message #6 Posted by **Crawl** on 6 Oct 2005, 10:39 p.m.,*
in response to message #3 by Ron Ross

> Quote:
>
> I suspect (and actually recommend) you will buy a Ti. And their new calculator keyboards are fairly rugged and will probably hold up longer than an Hp for your use.

I can't agree that TI scientific calculators are rugged, and wouldn't second a recommendation.

I have had two different model TI scientifics die on me, in only about a year of use each. The keyboard died on one. For the other, either the CPU, display, or solar cell got loose. (The calculator would intermittently work if I squeezed the back) I opened it up and was surprised to see that neither the LCD nor the solar cell were physically connected to anything; only the pressure of the back plate kept them in place.

I've used (but don't own) the latest 30IIX model, and wasn't impressed at all. It seems like sometimes keypresses don't register (and I've used an older 49G+, and the problem with the TI is MUCH worse in my opinion and experience). It's dual battery/solar powered, but if you want to change the battery, unscrewing

the calculator isn't enough. It seems like the front and back halves are sealed together, and you'll have to snap them apart. Maybe the calculator was designed to be disposable.

I heard from someone today that his Ti 30IIX stopped working, so I doubt they're any more durable than the TIs I had that died.

Also, it's rather feature poor compared to, say, the Sharp 506w.

The TI36x might seem slightly more solid (but I haven't given it much "rough love"), but it has had some known bugs for quite a while.

As far as I'm concerned, the only TI I think is worth owning is the TI89, but if you just want pure number crunching it might be overkill. I don't know how much I can vouch for the ruggedness of it, but I have dropped one at least a couple of times (when the case was on it, protecting the front), and the battery back came off and the batteries flew everywhere, but it was otherwise unaffected.

Re: 33s and 32sii keyboard issues

*Message #7 Posted by **Ed Look** on 12 Oct 2005, 11:24 p.m.,*
in response to message #6 by Crawl

I'll agree that these TIs are not as robust as some say they are. College students destroy them all the time. I suppose that might be one reason as to why there is such a wide market for them...

Re: 33s and 32sii keyboard issues

*Message #8 Posted by **Stephen Easterling** on 6 Oct 2005, 9:07 p.m.,*
in response to message #1 by Stan Fuller

I have both the 32SII and 33S and they work great for me. I consider myself more of a poker. I hit the keys very fast with just one finger and it's more of a fast poke. Maybe you're using a little more force than some folk. Give the new 17BII+ a try. If you don't like it you can always take it back. You'll love the high-quality case it comes in, too. I found the keys on the 17BII+ just a little too hard to push for me and harder than the 33S, but with your style it may be the perfect match. It's is $90-100 at Office Depot, etc. Give it a try and report back. If it doesn't work, take it back. Oh yeah, it's a "business" calc, but it has most of the functions you'll need in a typical scientific.

Re: 33s and 32sii keyboard issues

*Message #9 Posted by **valentino ducati (switzerland)** on 7 Oct 2005, 3:50 p.m.,*
in response to message #1 by Stan Fuller

Hi Stan

It really seems you bang the keys very hard. I have several old Pioneers. I suppose they have the same mechanic regarding the key pad. I never had any keyboard problems.

Same for the Voyagers and 48 series. But my favorite in key response ergonomics remains the 41 series!

Maybe the new 17BII+ (like other posters already noticed here) is the solution for your problem: you can configure it to RPN. I own also a 17BII (intermediate series) and used it daily for many years until I found a 32SII.

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Can't remember how to get trig functions to work HP15

*Message #1 Posted by **Pete Dzwonkas** on 6 Oct 2005, 10:23 a.m.*

HP15 and when I try to calculate the Tangent of say 30 degress, I get -6.405 instead of .577. What do I reset? The RADS is not in the display when I do this.

Re: Can't remember how to get trig functions to work HP15

*Message #2 Posted by **Tom Sherman** on 6 Oct 2005, 10:39 a.m.,*
in response to message #1 by Pete Dzwonkas

Pete,

I think that at some point you hit f[TAN] instead of TAN and put your calculator in complex mode. A little c will show on the lower right of the screen if this is the case. In complex mode, the calculator assumes radian mode even though RAD does not show on the screen. To clear the complex mode, hit g[CF]8. Your trig functions should then work as you expect them to.

Cheers, Tom

Re: Can't remember how to get trig functions to work HP15

*Message #3 Posted by **Pete Dzwonkas** on 6 Oct 2005, 10:46 a.m.,*
in response to message #2 by Tom Sherman

Ahhh, much better. SOmetimes the kids play with the calc and it would take me longer to find the manual... Thanks!

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41Notes !!!!

*Message #1 Posted by **Gileno** on 5 Oct 2005, 9:22 p.m.*

41Notes (HP-41CX or HP-41C/CV with X-Function)

My small contribution to store small notes

```
01 LBL "41NOTES"
02 "NOTES"
03 RCLPTA
04 LBL 52
05 FIX 0
06 CF 29
07 "A:F:I:V?    " '4 spaces
08 ASROOM
09 ARCL X
10 AVIEW
11 GETKEY
12 X=0?
13 GTO 15
14 CLD
15 XEQ IND X
16 GTO 52
17 LBL 11
18 CLA
19 AON
20 PROMPT
21 AOFF
22 APPREC
23 RTN
24 LBL 24
25 SF 25
26 "NOTES"
27 20 ' Modify for large number of notes
28 PURFL
29 CRFLAS
30 RTN
31 LBL 15
32 CLD
33 FIX 2
34 STOP
35 LBL 62
36 CLX
37 SEEKPT
38 SF 25
39 LBL 61
40 GETREC
41 AVIEW
42 PSE
43 "-:+:D:R?"
44 FC? 25
45 GTO 52
46 AVIEW
47 GETKEY
48 X=0?
49 GTO 52
50 XEQ IND X
51 GTO 61
52 LBL 51
53 RCLPT
54 INT
55 1
56 -
57 SEEKPT
58 GTO 61
```

```
59 LBL 14
60 DELREC
61 GTO 61
62 END


Instructions


XEQ "41NOTES"


First time: press I 'Initialize "NOTES" file in X-Memory


Option


A ' Add Notes (Max 24 bytes) R/S
E ' End
I ' Initialize (First time or Clear all Notes !!!)
V ' View ------ + ' Next Record
                - ' Previous Record
                D ' Delete Present Record
                R ' Return


* In the main menu if there is not any key pressed in 10 seconds the program concludes.
* In the visualization way if there is not any key pressed in 10 seconds returns for the main
menu
```

Edited: 5 Oct 2005, 9:44 p.m.

Re: 41Notes !!!!

*Message #2 Posted by **Garth Wilson** on 6 Oct 2005, 2:04 a.m.,*
in response to message #1 by Gileno

If you have a 41cx, you can just use the built-in text editor (ED) and then you won't have the 24-character limitation.

Re: 41Notes !!!!

*Message #3 Posted by **Gileno** on 6 Oct 2005, 7:24 a.m.,*
in response to message #2 by Garth Wilson

I created to be more intuitive and easier of using and to implement new functions: -)

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HP 48G Programming with matrices

*Message #1 Posted by **DBD** on 5 Oct 2005, 6:32 p.m.*

I've been using my HP48 for many years now and unfortunately, I haven't done a lot of programming with it. Some, but not much.

It would be very helpful if I could write a program that would have a 4x4 matrix, with each element being a variable. The 1,1 element would be (cos(theta))^2, 2,1 element (sin(theta))^2, etc. I could have theta as a variable stored in the program's directory or have it as a local variable within the program. The problem is that I can't figure out how to get a matrix full of variables into the program.

If somebody could give me some advice on this, I'd really appreciate it.

DBD

Re: HP 48G Programming with matrices

*Message #2 Posted by **Crawl** on 5 Oct 2005, 10:28 p.m.,*
in response to message #1 by DBD

Does this work the same way as it would on the 49G+?

On that calculator, what I'd do is enter the desired matrix in the matrix writer (maybe using the equation writer within the MW to enter the elements), then enter it onto the stack.

Then I'd select the matrix on the stack and "Copy".

Then I'd go to where I wanted to enter it in the program, and paste it as an algebraic object.

You might need an EVAL after that (depending on how you want to use it).

Re: HP 48G Programming with matrices

*Message #3 Posted by **I, Claudius** on 6 Oct 2005, 9:04 a.m.,*
in response to message #1 by DBD

Perhaps the best is what the second poster suggested, simply use the built-in Matrix Writer to construct your matrix, then use the wealth of 48 matrix commands to do whatever you wish. If you prefer command line entry, another way is to use the ROW-> command, which transforms row vectors into a matrix. There are also a number of element commands which I won't detail here.

Since you're a beginning programmer, there are a number of good books available on programming the 48, which also work on the 49/49+. Probably the best one to start with is "An Easy Course in Using & Programming the 48" by GrapeVine Publications: http://www.read-gpi.com/ If you find you like programming, get a copy of the 48 Series Advanced Users Reference Manual, or AUR. It provides a detailed description of every command available in the 48 ROM.

As I play with my old 48, I find it very slow compared with the 49 series. If possible, experiment with a 49/49+, you may find you like the increased speed as well as a true Computer Algebra System included. If your calculator is a GX in good shape, you will probably be able to sell it on eBay for much more than you'll pay for two 49s! Best of luck.

Edited: 6 Oct 2005, 9:05 a.m.

Re: HP 48G Programming with matrices

*Message #4 Posted by **DBD** on 6 Oct 2005, 9:25 a.m.,*
in response to message #3 by I, Claudius

Thanks for both replies. That really helps! DBD

Re: HP 48G Programming with matrices

*Message #5 Posted by **Ron Ross** on 6 Oct 2005, 11:21 a.m.,*
in response to message #3 by I, Claudius

I, Claudius's comment about getting an Hp49G+ holds merit (though I would not suggest you sell your Hp 48GX to get it, keep that until you fall in love with the 49G+ or better, have two loves & don't let them in sight of each other, their infareds would blaze away in jealously! AND that is BAD for battery life!).

While the Hp 48G can work with Some symbolics, its matrix support may not handle anything more complex than simple polynomials (though there is some software on Hpcalc.org that may correct this). No matter, even if there is a solution, your Hp48g will be slow in comparision to everything else if you plan to use symbolics in its matrix functions. Its Matrix routines are optimized for numerical work and it is a great system for numerical number crunching, but its performance is miserable in symbolic manipulation as I, Claudius indicates.

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Help with HP-97 Soldering Question

*Message #1 Posted by **Howard Owen** on 5 Oct 2005, 12:09 p.m.*

I'm a software guy who is trying to learn electronic repair. I've had some small success lately thanks in part to the kind help and advice I've received here. I find that I could use some advice now, and I hope someone here can help.

I have a question about soldering a wire on to the electric motor of the card reader I just obtained. I fixed the "gummy wheel" using instructions found in the articles forum. It all went very well up until after I had reassembled the card reader housing and reattached the card reader PCB. I then noticed that the hot lead to the motor had broken off at the motor housing. The article had warned me to take note of the colors and positions of the various wires, so I wasn't suprised that one had broken off. So I started to plan how I would solder this lead back on. There's a picture below that shows the situation. The leads are connected to the terminals on the motor via two "wings" that also allow a cap to be soldered across them. Looking at the ground lead, which is still attached, I see that the end of each wire is connected between the very end of the "wing" which appears to be rolled up around it. (I hope the picture makes this clear.) In the picture, I have pried the wing on the positive side away from the bundle. We are looking more or less straight down on the end of the motor. The broken off end of the positive lead is still pinched between the two sides of the end of the "wing." I don't think I can open this terminal part of the wing:
http://retrocalculator.com/images/CR_motor.jpg
So what I propose to do is to pinch the end of the positive lead (already stripped as can be seen in the picture) between the sides of the "wing I have opened up. Istead of the very end of the wing, the wire will sit in the "v" we are looking down into in the picture. I will then solder it in place.

My questions are these:

1. Is this likely to work? Will I be changing the electrical characteristics of the terminal in a way that would be harmful? (My guess is "no," but I'm a paranoid amatuer. Or maybe that's an amateur paranoid. 8)
2. How hot should I set my temperature controlled iron to perform this soldering? The PCB is on the other side of he housing, with presumably a large heat sink of a motor, and the plastic frame between it and the soldering tip. I'm using standard 60/40 rosin core solder.
3. Any other tips or suggestions?

Thanks in advance for any advice you can offer.

Re: Help with HP-97 Soldering Question

*Message #2 Posted by **Frank Boehm (Germany)** on 5 Oct 2005, 1:02 p.m.,*
in response to message #1 by Howard Owen

> Quote:
>
> So what I propose to do is to pinch the end of the positive lead (already stripped as can be seen in the picture) between the sides of the "wing I have opened up. Istead of the very end of the wing, the wire will sit in the "v" we are looking down into in the picture. I will then solder it in place.

Don't do that, as it will certainly fail and probably even break something. Put a little bit of solder on the lead, heat up the soldered area below the left (in the picture) leg of the condensor, put the lead in place, wait 2

seconds.

> Quote:
>
> Is this likely to work? Will I be changing the electrical characteristics of the terminal in a way that would be harmful? (My guess is "no," but I'm a paranoid amatuer. Or maybe that's an amateur paranoid. 8)

This will work :)

> Quote:
>
> How hot should I set my temperature controlled iron to perform this soldering? The PCB is on the other side of he housing, with presumably a large heat sink of a motor, and the plastic frame between it and the soldering tip. I'm using standard 60/40 rosin core solder.

I prefer to solder at highest temperature, but 350 degrees C should be fine. Just take care to work fast enough to not melt any plastics or roast any other part.

> Quote:
>
> Any other tips or suggestions?

Nah, this should work well :) You should consider purchasing some good solder (colophonium core plus parts of silver - or if you can get your hands on it, some good Pb stuff) plus good iron - you might want to check ebay for some used equipment (Weller Magnastat or PACE)

Re: Help with HP-97 Soldering Question

*Message #3 Posted by **Howard Owen** on 5 Oct 2005, 1:36 p.m.,*
in response to message #2 by Frank Boehm (Germany)

> Quote:
>
> Put a little bit of solder on the lead, heat up the soldered area below the left (in the picture) leg of the condensor, put the lead in place, wait 2 seconds.

Thanks for the advice!

Let me restate what I think you said to check if I understand. First, tin the stripped end of the red lead. Second, heat the solder pad where the condensor attaches to the positive side of the bridge, wait until heated, apply the tinned lead, wait two seconds then withdraw the iron.

Did I get that right?

Thanks again!

Re: Help with HP-97 Soldering Question

*Message #4 Posted by **Howard Owen** on 5 Oct 2005, 2:44 p.m.,*
in response to message #2 by Frank Boehm (Germany)

Thanks for your help, Frank! I just finished my first HP-97 card reader "gummy wheel" repair. It was a

complete success, partly thanks to your advice!

Regards, Howard.

(deleted post)

*Message #5 Posted by **deleted** on 6 Oct 2005, 9:56 p.m.,*
in response to message #4 by Howard Owen

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

Re: Help with HP-97 Soldering Question

*Message #6 Posted by **Howard Owen** on 7 Oct 2005, 10:11 a.m.,*
in response to message #5 by deleted

Yes, I recalled you earlier advice on this, Don. Thanks. I've adopted it in my work. I used a setting of 600F in this case, which worked great.

(deleted post)

*Message #7 Posted by **deleted** on 7 Oct 2005, 10:32 a.m.,*
in response to message #6 by Howard Owen

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

Re: Help with HP-97 Soldering Question

*Message #8 Posted by **Howard Owen** on 7 Oct 2005, 5:24 p.m.,*
in response to message #7 by deleted

I wasn't complaining, Don. 8)

Just saying that I took your advice and it has worked out well for me.

As to the 9816, I was finally able, with Jon Johmston's (of hpmuseum.net) help to get TELEDIK.EXE to work on my old P75. I had to install and boot real MS-DOS before the low-level access to the floppy controller TELEDISK uses succeeded in reading the SS/DD disks I had. But I also proved I could write SS/DD images to one side of a DS/DD dik. That means I can use all the great 9816 software Jon has up on his site. So I'm sitting pretty in the 9816 department.

Loading real MS-DOS also made the NI drivers for my AT-TNT GPIB board work. It almost worked under DOSEMU, but that software doesn't do DMA, other than for the SB emulation. The "TNT" board is a high-speed GPIB card, and it needs DMA to make that work on the PC side. I'm sure I could get a slower HP-IB card to work under Linux/DOSEMU, but not this particular card. The Linux GPIB project drivers are supposed to work with this ISA card on a 2.4 or 2.6 kernel, but I haven't taken the trouble to build the custom kernel yet. I'm not hugely motivated because I'd also have to write a file system driver for Amigo and/or [CS]S80 to talk to any of the various HP-IB drives I have. As usual, data transfer, particularly software transfer is my main interest. There just aren't any

extant drivers with source for these old drives, at least as far as I'm aware. I do know HP maintained drivers for use in HP-UX for many of these devices, but I'm sure they have long since stopped doing that.

Regards,

Howard

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HP 42 manual for Free42

*Message #1 Posted by **Alister** on 5 Oct 2005, 7:11 a.m.*

Hi folks,

Do any of you have an electronic version of the HP 42 manual.

I would like to use the Free42, but without a manual I will not be able to do so....

THanks...

Re: HP 42 manual for Free42

*Message #2 Posted by **Jeff O.** on 5 Oct 2005, 7:51 a.m.,*
in response to message #1 by Alister

I am unaware of any source where the manual can simply be downloaded. The Museum DVD/CD set has a scan of the manual, or you can purchase a scan of just the manual itself from the museum curator.
As an alternative, MoHPC Forum contributor José Lauro Strapasson has created an alternate version of the manual, see this message, or go straight to the manual here.

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early "OZ" history of hp 41 synthetic programming uncovered!

*Message #1 Posted by **don wallace** on 4 Oct 2005, 10:34 p.m.*

Hi all. I have briefly mentioned this before...

I was looking through my old box (hp41 original) in which are stored my manuals and some old synthetic programming manuals, when I decided to read these.

To my astonishment I found I not only had this manual:

HOW TO:

A Blackbox handbook to synthetic programming techniques with the hp 41C

by Phil Jury (5484) (Armadale Victoria Australia)

1st edition January 1980 (!)

but also THIS ONE:

PPC TECHNICAL NOTES V1N6 February 1981

This is a quite involved manual which runs to 60 pages. And Valentin Abillo is in there too!

If people are interested I may scan these documents and release them to the museum. Maybe others have this sort of stuff anyway, but I thought I would mention their existence.

donwallace63@yahoo.com.au

Don Wallace

Re: early "OZ" history of hp 41 synthetic programming uncovered!

*Message #2 Posted by **Karl-Ludwig Butte** on 5 Oct 2005, 3:07 a.m.,*
in response to message #1 by don wallace

Hello Don,

it would be great if you'd release this jewels to the museum. Every real 41-fan like me is very much interested in stuff like this. Thank you very much in advance

Regards

Karl

Re: early "OZ" history of hp 41 synthetic programming uncovered!

*Message #3 Posted by **Valentin Albillo** on 5 Oct 2005, 4:32 a.m.,*

in response to message #1 by don wallace

Hi, Don:

Don posted:

"HOW TO: A Blackbox handbook to synthetic programming techniques with the hp 41C"

I do have the other one you mention (PPC TN V1N6), but never seen this one so I would be interested for sure.

"This is a quite involved manual which runs to 60 pages. And Valentin Abillo is in there too!"

Ah, those were the days !! :-) ... It's hard to believe that 24 full years have elapsed since then and some of us still remain actively interested in HP calcs and methods of old. Says a lot about the awesome quality of such products, that it would engender so lasting an attachment to them.

Your offer to scan and make them publicly available is much appreciated, thank you very much.

Best regards from V.

Re: early "OZ" history of hp 41 synthetic programming uncovered!

*Message #4 Posted by **don wallace** on 5 Oct 2005, 5:18 a.m.,*
in response to message #3 by Valentin Albillo

Hi all. Hi Valentin.

Yes it sure does. I started to look at the hardware (buss signals)in 1982 but wasn't connected with the PPC so my interest died.

I shudder to think what I would have done if I had been plugged in to all that... (I built a computer out of a video arcade game and wrote my own monitor BY HAND in rom (350 bytes!) in 1984 so I have been quite comfortable with hardware and firmware for a long time...)

My sincere apologies for getting your surname wrong, V.

I will scan this stuff in soon. I am computing on absolute junk (still do more with it than 99% of the population...) and the scanner is second hand with a real resolution of about 150 to 200 dpi so I will just do my best... My friends girlfriend sold it to me THEN told me she hit him over the head with it. I guess that's why the focus is a bit out...

Kind regards from Down Under (in more ways than one...),

Don W

Edited: 5 Oct 2005, 8:47 a.m.

Re: early "OZ" history of hp 41 synthetic programming uncovered!

*Message #5 Posted by **Jake Schwartz** on 10 Oct 2005, 5:27 p.m.,*
in response to message #4 by don wallace

Hi,

All the Australian PPC TN issues 1-17 as well as 49 additional issues of Melbourne and Sydney-based

HP calc newsletter issues from 1979 through 1993 are already available on PPC CD #4: Australian Newsletters and Conference Proceedings 1979-99. Totals over 4700 scanned pages of material. Check http://www.pahhc.org/ppccdrom.htm on the web.

Jake Schwartz

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9862+9825

*Message #1 Posted by **Achim (Germany)** on 4 Oct 2005, 5:35 p.m.*

I'm just rebuilding an interface to connect a 9862 plotter to a 9825 calculator. The interface is based on a 98032 16bit-I/O. But I'm still missing some signal connections, which I would have to find out by lengthy experimenting. So does anybody have an original 98032 / option 062 and could send me a sketch or photograph of the internal cable connectors?

Thanks in advance, Achim

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X-Memory and HP-IL

*Message #1 Posted by **gileno** on 4 Oct 2005, 2:39 p.m.*

How do I record the information of the x-memory using hp-il? Thanks

Re: X-Memory and HP-IL

*Message #2 Posted by **Vassilis Prevelakis** on 4 Oct 2005, 3:10 p.m.,*
in response to message #1 by gileno

Read section "Transferring Data between Extended Memory and Mass Storage Devices", page 33 of the Extended Functions/Memory Module manual (file 41extfnc.pdf on the MoHPC DVD-ROM).

**vp

Edited: 4 Oct 2005, 3:11 p.m.

Re: X-Memory and HP-IL

*Message #3 Posted by **db (martinez, ca.)** on 5 Oct 2005, 12:11 a.m.,*
in response to message #1 by gileno

You may be disappointed. One may only directly transfer ascii and program files, but not data. For data files you have to write a program to put the data file through the stack into main memory and then into mass storage. This was a major omision on the part of hp imho, because **i** wanted to store data files. I forget if the "store all" function got around that - because using TDS; one could store a full 298 register data file. TDS wrote several functions into their roms, that being one that (again imho) hp should have included.

Re: X-Memory and HP-IL

*Message #4 Posted by **Christoph Klug** on 5 Oct 2005, 4:45 a.m.,*
in response to message #3 by db (martinez, ca.)

For storing X-Memory contents to a HP-IL mass storage device you can use the EXT-IL module (not the EXT-I/O module). This advanced module gives you powerfully commands for controlling big mass storage devices, transfering complete X-Memory, and printing multi column program plots.

With best regards from Germany - Christoph Klug

EXT-IL ????

*Message #5 Posted by **gileno** on 5 Oct 2005, 7:38 a.m.,*
in response to message #4 by Christoph Klug

Which is full name of that module?

Re: EXT-IL from Skwid Ink

*Message #6 Posted by **Christoph Klug** on 5 Oct 2005, 7:58 a.m.,*
in response to message #5 by gileno

The full name is Extended IL Module, created from SKWID INK. Furthermore from SKWID INK exist a module for plotting HP41 barcodes. Virtual ROM images of both module exist for using with EMU41.

With best regards from Germany - Christoph Klug

Re: EXT-IL ????

*Message #7 Posted by **Juergen (CH)** on 5 Oct 2005, 8:15 a.m.,*
in response to message #5 by gileno

Skwid Ink Extended IL ROM (CAT 2 output: EXT IL ROM). Very rare, I think...

Re: EXT-IL ????

*Message #8 Posted by **Gene Wright** on 5 Oct 2005, 9:05 a.m.,*
in response to message #7 by Juergen (CH)

Not rare at all if you have a Clonix module.

Put these into the Clonix today and put another pair in it next week.

One of the best things I ever bought for my 41 machine!

Re: EXT-IL ????

*Message #9 Posted by **Miki Mihajlovic** on 6 Oct 2005, 11:31 p.m.,*
in response to message #8 by Gene Wright

Couldn't agree more. Kudos to our friend Diego from whom we haven't heard in a while.

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Another MoHPC picture on eBay (HP-75D)

*Message #1 Posted by **Vassilis Prevelakis** on 4 Oct 2005, 2:36 p.m.*

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=8702274168

http://i1.ebayimg.com/04/i/05/13/44/ab_1.JPG?set_id=7

(http://i1.ebayimg.com/04/i/05/13/44/ab_1.JPG?set_id=7)

this is about an HP-75C, but the picture is a shrunk version of

(http://www.hpmuseum.org/75.jpg)

At least there is another picture in the auction page which is presumably the real item.

**vp

Re: Another MoHPC picture on eBay (HP-75D) (16C)

*Message #2 Posted by **John Nguyen** on 5 Oct 2005, 1:12 a.m.,*
in response to message #1 by Vassilis Prevelakis

And how about this one for an HP-16C? You can clearly see the MoHPC watermark in the second picture.

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=5815314864

John

Re: Another MoHPC picture on eBay (HP-75D) (16C)

*Message #3 Posted by **Stephen Easterling** on 5 Oct 2005, 1:27 a.m.,*
in response to message #2 by John Nguyen

I had contact that seller about those pics and they said that they are not of the calc for sale. So then they attached the real photos below the MoHPC shots.

Re: Another MoHPC picture on eBay (HP-75D) (16C)

*Message #4 Posted by **John Nguyen** on 5 Oct 2005, 7:58 p.m.,*
in response to message #3 by Stephen Easterling

Hey, good for you, Stephen. I wonder if people are just too lazy to go take a picture or are they somehow being less than honest. If you were going to sell something, you should at least make a little effort to take pictures of the actual item. What a novel idea, huh? I think eBay should disallow stock photos unless you're selling a brand spanking new item.

I tend to steer clear of those kinds of sellers. I know not everyone who does that is dishonest, but I want to have some warm and fuzzy when I buy something.

John

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Moon Landing Simulator for HP-12c again

*Message #1 Posted by **Kalevipoeg** on 4 Oct 2005, 12:43 p.m.*

On 24 September Tony (nz) offered a lunar lander program for the HP-12c which follows HP-29c rocket lander program.

I watched Apollo 13 movie yesterday and after that I started to think about this old program again :-)

Here is another moon landing simulator program for the HP-12c. The calculation of crash and landing velocity of this program meets the laws of Newton's Physics better than the original games (HP-67 moon rocket lander, HP-29c moon rocket lander etc.) do. Besides that this program is some shorter and faster.

Rem: Only integer values for fuel burn are allowed.

```
01  5
02  0
03  0
04  STO 1
05  5
06  0
07  CHS
08  STO 2
09  6
10  0
11  STO 3
12  1
13  CHS
14  RCL 2
15  RCL 1
16  EEX
17  4
18  /
19  -
20  X<=Y?
21  GTO 25
22  RCL 2
23  LST X
24  +
25  [f] 4
26  PSE
27  PSE
28  RCL 3
29  [f] 0
30  PSE
31  3
32  PSE
33  2
34  PSE
35  1
36  PSE
37  0
38  PSE
39  RCL 3
40  X<=Y?         burn>fuel?
41  X<>Y          yes, burn all fuel
42  RDN
43  STO-3
44  2             x=x0+v0+0.5*a=x0+v0+burn-2.5
45  .
```

```
46  5
47  -             0.5*a=burn-2.5
48  STO+1
49  ENTER
50  +
51  STO 4         a=2*burn-5 (gravity=-5)
52  RCL 2
53  STO+1
54  RDN
55  STO+2         v=v0+a
56  0
57  RCL 1
58  X<=Y?         new x<=0?
59  GTO 67        yes, calculate crash or landing velocity
60  RCL 3
61  X=0?          fuel=0?
62  GTO 64        yes, go to free fall
63  GTO 12
64  5             free fall a=-5
65  CHS
66  STO 4
67  RCL 2         calculate crash or landing velocity
68  ENTER
69  *
70  RCL 4
71  ENTER
72  +
73  RCL 1
74  *
75  -
76  SQRT
77  CHS
78  PSE
79  GTO 78
```

Edited: 5 Oct 2005, 12:14 a.m.

Re: Moon Landing Simulator for HP-12c again

*Message #2 Posted by **tony (nz)** on 5 Oct 2005, 2:13 a.m.,*
in response to message #1 by Kalevipoeg

Kalevipoeg , thank you! This is brilliant. Lines 12-24 create the VV.0hhh very elegantly. Also I believe you are the first to calculate the correct crash velocity when the first iteration gives a new height as negative - you reverse time and bring us back to the surface with the correct speed!! Please move onto Tic-Tac-toe now:-) Gene's page has an ingenious program that uses 3 by 3 magic square space to facilitate win/block calculations.

Cheers, Tony

Slightly less intense digit,.,EEX, alternatives might be:
5 lines 14-18: RCL1 % % RCL2 X<>Y
12 lines 44-55: ENTER + 5 - STO4 RCL2 X<>Y STO+2 2 / + STO+1
One could even shave 1 line off this, if I count correctly<G>:
STO4 STO+4 5 STO-4 RCL2 RCL4 STO+2 2 / + STO+1
Down to 78 lines and falling<G>. This is fun. From the quality of your code and clarity of exposition I feel I know you from somewhere ;-)

Now I'm onto my third edit. It seems possible to remove more lines by allowing an empty craft to recycle once more. One could have 5 chs sto4 up at line 12. Then we can remove the 5 sto-4, and change the start to STO+4 STO+4 above in my last feeble attempt to shave lines - but that part is now down to 9 where it was 12. Instead we can do the rcl3 x=0? test by "inserting" x=0 gto "67" after the rcl 3 at line 39. Overall this may save us

another 3 lines, but I admit the operation will be slightly different - we get to "see" an empty craft just one more time before the free-fall with R4=-5. Of course we could save another 2 by not testing for R3=0 at all - just keep seeing the free-fall second by second until we go underground at the end :-) But that is too slow ... although one can burn the 60 and see oneself travel out into space before returning. But, too slow to watch. The best place for the R3=0 test is probably after it is displayed - before the burn count-down - then one at least gets to see the final VV.0hhh begore the free-fall. Yup, it seems to work fine here at 75 lines. Good night all. Thanks for the fun :-)

Here it is, in case anyone wants to try/tweak/untweak it. Thanks again to Kalevipoeg - whoever he/she is - maybe an ex-astronaut :-) And also thanks to Gene for these game challenges.

Keystrokes	Display	Comments
[f][P/R]		
[f]CLEAR[PRGM]	00-	
5	01- 5	
0	02- 0	
0	03- 0	
[STO]1	04- 44 1	h=500ft
5	05- 5	
0	06- 0	
[CHS]	07- 16	
[STO]2	08- 44 2	V=-50ft/sec
6	09- 6	
0	10- 0	
[STO]3	11- 44 3	Fuel=60
5	12- 5	
[CHS]	13- 16	
[STO]4	14- 44 4	accel=-5ft/sec/sec
1	15- 1	
[CHS]	16- 16	
[RCL]1	17- 45 1	
[%]	18- 25	
[%]	19- 25	+hE-4=.0hhh
[RCL]2	20- 45 2	
[x<>y]	21- 34	
[-]	22- 30	
[g][x<=y]	23- 43 34	
[g][GTO]28	24- 43,33 28	
[RCL]2	25- 45 2	
[g][LSTx]	26- 43 36	
[+]	27- 40	
[f]4	28- 42 4	
[g][PSE]	29- 43 31	VV.0hhh
[g][PSE]	30- 43 31	
[RCL]3	31- 45 3	Fuel
[f]0	32- 42 0	
[g][PSE]	33- 43 31	
[g][x=0]	34- 43 35	no fuel left?
[g][GTO]63	35- 43,33 63	free fall
3	36- 3	count down
[g][PSE]	37- 43 31	
2	38- 2	
[g][PSE]	39- 43 31	
1	40- 1	
[g][PSE]	41- 43 31	
0	42- 0	
[g][PSE]	43- 43 31	
[RCL]3	44- 45 3	
[g][x<=y]	45- 43 34	
[x<>y]	46- 34	
[RDN]	47- 33	
[STO][-]3	48- 44 30 3	update Fuel
[STO][+]4	49- 44 40 4	update
[STO][+]4	50- 44 40 4	acceleration
[RCL]2	51- 45 2	
[RCL]4	52- 45 4	
[STO][+]2	53- 44 40 2	update V
2	54- 2	
[/]	55- 10	
[+]	56- 40	
[STO][+]1	57- 44 40 1	update h
0	58- 0	
[RCL]1	59- 45 1	
[g][x<=y]	60- 43 34	underground?
[g][GTO]63	61- 43,33 63	're-calc' crash velocity

```
[g][GTO]12      |62- 43,33  12  | burn again
[RCL]2          |63-    45   2  |
[ENTER]         |64-         36 |
[x]             |65-         20 | v0^2
[RCL]4          |66-    45   4  |
[RCL]1          |67-    45   1  |
[x]             |68-         20 |
[ENTER]         |69-         36 |
[+]             |70-         40 | 2*a*h
[-]             |71-         30 |
[g][SQRT]       |72-    43   21 |
[CHS]           |73-         16 | V at h=0
[g][PSE]        |74-    43   31 |
[g][GTO]74      |75- 43,33   74 |
[f][P/R]        |                |
```

To find a final free-fall time in seconds, stop &:
[RCL]2 [-] [RCL]4 [/]
eg, if all 60 is burnt on first cycle, we obtain a final crash v of -96ft/sec and time=32 sec. This is the longest trip and worst crash :-)

Edited: 5 Oct 2005, 7:09 a.m.

Re: Moon Landing Simulator for HP-12c again

*Message #3 Posted by **Kalevipoeg** on 5 Oct 2005, 10:53 a.m.,*
in response to message #2 by tony (nz)

Tony, thank you for comments and analyses!

For me the lines 39-43 were the biggest challenge of this program. Heureka! There is not always need to use GTO-command after conditional test. This is a good example of it!

Tic-tac-toe isn't my favourite but who knows...

And thanks to you for many additions to this program. Especially "1 CHS RCL 1 % % RCL 2 X<>Y -" is clever.

Edited: 5 Oct 2005, 2:02 p.m.

Re: Moon Landing Simulator for HP-12c again

*Message #4 Posted by **tony (nz)** on 6 Oct 2005, 4:12 a.m.,*
in response to message #3 by Kalevipoeg

Hi Kalevipoeg - I learned something today after looking up your name on google. You must be from Estonia! :-)

I wanted to find a perfect landing fitting for your gem of a program and finally I found one with 14 integer burns! At the end V=h=Fuel=0.00 :-)

```
 VV.0hhh  Fuel 3210  Burn
--------  ----      ----
-50.0500  60        1
-53.0449  59        1  (2)
under 400ft:
-56.0394  58        2
-57.0338  56        3  (5)
under 300ft:
-56.0281  53        3
-55.0226  50        4  (7)
under 200ft:
-52.0172  46        6
```

```
-45.0124  40         6  (12)
under 100ft:
-38.0082  34         7
-29.0049  27         8
-18.0025  19         9
- 5.0014  10         2
- 6.0008   8         3
- 5.0003   5         5  (34)
0 flashing
RCL 1,2,3 all show 0.000000000 :-)
```

I had a few pretty close landings after 10 burns and with some fuel left, but as for the rest I must say you can blame me for a few lunar craters :-)

Has anyone else had a perfect landing?

Cheers, Tony

Re: Moon Landing Simulator for HP-12c again

*Message #5 Posted by **Kalevipoeg** on 8 Oct 2005, 7:10 a.m.,*
in response to message #4 by tony (nz)

2, 0, 1, 0, 4, 2, 8, 7, 9, 17

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HP-35 & 32S Calculators

*Message #1 Posted by **Tom Ciborowski** on 4 Oct 2005, 3:29 a.m.*

I have an original (1973) HP-35 calculator. The calculator would still work but the battery charger no longer functions because of a short in the "elbow" that plugs into the calculator. Does anyone know where I can obtain a charger for this calculator? My HP-32S has a problem with "sticking" keys. Can this be repaired? Thanks for taking the time to read this and even more thanks if you respond. I live in Taiwan so its a 12-15 hour time difference with the U.S. Cheers!

Re: HP-35 & 32S Calculators

*Message #2 Posted by **Walter B** on 4 Oct 2005, 4:42 a.m.,*
in response to message #1 by Tom Ciborowski

You can get a working charger for your HP35 from me, IF you tell me the voltage you have in Taiwan AND you pay me a decent price plus the shipping. Please mail your offer to me directly.

Re: HP-35 & 32S Calculators

*Message #3 Posted by **Arnaud Amiel** on 5 Oct 2005, 3:31 a.m.,*
in response to message #2 by Walter B

Taiwan electricity system is identical to the US one, including plugs. So any US charger should work there.

Arnaud

Re: HP-35 & 32S Calculators

*Message #4 Posted by **bill platt** on 4 Oct 2005, 11:57 a.m.,*
in response to message #1 by Tom Ciborowski

Can you elaborate on the "sticking keys" issue? Is it like "TI-itis" where yo upush the button and get seven "9"s or is it more like you have orange juice in between?

In the latter case, taking out the batteries, immersing and soaking the whole calculator in deionized water, drying under ambient temperature with a fan for 3 days or so, will often do the trick.

You can find earlier threads in the archives discussing this--look under "Randy" and you will find posts by the real expert at this sort of thing.

Re: HP-35 & 32S Calculators

*Message #5 Posted by **Jeff O.** on 4 Oct 2005, 12:48 p.m.,*
in response to message #1 by Tom Ciborowski

Regarding the HP-35 battery charger, the "short in the "elbow"" problem is common. It is (at least sometimes) possible to repair this problem by carefully slicing the top of the plug off, exposing the contacts, cutting the

wires back past the short, soldering the wires to the contacts and gluing the top back on. It may not look pretty, but it should do the job.
Regarding your 32S, as Bill stated, your course of action depends on the exact problem. In case it may help, instructions on opening and some repairs to this style of calculator (pioneer) can be found here and here. If you search the Forum Archives for postings by Paul Brogger (author of the linked articles), I believe you will also find reports of successful disassembly and repair of the keyboard itself.
Good luck!

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HP 21 replacement cells

*Message #1 Posted by **Bruce G.** on 3 Oct 2005, 1:37 p.m.*

I see that a user has recommended Digi-Key part no P092 as a replacement cell for the hp-21. These are 1000 mah AA size cells rather than the 700mah AA size cells HP used. Will that cause any problems?

I can handle the mechanical part of actually replacing the cells but I do not know much about batteries or their terminology.

Thanks for any help.

Bruce G.

Re: HP 21 replacement cells

*Message #2 Posted by **Bernhard** on 3 Oct 2005, 2:17 p.m.,*
in response to message #1 by Bruce G.

Hi Bruce,

from my experience with HP2X it is possible to use any NiCd or NiMH cells regardless of capacity - those with more mA-hours will run longer, but won't damage the charging circuits nor the calculator. Be careful, though: the original HP cells are 49.0 to 49.5mm long (including the center contact nose). Some cells on the market are significantly longer (such as 53.0 mm) and this might bend and break the contacts in the HP. Do not use those. I have successfully used cells with spot-welded contact strips for solder connection with a total cell length of 48.0 to 49.0mm. The contact strips on the HP's contact side are removed or cut back, and those on the spiral spring side are soldered together. Beware the spiral spring and watch for proper insulation of the cells. If the spiral spring shortens a cell, the heat may melt the battery holder tightly into the HP's case, and it may catch fire. I always put some thin insulation plastic below the contact strips after soldering the cells together to make absolutely sure they nor the spring can't ever touch the outer metal can of the cell.

Regards, Bernhard

Re: HP 21 replacement cells

*Message #3 Posted by **Bruce G.** on 3 Oct 2005, 9:25 p.m.,*
in response to message #2 by Bernhard

Bernhard,

Thanks for the tip, I would have assumed all AA cells were a standard size. I will look for some cells locally, it sounds as though any cell from 700 mah to 1100 mah will be fine. I agree with your notes regarding shorting.

Thanks again.

Bruce

Re: HP 21 replacement cells

*Message #4 Posted by **bernhard** on 4 Oct 2005, 4:35 p.m.,*
in response to message #3 by Bruce G.

Hi Bruce,

any NiCd or NiMH cell with any capacity will do as long as the diameter and length fits the parameters. The spot-welded contact strip variety has the advantage that it indeed was designed to be soldered. If you try to solder cells without such strips, the cells may be damaged and this may cause leaks. One final hint: try your local model aircraft / model car outfit. They should have such cells for solder connection.

regards, Bernhard

Re: HP 21 replacement cells

*Message #5 Posted by **David Smith** on 4 Oct 2005, 5:53 p.m.,*
in response to message #1 by Bruce G.

Any good battery store is able to properly spot weld the two cells together. You want the strap to be such that the cells are loose and can move back and forth a little bit. You do not want them glued together.

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How can i open the case of a HP 32s calculator?

*Message #1 Posted by **Martin** on 3 Oct 2005, 12:31 p.m.*

Hello all,

I have an old hp 32s calculator. It has some bugles near by the display frame. The symptoms are that the display shows nearly ever symbol when switching on the calc.

I think that the calc is still ok, but the display contacts have to be repaired.

I think i can handle it when i know how to open the case of the 32s.

Can somebody tell me how to open my HP 32s?

Regards,

Martin.

Articles Forum...

*Message #2 Posted by **Karl Schneider** on 3 Oct 2005, 3:12 p.m.,*
in response to message #1 by Martin

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=5

Don't be too hasty in opening

*Message #3 Posted by **Randy** on 3 Oct 2005, 5:13 p.m.,*
in response to message #1 by Martin

A bent frame would not cause parts of the display to appear when you turn it on. The most likely problem is that the contrast is turned up too far.

Hold down the ON/C button while pressing the "-" key to decrease the contrast. Pressing the "+" while holding down the ON/C button will increase.

(deleted post)

*Message #4 Posted by **deleted** on 4 Oct 2005, 9:58 p.m.,*
in response to message #1 by Martin

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

I find this objectionable!

*Message #5 Posted by **Tony Duell** on 5 Oct 2005, 3:20 p.m.,*
in response to message #4 by deleted

> Quote:
>
> I decline to comment further on how I fixed it since I do (hope one day to) fix these things for money and I am not sure of the exact reasons why my "fix" works [though I have a pretty good idea!]. Suffice it to say there are a few mysteries to these displays which it seems are UNDOCUMENTED. How they actually work and (software) interface to the processor is quite elegant.

I am sorry, but I find the above paragraph and similar comments that you have made in the past to be objectionable, and totally against the spirit of this forum.

I notice you obviosuly read this forum. You, I assume, are quite happy to 'take' from it, but unwilling to 'give' anything back.

Many of us, including myself, sometimes repair HP calculators for money (I don't do it that often, to be honest I'd rather be investigating some machine I've not worked on before than just cleaning the contacts in an HP41 or whatever). The difference is that most of us (and I would like to include myself here) share the information we discover totally freely. Our aim is to keep as many of these fine machines running as possible.

If somebody asks me how to repair something (my speciality is really the desktop machines), then I will give a basic description of how to find the fault. If you feel you have the necessary skills and equipment (it is _hopeless_, for example, to diagnose a processor fault on a 98x0 without a logic analyser!), then I will talk you through the machine at component level, quite likely 'in public'. I will also be happy for you to publish the diagnostic process on your web site provided I get some credit.

If on the other hand you don't feel up to repairing the machine yourself, well then I would consider doing it for you and charging. But note I make the offer of free information first.

When I got seriously into computers some 20+ years ago, a friend offered me a lot of assistance. I jokingly asked him how I should pay him. And I have never forgotten his reply :

"Don't pay back, pay forwards. There is something you can do that somebody else needs help with. Help them. They will go on to help somebody else, and so on. That way we all benefit"

I do not feel the HP calculator community is helped by having information hidden away.

Re: I find this objectionable!

*Message #6 Posted by **Randy** on 5 Oct 2005, 8:13 p.m.,*
in response to message #5 by Tony Duell

Well said Tony, thank you.

Don: I find it annoying that your follow-up posts are not relevant, this thread being a perfect example. Your closing line:

> Quote:
>
> I am not sure but I think I have all the documentation on the 41 available.

The topic was a display problem on a 32S, not about what you did or didn't do to repair a 41.

If you want to repair HP's for a fee, by all means go to it. But as regular reader and poster here I would respectfully ask you to please use the classifieds section for your advertising. You'll see that is the correct place to offer your services rather than trying to weave it into almost every post you make.

(deleted post)

*Message #7 Posted by **deleted** on 6 Oct 2005, 10:12 p.m.,*
in response to message #5 by Tony Duell

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

Re: I find this objectionable!

*Message #8 Posted by **donald wallace** on 6 Oct 2005, 11:30 p.m.,*
in response to message #7 by deleted

It seems I have been banned.

What gives?

I never gave anyone bad advice...

Don Wallace

I would not say so.(was: I find this objectionable!)

*Message #9 Posted by **Vieira, Luiz C. (Brazil)** on 7 Oct 2005, 12:21 a.m.,*
in response to message #8 by donald wallace

I hope not to extend the subject as much for the boring condition, but let me try keeping it soft and smooth.

Many guys in here know that I`m posting since the year 2000, and I congratulate all of those who have been around here since then. Some well known names have not shown up since long, like Norm (AKA Captain Zenner), others appear to object their names, like 'dot', others like Coburlin (each!) come to try picking some stuff not available here. Many others stay still waiting for the chance to make a difference.

I'm one of them, though.

I'm in Brazil, I play with electronics since I was 12YO, but I actually started to understand digital after being 18YO. I use HP calculators since the beginning of the 80`s and I repaired many units prior to get into the MoHPC world. After that, I could repair some of my own units (two HP41's and an HP25C) and many others from contributors.

I did not charge a dime for any of the repairs I made.

On the other hand, I was given so too many I think I was given too much more than I gave.

I'm forever in debit with the MoHPC community and for as long as I can and I am able to, I'll be posting any information I had access to (unless it is copyright protected, like the MoHPC CD/DVD contents) and I'll repair as many calculators I can without any charge at all. I say that

because I mean that, not because I want others to do the same. And let me tell that this is more than a hobby and less than a profitable activity for me, this is a way for me to be in touch with people I do not know and would like to interact with. Unfortunately Brazilian commercial laws and professional opportunities for R&D guys make it hard for us to go ahead and try doing much more than that what`s been done, but these are facts not to be discussed here.

I would like to have the means to go further and achieve some goals, like cloning the nut processor with some microcontroler+ROM/RAM arrangement, but this demands time and personal resources. Lucky for us some guys in here are delving into these hardware/software mysteries and solutions, and this is something I admire seeing people doing because I`d do the same my own if having the chance and the means.

So much for an off-topic. To those of you reading and thinking 'I'm a dreamer', it seems that I'm not the only one (Forgive, John). A lot of guys in the mid 60's made the technological revolution this way, by sharing without any other reward but seeing things happening. We are the ones in the benefit from their forwarding vision. Maybe other guys share some of my points of view, others will disagree, but I guess I'm not too far from what is intended here. I`d also guess that the feeling of being banned may be connected to a different approach of yours, though.

Sorry writing too much (I did not spell check this text... Please, forgive my 'southern American' accent).

Luiz (Brazil)

Edited: 18 Oct 2005, 4:13 p.m. after one or more responses were posted

(deleted post)

*Message #10 Posted by **deleted** on 7 Oct 2005, 1:30 a.m.,*
in response to message #9 by Vieira, Luiz C. (Brazil)

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

Re: A friendly comment

*Message #11 Posted by **Gordon Dyer** on 7 Oct 2005, 7:09 p.m.,*
in response to message #10 by deleted

Don, I have just read this thread and feel sad that a few comments have led you to abandon the forum. All comments and advice in here are freely given and you gave quite a few before being criticised for a comment about hoping to make a little money - and I don't understand what is so wrong with that. Perhaps your mistake was to admit it. I wonder how many people have silently used the information in this forum to fix a calc and sell it as working on eBay (not me, I keep mine!), but I don't see what is wrong with that either.
Please everyone keep it civilised and respect others opinions and aspirations.
Don, why not come back to the forum and share knowledge which you don't feel you have a commercial interest in.
Best wishes...

(deleted post)

*Message #12 Posted by **deleted** on 8 Oct 2005, 9:42 p.m.,*
in response to message #5 by Tony Duell

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

Accumulated knowledge (was: I find this objectionable!)

*Message #13 Posted by **James M. Prange (Michigan)** on 8 Oct 2005, 11:05 p.m.,*
in response to message #12 by deleted

Of course there already is a lot of information about HP calculators on this Museum site. Don't neglect the "Articles" and "Archives". The CD set/DVD has even more, including documentation that it's not practical to include for download from a Web site; see http://www.hpmuseum.org/cd/cddesc.htm. Yes, I realize the CD set/DVD isn't free, but any "profit" helps support the Museum; I don't think Dave's getting rich from selling it.

Of course you can set up your own site, but also consider contributing to existing sites.

Jake Schartz also sells CD-ROMs at relatively low cost; see http://alaska.magpage.com/~jakes/.

For the RPL models, also see http://www.engr.uvic.ca/~aschoorl/, http://www.hpcalc.org/, http://page.mi.fu-berlin.de/~raut/ http://m.webring.com/hub?ring=hp48, and http://groups.google.com/group/comp.sys.hp48.

Regards,
James

(deleted post)

*Message #14 Posted by **deleted** on 9 Oct 2005, 12:32 a.m.,*
in response to message #13 by James M. Prange (Michigan)

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

Re: Accumulated knowledge

*Message #15 Posted by **James M. Prange (Michigan)** on 9 Oct 2005, 12:59 a.m.,*
in response to message #14 by deleted

No, I wouldn't consider setting up your own Web page with information on HP calculators to be in any way "subversive".

On the other hand, contributing to existing sites instead of adding a new one tends to keep the information consolidated in fewer places.

For many of us, resources are fairly limited. For example, my own "Personal Web space" is 25MB. To be sure, I don't use it much; occasionally placing a file there that might be difficult to transfer as an attachment to an e-mail.

Dave does indeed have links to other sites on the main Museum page, under "Other

Resources".

Regards,
James

Re: How can i open the case of a HP 32s calculator?

*Message #16 Posted by **don wallace** on 7 Oct 2005, 7:49 p.m.,*
in response to message #1 by Martin

Hi Martin. Having any luck with that 32?

I think there is some mechanical damage to the connections to the display and wrong bias is making the display strange.

If it turns on and off and you can see any other normal activity, (responds to keystrokes, etc., hard to tell with that display, I know) then the buses are okay and it's "just" display connector problems. Does it respond at all to attempts to adjust contrast? Not a fix but one good diagnostic.

Sorry I don't have one or I'd be able to help you.

dw

Edited: 7 Oct 2005, 7:50 p.m.

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MoHPC *The Museum of HP Calculators*

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HP 49G plus, DOMAIN and LIMITS

*Message #1 Posted by **Slobodan Nikolic** on 3 Oct 2005, 4:33 a.m.*

Hello, I have couple of questions that I just can't figure out, so if someone can help me I would appreciate that a lot.

ok, my first question is on the LIMITS, how would I find the limit of a F(x,y) function ? for example lim (x^5+4x^3*y-5xy^2) (x,y)=(5,-2)

I know how to find the limit of normal F(x) function but I can't do this..

and some thing on Domain, i can't do the Domain of f(x,y)..

can someone please help me.

Thank you Slobodan,

Re: HP 49G plus, DOMAIN and LIMITS

*Message #2 Posted by **don wallace** on 3 Oct 2005, 8:49 a.m.,*
in response to message #1 by Slobodan Nikolic

Hi Slobodan,

It's 24 years ago for me since I dropped out of engineering (due to apathy and some stress, not "dumbness" ;-P) so forgive my being rusty. I am not saying I'm not dumb, just that I didn't drop out 'cause I am/was dumb ;-)

Valentin is the maths professor around here (literally, I think...) so I am sure he will correct me where I am wrong. His understanding of maths is really cool and he is really helpful.

I am not too worried about making a fool out of myself as the regulars here will know, , so I will say what little I remember in general terms.

LIMITS: I'm not gonna tell you the nuts and bolts of it because I have forgotten, BUT:

You just need to do some BASIC READING ON "DOUBLE INTEGRATION". It's quite involved maths, sort of.

I would google on that to start with. I think there are some equations of (very) different form which are f(x,y), being D.E.'s That stuff is different, more involved, very useful to engineers, but really made my head spin (memory overload -> "fail" ME201).

Generally the function of one independent variable has a line or curve as a solution or a limit (they're different), but the function of TWO independent variables is a SURFACE in 3-space, so the limit could I think be a surface as well as a curve or line.

So your answer will be often be a non linear equation itself, not neccessarily an easy solutin like a line or an axis.

There are simple cases, though:

Let's take Space and forget about the third dimension (z).

Say you have a (two dimensional) "gravity" function: g = F(x,y) = SQRT(1/(x^2+y^2))

So we will make the third axis (z) plot our output or G force. You would have as an example a black hole with an infinite gravity force "at" the origin (0,0) with z (= g) = infinity. You can correctly say that the Z axis is a kind of limit, called a "pole". That function also has a "ZERO" at infinity, the function decays to nearly zero at very large x and y. I visualize this as a circus tent.

Compare that with the simple hyperbolic function y = f(x) = 1/x, where the x and y axes are asymptotes, i.e. limits of the function.

I know I haven't explained much, but you could google on D.E.'s maybe (it's a bit o.t. given the functions you mentioned) and three dimensional calculus (?) Also google or Wiki on "mathematical poles and zeros".

The function DOMAIN is just the PLANE from x=minus infinity and y=minus infinity to x=plus infinity and y=plus infinity (the "infinite plane")

I am sure Valentin will come to our rescue on this.

Best,

DW

Edited: 3 Oct 2005, 8:56 a.m.

Re: HP 49G plus, DOMAIN and LIMITS

*Message #3 Posted by **Valentin Albillo** on 3 Oct 2005, 9:01 a.m.,*
in response to message #2 by don wallace

Hi, Don

Don Wallace posted:

"I am sure Valentin will come to our rescue on this."

Thanks for your confidence in my humble abilities, but I understand that what Nikolic actually wants are instructions in how to tackle these advanced subjects with his HP49G+.

In this regard I can be of little help as I don't own any HP48/49 model nor have I ever used one.

Best regards from V.

Re: HP 49G plus, DOMAIN and LIMITS

*Message #4 Posted by **don wallace** on 3 Oct 2005, 9:44 a.m.,*
in response to message #3 by Valentin Albillo

Hi Valentin,

Yes, I realise that but I also realise (I think) Slobodan is new to 3D calculus, otherwise he would have just gone and done it ;-)

A calculator will just crunch the numbers for you...

DW

Try and compute this limit with your Hp48/49

*Message #5 Posted by **Valentin Albillo** on 3 Oct 2005, 12:29 p.m.,*
in response to message #4 by don wallace

Hi again, Don:

Don posted: *"A calculator will just crunch the numbers for you..."*

Indeed. Let's see if you'd do better than your calculator. For a micro-challenge, try and compute this limit with your HP48/49, symbolically and numerically. If a symbolic solution is not an option, see if you can symbolically prove the result yourself:

$$\lim_{n\to\infty}\left(\sum_{i=n^2}^{i=(n+1)^2}\left(\mathrm{Frac}\left(\sqrt{i}\right)\right)\right)$$

where, of course, "Inf" is 'positive infinity', "Frac" is 'fractional part', "Sqrt" is 'square root' and the big Sigma letter means "sum from i=n^2 to i=(n+1)^2".

Try and guess the result before it comes out of the screen !

Best regards from V.

Re: Try and compute this limit with your Hp48/49

*Message #6 Posted by **don wallace** on 3 Oct 2005, 6:49 p.m.,*
in response to message #5 by Valentin Albillo

Hi Valentin,

I only have a 41. And I'm nt working in any area where I need limits, so I'm not motivated to use my head on this too much; real life presents enough (serious) problems to occupy me...

Thanks for the example though.

I WONDER WHAT SLOBODAN THINKS ABOUT MY EXAMPLES?

DW

Edited: 3 Oct 2005, 6:50 p.m.

Re: Try and compute this limit with your Hp48/49

*Message #7 Posted by **Marcus von Cube, Germany** on 3 Oct 2005, 7:21 p.m.,*
in response to message #5 by Valentin Albillo

After some fiddeling with the syntax, I was at least able to enter the function into my 49G+:

```
'VA(N)=FP(sigma(I=N^2,(N+1)^2,sqrt I))'
DEF
```

(substitute sigma and sqrt by the respective symbols). This creates a user function VA which can be evaluted from the VAR menu.

Trying to compute the limit automatically failed: CAS asked for approximate mode and gave up afterwards. But the function VA seems to approximate 1/6 for greater values of N. I'm unable to explain why. Here are some thoughts:

The range of the sum goes over the values between to squared integers, e. g. from 4 to 9 if N=2 or from 100 to 121 if N=10. Since only the fractional part is computed, the first and last summands can be removed from the sum (the square root of a squared integer is an integer.) Therefore, the number of summands is 2*N and the values to be summed up are between sqrt(N^2+1) (>N) and sqrt(N^2+2*N)

(<N+1). None of these values can be an integer so all add to the final fraction.

That's the end of my thoughts. I have no idea how a function like FP can be treated analytically...

HP 49G plus, DOMAIN and LIMITS

*Message #8 Posted by **Slobodan Nikolic** on 4 Oct 2005, 12:23 a.m.,*
in response to message #7 by Marcus von Cube, Germany

First I want to say "Thank you" to all the people who tried to help me on my question...

I am acutally not new to domain and limits, I taken caluculs some two years ago in HS and now I'm in CALC III in my sophmore year at university. On most domain and limits, I can find them. Ones that are in 3D are definetly harder but I'm hanging in there (F(x,y,z))

The reason I asked this question was just so I can figure it out faster when midterm comes (Wendsday), because I realized that my calculator can do those funcions(and many other things that I don't know to work on it). So its ok since many people don't use this calculator, I'll stay up all night tonight and tommorow for the test :) Again, I want to say "thank you" to all the people that responed to my question..

I also have another question, I don't know if I should open a new topic for it ? (I promise this is my last question and I won't boather you guys any more. :), its just that I have a midterm on Wendesday and my scholarship is on the line ehehe :-(I must get 3.5 this semseter :-( ))

ok here it is

I am trying to figure out how to use my HP49+ for "solving system of equations with multiple variables" !? if someone knows how to do it will they please post ?

Thank you, and once again thanks for the help

Valentin, I think I know what's going on here :-)

*Message #9 Posted by **Marcus von Cube, Germany** on 4 Oct 2005, 4:50 a.m.,*
in response to message #7 by Marcus von Cube, Germany

Hi Valentin,

after a few hours of sleep I think I know what's going on with your challenge.

You can look at the sum as an aproximation of the area below a lying parabola y=sqrt x in the interval $[n^2,(n+1)^2]$. To get rid of the integer part, simply subtract the area under the straight line crossing the parabola between the points (n^2,n) and $(n^2+2n+1,n+1)$:

```
'VA2(N) = integral(0, 2*N+1, sqrt(N^2+X)-X/(2*N+1)-N, X)'
DEF
```

The limit n->oo of the original sum should be the same as the limit of the above integral.

The exact solution to this integral is 1/6 for any n and so is the limit for n->oo.

Now back to work (or to bed...)

Re: Valentin, I think I know what's going on here :-)

*Message #10 Posted by **Valentin Albillo** on 4 Oct 2005, 5:27 a.m.,*
in response to message #9 by Marcus von Cube, Germany

Hi, Marcus:

See ? "Calculators just crunch the numbers for you" but it helps if you previously crunch them up yourself a little bit :-)

Thanks for your interest and keen insights and

Best regards from V.

Re: Valentin, I think I know what's going on here :-)

*Message #11 Posted by **GE** on 4 Oct 2005, 8:29 a.m.,*
in response to message #10 by Valentin Albillo

Uh ? I don't see how one is so sure that "the area ABOVE the straight line crossing ..." is less than 1. Hard, dirty direct calculation shows that the sum hac value 2xN^2+3xN+1+1/6+o(1/N^2), as the term in (1/N) vanishes (quite a surprise !). **THEN** the fractional part is **DEMONSTRATED** to reach 1/6 on infinity. Please answer my question. Thanks.

Re: Valentin, I think I know what's going on here :-)

*Message #12 Posted by **Marcus von Cube, Germany** on 4 Oct 2005, 8:58 a.m.,*
in response to message #11 by GE

GE, let me try to explain my thoughts...

At first, I was just subtracting N from the parabola and I got a "stair" of 2n+1 steps with (total) heights between 0 and 1. If you now look at the summands from both ends (first/last, next to first, next to last) they tend to cancel their fractional part if you add them together. If the summands were lying on the straight line between the endpoints, the effect would be exact (the sum would be exactly one for each pair). Since the parabola always stretches slightly above the straight line, there is some fractional part left.

One consequence is that if you subtract the summands on the straight line you only subtract an integer value which does not effect the final result.

The proof isn't perfect, yet. But since the integral itself evaluates to a value below 1 (1/6), I seem to be correct.

Valentin, any real proof?

Re: Valentin, I think I know what's going on here :-)

*Message #13 Posted by **GE** on 5 Oct 2005, 4:53 a.m.,*
in response to message #12 by Marcus von Cube, Germany

Fair enough. I think you found WHY it goes to 1/6, while calculus only shows WHAT it does (ie go to 1/6). My remark came out of frustration for not finding an elegant proof. There is still something missing from yours, however. My method was brute force : taylor series to "sufficient" order of sqrt, then summation on each term, being powers of i for i in [n^2, (n+1)^2]. A no brainer, not elegant. Thank you Valentin for this one, very nice.

As we are quite off topic here and into Math Land, do you know of a method to factor numbers of the form (a + b.sqrt(5)) ? Example : (1+sqrt(5)) = (3-sqrt(5)).(2+sqrt(5)) Thanks.

[OT] Special Factorization

*Message #14 Posted by **Valentin Albillo** on 5 Oct 2005, 6:28 a.m.,*
in response to message #13 by GE

Hi, GE:

GE posted:

"Do you know of a method to factor numbers of the form (a + b.sqrt(5)) ? Example : (1+sqrt(5)) = (3-sqrt(5)).(2+sqrt(5)) Thanks. "

Surely you're aware that the factorization, if possible, is not unique, right ? For example, for the particular case you gave, we have:

```
(1 + sqrt(5)) = (a + b*sqrt(5)) . (c + d*sqrt(5))
```

with a,b,c,d integer, where your factorization corresponds to the case a = 3, b = -1, c = 2, d = 1. But you can factorize 1 + sqrt(5) using factors of the stated form in infinite ways, these are but a few possibilities:

```
   a       b       c       d
 ------------------------------
   2       1       3      -1    (your factorization)
   7       3      -2       1
   9       4     -11       5
  29      13       9      -4
  38      17      47     -21
 123      55     -38      17
 161      72    -199      89
```

so you have, for instance:

```
(161 + 72*sqrt(5)) . (-199 + 89*sqrt(5)) = (1 + sqrt(5))
```

as you may check. The general solution is a simple case of diophantine equations, which, if I'm not wrong, in this particular case reduces to a variation of the generalized Pell's equation. See:

Pell's Equation

I'd like to elaborate but am incredibly busy right now. Nevertheless, for the particular example you gave of factoring (1+sqrt(5)) and for you to check your future, general results, this small HP-71B program will directly compute (no search) and print the first ten set of coefficients (A,B,C,D) such that (A+B*r)*(C+D*r) = (1+r), where r =sqrt(5).

```
100 DISP " A          B           C           D"
110 DISP "-----------------------------------------"
120 DESTROY ALL @ STD @ R=SQR(5) @ FOR N=1 TO 5
130 A=IROUND(((2+R)^N+(2-R)^N)/2)
140 B=IROUND(((2+R)^N-(2-R)^N)/(2*R))
150 DISP A,B,FNC(A,B),FND(A,B)
160 A=IROUND(((1+R)*(2+R)^N+(1-R)*(2-R)^N)/2)
170 B=IROUND(((1+R)*(2+R)^N-(1-R)*(2-R)^N)/(2*R))
180 DISP A,B,FNC(A,B),FND(A,B)
190 NEXT N
200 DEF FNC(A,B)=(5*B-A)/(5*B^2-A^2)
210 DEF FND(A,B)=(B-A)/(5*B^2-A^2)
```

Upon running, it produces:

```
A            B            C            D
-----------------------------------------------
2            1            3           -1
7            3           -2            1
9            4           -11           5
29           13           9           -4
38           17           47          -21
123          55          -38           17
161          72          -199          89
521          233          161         -72
```

```
 682          305          843         -377
 2207         987         -682          305
```

which expands on the results given above.

Best regards from V.

Edited: 5 Oct 2005, 11:08 a.m.

Re: Valentin, I think I know what's going on here :-)

*Message #15 Posted by **Marcus von Cube, Germany** on 4 Oct 2005, 8:29 a.m.,*
in response to message #10 by Valentin Albillo

Hi Valentin,

thank you for the warm words :-)

I must admit that I had my calculators (HP 49G+ and TI Voyage 200) do the 'dirty work' of computing the integral. In the meantime I did it myself with pencil and paper and the result is defintly 1/6, independent of n.

What is your source for these challenges? Is it just the top of your head?

Marcus

Re: Valentin, I think I know what's going on here :-)

*Message #16 Posted by **Valentin Albillo** on 4 Oct 2005, 10:44 a.m.,*
in response to message #15 by Marcus von Cube, Germany

Hi again, Marcus:

Marcus posted:

"thank you for the warm words :-)"

They're well deserved. You've been a regular contributor to my mini- and micro-challenges of all sorts, clearly showing a lot of interest in them and contributing many good ideas.

"Valentin, any real proof? "

Sort of. Using the Euler-Maclaurin formula for sums, we readily get the asymptotic expression:

```
  k=n
 \---          2  3/2   1  1/2    1  -1/2     1   -3/2
  >   sqrt(k) = - n    + - n    + -- n     + ---- n     + ...
 /---          3       2        24         2880
  k=1
```

and, when applied to our particular sum, we get (asymptotically):

```
  k=(n+1)^2
  \---                2         7    1    1       1   3n^2+3n+1
   >    sqrt(k) = 2n  + 3n + - - -- ------ - ---- ---------- + ...
  /---                      6   24 n(n+1)   2880 (n(n+1))^3
  k=n^2
```

and the fractional part of this expression does tend to 1/6 (as numerically found), Q.E.D.

"What is your source for these challenges? Is it just the top of your head?"

Not really. I read a lot of math, be they books, newsgroups or whatever. Everytime I find something interesting, I keep a mental note of it and, when appropriate, it may constitute the 'mother lode' for some mini- or micro-challenge, hoping that like-minded people will also be as amused by it as I was in the first place.

Fortunately, math is a *very* amusing discipline and it's actually quite easy to find fascinating quirks and facts aplenty.

```
  888888888888888888888888888888888888887 = 922166778639871 *
9639133717221253830634 97

  199999999999999999999999999999999999999999999 = 14188750452331121 *
1409567394055769572492644719

  666666666666666666666666666666666666666666666667 =
696005971439957313307 * 957846188140324490364319384 81

555555555555544444444444444433333333333333322222222222222222111111111111111
= 3063441154048486369668261625739 *
1813501639557726700682317058436863161212841 49
```

Best regards from V.

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DIRECTIONAL DRILLING PROGRAMS

*Message #1 Posted by **JAMES DAUGHERTY** on 3 Oct 2005, 1:30 a.m.*

NEED HELP FINDING COPY OF DIRECTIONAL DRILLING SURVEY PROGRAM. IF HAVE INFO PLEASE E MAIL THANKS

Re: DIRECTIONAL DRILLING PROGRAMS

*Message #2 Posted by **don wallace** on 3 Oct 2005, 2:36 a.m.,*
in response to message #1 by JAMES DAUGHERTY

I just typed "directional drilling software" into google and got a whole heap of links. The following one was for the 49G:

www.geocities.com/easydrill

You could also e-mail Haliburton or Straightline...

(I fixed the water control and designed a replacement joystick for tram control on a Straightline 2462 once... that was fun!)

Kind regards,

Don W

Edited: 3 Oct 2005, 2:37 a.m.

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HP 01 WATCH MODULE REMOVAL

*Message #1 Posted by **RICK ROAT** on 2 Oct 2005, 10:34 p.m.*

ANY HINTS OR EXPERIENCES ARE WELCOMED!

Re: HP 01 WATCH MODULE REMOVAL

*Message #2 Posted by **Eric Smith** on 3 Oct 2005, 4:38 p.m.,*
in response to message #1 by RICK ROAT

I don't know how to do it. But if you're replacing a defective module with a good one from another watch, I'd really like to acquire the defective module for reverse-engineering purposes for Nonpareil.

Re: HP 01 WATCH MODULE REMOVAL

*Message #3 Posted by **Bernhard** on 4 Oct 2005, 4:47 p.m.,*
in response to message #2 by Eric Smith

Oh yeah,

don't throw anything away. I've just bought a brand-new $72 microscope including PC camera (presumably made in the Ukraine of ex-Soviet union fame, the camera possibly made in China), and I'll try to make chip photos of a 1820-2028 for reverse engineering). These are the moments I regret to have resigned from the job in the old company... but this failing countries' socialistic taxes and social security made that $120k/yr job absolutely noneconomical in terms of net income. Now I must do all those neat chip photos myself and pay for the equipment myself...

Bernhard

Re: HP 01 WATCH MODULE REMOVAL

*Message #4 Posted by **RICK ROAT** on 5 Oct 2005, 6:19 p.m.,*
in response to message #2 by Eric Smith

If you want to make an offer for the module or the complete watch, please let me know.

Thanks,

Rick

Re: HP 01 WATCH MODULE REMOVAL

*Message #5 Posted by **Eric Smith** on 5 Oct 2005, 11:37 p.m.,*
in response to message #4 by RICK ROAT

I'm certainly willing to make an offer, especially if it is non-functional. I want a non-functional module to tear apart for reverse-engineering (photomicrograph the ROM chips), in order to add HP-01

simulation to Nonpareil.

I'd rather not destroy a working watch to do that, and I can't justify paying the price of a working watch.

Re: HP 01 WATCH MODULE REMOVAL

*Message #6 Posted by **RICK ROAT** on 6 Oct 2005, 8:59 p.m.,*
in response to message #5 by Eric Smith

Please let me know if you want to make an offer on this non-working HP 01 Watch.

Thanks, Rick

Re: HP 01 WATCH MODULE REMOVAL

*Message #7 Posted by **RICK ROAT** on 11 Oct 2005, 5:17 p.m.,*
in response to message #5 by Eric Smith

Eric, If your $250.00 offer stands, I accept, please let me know your address and mode of payment.

Thanks

Rick

Re: HP 01 WATCH MODULE REMOVAL

*Message #8 Posted by **David Smith** on 4 Oct 2005, 5:56 p.m.,*
in response to message #1 by RICK ROAT

If I remember right there is a retaining ring that secures the module. And another one that secures the keyboard. I believe that they are threaded in different directions. Also they are not solid rings, but have a small split in them.

Re: HP 01 WATCH MODULE REMOVAL

*Message #9 Posted by **RICK ROAT** on 5 Oct 2005, 6:16 p.m.,*
in response to message #8 by David Smith

David, You are correct, this watch is built to last, sometime it was submerged and corrosion occured in small amounts.

Thanks,

Rick

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Anyone want a rambox (made) for the hp 41?

*Message #1 Posted by **don wallace** on 2 Oct 2005, 2:56 p.m.*

Wondering how nay if any would like to experiment with machine language programming on a hp41.

There are some solutions around but they latch up occassionally (not good).

I am interested in building an enhanced copy of the old ERAMCO RAMBOX. I might make a few if anyone wants one.

I am planning to do a little MCODE programming on the 41, so I feel I need one ;-)

Don W

Re: Anyone want a rambox (made) for the hp 41?

*Message #2 Posted by **Meindert Kuipers** on 3 Oct 2005, 1:15 p.m.,*
in response to message #1 by don wallace

Don,

With all due respect: with Clonix, MLDL2000 and efforts underway by others I do not see why there would be interest in the good old Eramco RAMBOX. Playing with mcode can be done on the simulators as well.

And about lockups: programming mcode is almost a guarantee for locking up your calc!

Meindert

Re: Anyone want a rambox (made) for the hp 41?

*Message #3 Posted by **don wallace** on 3 Oct 2005, 7:05 p.m.,*
in response to message #2 by Meindert Kuipers

Hi Meindert,

Regardless of the cause (hardware glitch or software bug) there is NO PRACTICAL APPLICATION for a system which crashes, (apart from as an example of human fallability).

There are enough examples of human fallability in the real world. The oil crisis (this one is real and permanent) and environmental degradation are the main one I think about.

The answers to your question are:

RELIABILITY and PRICE ;-) An extensible hardware platform and optional HARDWARE FLAGS are an extra bonus. Since when does anyone have to STOP at the point others have reached?

I do want to politely make the point that I am only interested in practical applications for this regretably

ancient machine. If others want to work on extending it I think that is JUST WONDERFUL! that others already have is great.

Thanks to your work Meindert and Diego D. and John I. and many others we have these marvellous gadgets. They are GREAT, but they are not perfect.

I am only coming up to speed fully with all the history of these projects. However I note that these guys didn't have to BUILD THEIR OWN Logic State Analyzers. So maybe I can contribute something to all this?

What would be helpful to the community if painful for the developers is a public bug list so that if/when designs are released the community can work on squashing them.

After all, that's what they did at hp R and D...

Have a nice day.

Don Wallace

Edited: 3 Oct 2005, 7:24 p.m.

Re: Anyone want a rambox (made) for the hp 41?

*Message #4 Posted by **Jeff D** on 3 Oct 2005, 5:06 p.m.,*
in response to message #1 by don wallace

Don, Please contact me regarding this topic. I would like to discuss some details with you. Please remove the NOSPAM from the e-mail address. Thanks, Jeff

(deleted post)

*Message #5 Posted by **deleted** on 3 Oct 2005, 7:07 p.m.,*
in response to message #4 by Jeff D

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

Re: Anyone want a rambox (made) for the hp 41?

*Message #6 Posted by **Christoph Klug** on 4 Oct 2005, 3:52 a.m.,*
in response to message #5 by deleted

Dear Don,

if you create a rebuild version of the ERAMCO RAM-Box than realise the 128KByte version which includes 4 softwareselected banks...

With best wishes - Christoph Klug

(deleted post)

*Message #7 Posted by **deleted** on 4 Oct 2005, 5:43 a.m.,*
in response to message #6 by Christoph Klug

This Message was deleted. This empty message preserves the threading when a post with

followup(s) is deleted. If all followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: Anyone want a rambox (made) for the hp 41?

*Message #8 Posted by **Doug Wilder** on 5 Oct 2005, 2:13 a.m.,*
in response to message #7 by deleted

Hi Don,

You have seen Lyne Wilkins MLDL project/schematics? PPC V9N3P27 (1982) Note: V9N4P2

Best

Re: Anyone want a rambox (made) for the hp 41?

*Message #9 Posted by **Meindert Kuipers** on 5 Oct 2005, 6:08 a.m.,*
in response to message #8 by Doug Wilder

This is indeed the best starting point, and some other articles in the PPC, explaining the operation of the HP41 interface. Also I recommend the HP41 Service Manuals, which have bits of information that is missing in the PPC articles, especially on the startup- and powerdown behavior. Make certain that you really understand how the WROM instruction works, this can be tricky.
Must reads are:
* Inside the HP41C, article by Kelly McLellan: PPC Calculator Journal V6N7
* HP41 Bus Interfacing, article by Jim De Arras: PPC Calculator Journal V7N3
* HP41 Machine Language Development Lab, article by Lynn A. Wilkins: PPC Calculator Journal V9N3
All this information is available on the various sets of CD's or DVD's that are available at MoHPC or TOS.
Soon I will publish the VHDL source and schematics of the MLDL2000, feel free to use this as a starting point.

Meindert

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Need help updating ROM on 49G+

*Message #1 Posted by **Stephen Easterling** on 1 Oct 2005, 11:21 p.m.*

I'm using Windows XP and have been unsuccessful with my USB connectivity software. I'm wondering if the CD that come with the calculator has a version of the connectivity "kit" that is not compatible with Windows XP. Any ideas?

I've tried using the SD card. At the time of purchasing the 49G+, I also got an HP 64 meg SD card. So I hunt down the ROM 2.00, save it, unzip it, and save it to my SD card. Question: Do I need to get a version of the ROM 2.00 that is for a particular FAT? If so, how do I format my SD card for this?

The rest of the instructions on how to update the ROM for the 49G+ seem to be clear.

Thanks very much!

Stephen

PS: Sorry if this topic has been discussed so much.

Re: Need help updating ROM on 49G+

*Message #2 Posted by **James M. Prange (Michigan)** on 2 Oct 2005, 3:29 p.m.,*
in response to message #1 by Stephen Easterling

Try the current "connectivity kit" at HP's site. Be sure to properly remove the USB driver for every port that you've tried the 49g+ on, before installing the new driver.

To me, it seems easier to just use the MMC/SD card to upgrade the ROM.

Also, for questions about the RPL models, you might do better searching the Google archive of the comp.sys.hp48 usenet group.

Regards,
James

Re: Need help updating ROM on 49G+

*Message #3 Posted by **James M. Prange (Michigan)** on 2 Oct 2005, 4:47 p.m.,*
in response to message #1 by Stephen Easterling

Oh yeah, for the SD card, no, there aren't different ROM versions available for different FAT formats. The "boot loader" built-in to the 49g+ works only with cards formatted FAT16, so that's what you have to have the card formatted to for ROM upgrades. Maybe Windows XP gives you a choice of formats? You may have to use the Windows command line with switches to get the choice. But assuming that you haven't upgraded to ROM 2.00 yet, your 49g+ should format the 64MB card to FAT16 anyway.

The 49g+ ROM revision 1.23 and lower formats 8MB cards to FAT12, and all larger cards to FAT16, and,

except for ROM upgrades, reads either FAT12 or FAT16.

With ROM revision 2.00, 8MB cards are still formatted FAT12, but very unfortunately, it won't read FAT12 cards. It formats 16MB and 32MB cards to FAT16, which can be read and used for ROM upgrades. It formats 64MB and larger cards to FAT32, which it can read, but of course can't be used for ROM upgrades. This was all noted quite a while ago, but we're still waiting for ROM revision 2.01. Of course, we can expect plenty of complaints from those who've already used ROM 2.00 to format their cards FAT32, and find that they can't use them for the next ROM upgrade.

Of course the above card capacity are "nominal"; the available capacities of MMCs will be somewhat less, and of SD cards, even less than MMCs.

Regards,
James

Edited: 2 Oct 2005, 4:50 p.m.

Re: Need help updating ROM on 49G+

*Message #4 Posted by **Stephen Easterling** on 2 Oct 2005, 6:29 p.m.,*
in response to message #3 by James M. Prange (Michigan)

Thanks, James (and everyone) for the help. Late last night I figured it out. I first had to insert the card into the calc and format it BEFORE I could use it. (This, of course, erased the files I had on it.) Afterward the 49G+ formatted it to the FAT16, I went back to the PC and copied the two files needed to do the ROM 2.00 update. It was simple after this. The thing I didn't know or get from the manual was that I needed to take this first formatting step. I have reduced the size of my 64 MB card now, but at least it works. The ROM 2.00 seems to have helped the missed key entries a lot. First the first time I actually want to use this calculator and not throw it against the wall.

I'm still trying to get the connection for Windows XP to work with the CD that came with the calc. It installs and seems to work, but I can only get so far. Oh well, I prefer the SD card now anyway.

Re: Need help updating ROM on 49G+

*Message #5 Posted by **Stephen Easterling** on 2 Oct 2005, 6:30 p.m.,*
in response to message #3 by James M. Prange (Michigan)

Come to think of it, I forgot how I actually used the calc to format the SD card. Do you recall the steps needed to do this? I know I didn't see them written down anywhere. (Thanks!)

Re: Need help updating ROM on 49G+

*Message #6 Posted by **James M. Prange (Michigan)** on 2 Oct 2005, 9:18 p.m.,*
in response to message #5 by Stephen Easterling

With ROM 2.00, it's simpler. With the card inserted, press LeftShift FILES, and you should see "FORMA" in the menu over the F3 key. Press F3 and you'll get an "Are you sure?" type warning. OK that and it will format the card. This method doesn't require any warmstart, but sometimes doesn't seem to work if the card doesn't already have a valid format. (I've sometimes used a disk editor to tweak the boot record, and mistakes happen.)

It will format your 64MB card to FAT32 though, so you'd have to reformat it to FAT16 with something else to use it for the next ROM upgrade.

Although FAT32 allows more files than FAT16, and a root directory limited only by the card capacity, it reduces the available storage capacity a bit. Given the capacity of the cards, this shouldn't be much of a problem for "typical" calculator files.

With a card inserted, there's a slight delay before anything visible happens when turning the calculator on. I've surmised that the delay depends on (besides the speed of the card) the size of the FAT. Since for a given card size, FAT32 allows more entries in each FAT, and each entry is larger, this can be annoying with large capacity FAT32 cards. I don't think it would be a problem with a 64MB card, but it can be very annoying with larger cards with small clusters. If you find it to be a problem, try using FAT16, or increase the cluster size, thus decreasing the number of FAT entries. Of course you'd have to use something other than the 49g+ for such "customized" formats. The 49g+ doesn't give you any options as to how it formats a particular card; that depends only on the card's capacity.

You could also use [ON]&[F4] (together) to get to a tests screen, then press [9] (CARD) for a TEST/FORMAT screen, then [2] (FORMAT) for a "last chance to bail out" screen, then [1] to actually start formatting. Note that you'd have to invoke a warmstart [ON]&[F3] or a paperclip warmstart to back out of this method.

Yet another way is to use [ON]&[F6] to get to a different tests screen, then [-] (CARD), then [2] (FORMAT), then [1] to actually start formatting. With this method, after backing out to the tests screen, you can just press [ON] (REBOOT) for the warmstart.

Formatting via the tests screens seems to work with some mis-formatted cards that fail from the filer.

Oh, also note that the 49g+ allows you to store files with names that differ only in case. This is nice as long as you leave the card in the 49g+, but it confuses the heck out of MS Windows (and I suppose maybe other OSes), and it's very easy to trash such files if you try to do anything with them in your PC.

Regards,
James

Re: Need help updating ROM on 49G+

*Message #7 Posted by **James M. Prange (Michigan)** on 4 Oct 2005, 5:48 a.m.,*
in response to message #6 by James M. Prange (Michigan)

By the way, for those still using a ROM revision earlier than 2.00, the procedure above using the [ON]&[F4] keys is the only one available on the calculator.

The 49g+ can use a "MultiMediaCard" (MMC) as well as a "Secure Digital" (SD) card. Differences are that MMC card have a bit more available capacity, lack the "lock" switch and a small notch on the right side, have seven contacts instead of nine, and are 2/3 the thickness.

Of course the MMC also lacks the "security" features of the SD card. These "security" feature are meant to limit the distribution of copyrighted content. I don't know; maybe they could be used by someone selling applications for the 49g+.

The SD card's lock switch position is ignored with ROM revisions earlier than 2.00 (you can indeed write to a "locked" card), but works as expected with 2.00 (attempting to store to a locked card results in a "Disk Protected" error).

An MMC*plus* **should** work, but should function as an ordinary MMC in devices (such as the 49g+) not designed to take advantage of the extra I/O lines. Don't be expecting the dramatic increase in speed from using one.

The smaller size cards are available pretty cheap on eBay, although older cards typically seem to be slower. I expect that even an "8MB" card would be plenty big for typical calculator uses. But note that ROM 2.00 formats 8MB cards to FAT12, which it won't read from or write to.

Regarding my "64MB" capacity MMC, here are some numbers that I've come up with. Note that I'm treating 1MB as 2^20=1048576 Bytes here, although the card manufacturers consider 1MB to be 1000000 Bytes. SD cards will have fewer total sectors available, because some capacity is used for "security" purposes. The FAT16 boot record was tweaked with a disk editor. For FAT16, the root directory can hold up to 512 entries if the filenames all comply with "8.3" all capitals DOS "short" file naming conventions; a "long" filename directory entry is larger, thus fewer can fit in a given directory. "Your mileage may vary."

```
Total sectors (unformatted):
        125440=64225280B=62720KB=61.25MB


Formatted FAT16, 1KB clusters
Reserved sectors:
        2=1024B=1KB~0.0010MB
Sectors per FAT:
  244, allowing up to 62462 entries for clusters.
Sectors used in both FATs:
        488=249856B=244KB~0.2383MB
Sectors used for (nominal) 512 entry root directory:
        32=16384B=16KB~0.0156MB
Total sectors used up for formatting:
        522=267267B=261KB~0.255MB
Sectores left for files (including subdirectories}:
        124918=63958016B=62459KB~60.9951MB
1KB clusters for files (including subdirectories):
        62459


Formatted FAT32, 512B clusters.
Reserved sectors:
        32=16384B=16KB
Sectors per FAT:
        973, allowing up to 124542 entries for clusters.
Sectors used in both FATs:
        1946=996352B=973KB~0.950MB
Sectors used for (initial, 1-cluster) root directory:
        1 sector: 512B=0.5KB~0.0005MB
Total sectors used up for formatting:
        1979=1013248B=989.5KB~0.9963MB
Sectors left for files (including larger root directory and subdirectories):
        123461=63212032B=61730.5KB~60.2837MB
0.5KB clusters for files (including larger root directory and subdirectories):
        123461
```

I expect that it would be a long time before I maxed out this card in terms of either total file sizes plus slack space or maximum number of files, regardless of whether I format it FAT16 or FAT32.

Regarding the connectivity kit and USB driver on the CD-ROM, if it's lower than Version 2.2 Build 2353 with USB driver Version 1.2, then remove them (if already installed) and imstall the current versions instead.

Regards,
James

Re: Need help updating ROM on 49G+

*Message #8 Posted by **James M. Prange (Michigan)** on 4 Oct 2005, 7:05 a.m.,*
in response to message #7 by James M. Prange (Michigan)

After posting, I noticed that the FAT32 format from the 49g+ left a bit to be desired, so I tweaked things to increase the available capacity slightly. Here's what I have on it now.

```
Total sectors (unformatted):
        125440=64225280B=62720KB=61.25MB


Formatted FAT32, 512B clusters.
Reserved sectors:
        32=16384B=16KB
Sectors per FAT:
        965, allowing up to 123518 entries for clusters.
Sectors used in both FATs:
        1930=988160B=965KB~0.9424MB
Sectors used for (initial, 1-cluster) root directory:
        1 sector: 512B=0.5KB~0.0005MB
Total sectors used up for formatting (including initial root directory):
        1963=1005056B=981.5KB~0.9585MB
Sectors left for files (including larger root directory and subdirectories):
        123477=63220224B=61738.5KB~60.2915MB
Total 512B clusters:
        123478
512B clusters left for files (including larger root directory and
subdirectories):
        123477
```

Regards,
James

Re: Need help updating ROM on 49G+

*Message #9 Posted by **I, Claudius** on 2 Oct 2005, 7:01 p.m.,*
in response to message #3 by James M. Prange (Michigan)

I'm trying to follow you here: are you saying a good way to update the ROM is to first format an SD card of 16 MB or greater in the calc under ROM 1.23, then load ROM 2.0 onto the card from the pc, then upgrade the calc from the card?

I'm in no way criticizing, I find this highly interesting. I went through three of the 49+s some time ago and gave up on the machine. Now that word has come out that newer serial numbers with the new ROM are working, it's getting my hopes up again of trying another 49. What is it about these HPs that gets me going? Egad, a nerd addiction...

Re: Need help updating ROM on 49G+

*Message #10 Posted by **Tim Wessman** on 2 Oct 2005, 8:19 p.m.,*
in response to message #9 by I, Claudius

From what I understand, the FAT32 support wouldn't fit in the space allocated for the ROM updater. For this reason, upgrading from the SD card needs fat16. Upgrading via USB does work well once you get the hang of it, but I generally just use the card as it is faster than opening the conn4x program.

TW

Re: Need help updating ROM on 49G+

*Message #11 Posted by **Stephen Easterling** on 2 Oct 2005, 8:56 p.m.,*
in response to message #9 by I, Claudius

In response to...

"I'm trying to follow you here: are you saying a good way to update the ROM is to first format an SD card of 16 MB or greater in the calc under ROM 1.23, then load ROM 2.0 onto the card from the pc, then upgrade the calc from the card?"

... Yes, this is what I did. I tried several times just loading the two files onto the SD card and then inserting it into the 49G+ (then holding teh +/-, resetting, updating ROM,... via SD card, etc) but this never worked after multiple attempts. Then I hit something on the calculator (can't recall what I did!) and formatted it to the calc's FAT16 using its ver 1.23. I felt like I was starting to get somewhere after several hours of trying. A lightbulb appeared over my head and I went back to the PC, copied the ROM 2.00 update files back to the SD card, and tried it again in my 49G+. This time it worked perfectly. A quick test of my keypad indicated it was working much better than before. I won't know until I balance my checkbook tonight and use it at work this if it will be satisfactory, but at least it is much better.

Hey anyone,... how did I format the new SD card in my calc? I can't remember which buttons I pushed!

Re: Need help updating ROM on 49G+

*Message #12 Posted by **James M. Prange (Michigan)** on 2 Oct 2005, 9:55 p.m.,*
in response to message #9 by I, Claudius

> Quote:
>
> I'm trying to follow you here: are you saying a good way to update the ROM is to first format an SD card of 16 MB or greater in the calc under ROM 1.23, then load ROM 2.0 onto the card from the pc, then upgrade the calc from the card?

Yep, you've got it. Of course you could also use some other device to format the card to FAT16, but it has to be FAT16 to use the card for reflashing the ROM.

As Tim mentioned, you can also upgrade the via USB.

Personally, I've gotten in the habit of using the card for all upgrades and file transfers, but USB works fine too, at least with Windows. But don't even bother with trying the "connectivity kit" on the CD-ROM; get the current kit from HP's Web site.

For anyone with a Mac, try Michael Heinz's HPConnect. It's reported to be very good for file transfers, although I don't think it includes anything for ROM upgrades.

For anyone using Linux, ask on the comp.sys.hp48 newsgroup.

Regards,
James

Re: Need help updating ROM on 49G+

*Message #13 Posted by **Howard Owen** on 2 Oct 2005, 10:12 p.m.,*
in response to message #12 by James M. Prange (Michigan)

> Quote:
>
> Personally, I've gotten in the habit of using the card for all upgrades and file transfers, but USB works fine too, at least with Windows.

Works with Linux, too. As long as you have a working USB implementation. The newer distros all include kernel 2.6, whcih does a *much* better job with USB. The best software I've found to drive

the connection is hptalx. The same software works great with the HP-48[SG][X+].

Oh, and the copy files to a formatted SD card technique works great in linux too. 8)

Edited: 2 Oct 2005, 10:13 p.m.

Re: Need help updating ROM on 49G+

*Message #14 Posted by **Stephen Easterling** on 3 Oct 2005, 1:26 p.m.,*
in response to message #3 by James M. Prange (Michigan)

I just came across a great place that further explains the 49G+ but I think I'm the last person to see it. In case there are others out there that need help with their 49G+ w.r.t. SD cards, check out the following link

http://www.hp.com/calculators/graphing/49gplus/scientists.html

and go to the "Using a Secure Digital Card with ROM 1.22" section.

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HP 48G Directional Force

*Message #1 Posted by **Joshua Bright** on 2 Oct 2005, 10:33 a.m.*

Does anyone know if there a program or native feature that would calculate directional force (Calculus 2 exercise)? The school I go to is only keen to TI calculators. Thanks!

"Directional Force"?

*Message #2 Posted by **Karl Schneider** on 2 Oct 2005, 11:17 p.m.,*
in response to message #1 by Joshua Bright

Joshua --

What exactly do you mean by "directional force" for calculus? Vector dot- and cross-products?

-- KS

Re: HP 48G Directional Force

*Message #3 Posted by **WigglePig** on 3 Oct 2005, 4:40 a.m.,*
in response to message #1 by Joshua Bright

Hmm,

I seem to remember that forces are vector quantities and therefore are directional by default.

Maybe you mean dot and/or cross products, in such things as "resolving" forces in given directions?

Regards

WigglePig

Re: HP 48G Directional Force

*Message #4 Posted by **Joshua Bright** on 4 Oct 2005, 12:07 p.m.,*
in response to message #3 by WigglePig

I made a mistake I'm looking for direction field options jnot directional force for the HP48G.

I asked me professor about it. He said that we would be graphing the derivative, which would include many different possibilites. From those possibilities he would give us different conditions like the interval from a-b. We would then enter those conditions and it would show the correct graph.

This program is associated with Eulers method if that makes sense. Let me know if you have any suggestions. Thanks guys!

Re: HP 48G Directional Force

*Message #5 Posted by **I, Claudius** on 5 Oct 2005, 9:38 a.m.,*
in response to message #4 by Joshua Bright

Your 48G is abysmally slow for drawing direction fields for difeq plots, and they often do not resemble what the plot should look like. The TI89, which does a great job of slope field plots, beats the heck out of HP, and is another example of how TI has been able to lock up 99% of educational calculator sales.

A quick way around this would be to plug in numbers into the equation at selected intervals to directly compute the slope. This is what us old folks did before graphing calculators came along.

Hopefully your school will some sort of computer algebra system available, such as Maple. These programs can quickly and accurately plot these and other more difficult graphs to help you visualize the math.

Edited: 5 Oct 2005, 9:42 a.m.

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New entry in MoHPC Articles Forum

*Message #1 Posted by **Karl Schneider** on 2 Oct 2005, 1:47 a.m.*

All --

I have posted a new article (#556) in the MoHPC Articles Forum: "HP SOLVE/INTEG on all RPN-based models"

It is a further development of my recent Forum posting, with better organization and some additioanl information.

I hope to follow it up with complete summaries and benchmarking of the all SOLVE and INTEG functions, but it may be some time.

-- KS

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Andy (aerospace eng), can you drop me a line?

*Message #1 Posted by **don wallace** on 2 Oct 2005, 12:15 a.m.*

donwallace63@yahoo.com.au

Don Wallace

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HP48SX Lack of Laplace transforms

*Message #1 Posted by **David Houston Thompson** on 1 Oct 2005, 9:23 p.m.*

Hello, I am new to using symbolic type HPs. The old 48SX that I bought does not seem to be able to cope with simple Laplace transforms - it cannot fathom the necessary integration. I was surprised at this. I would be most grateful if someone could tell me if I am correct in my assumption that the HP48SX can't manage such an integration. Also, can anyone tell me if a card can be bought to enable the HP48SX to manage such transforms.

Thanks for your consideration of this problem.

Re: HP48SX Lack of Laplace transforms

*Message #2 Posted by **Scott** on 1 Oct 2005, 9:37 p.m.,*
in response to message #1 by David Houston Thompson

Hello,

Erable does Laplace and Inverse Laplace transforms and is available in an SX version... read the instructions carefully for special SX installation steps. I used it quite a lot in the old days.

Click here to download.

Regards, Scott Guth

Re: HP48SX Lack of Laplace transforms

*Message #3 Posted by **I, Claudius** on 2 Oct 2005, 3:51 a.m.,*
in response to message #1 by David Houston Thompson

If you want real symbolic power then get a 49 or 49+. Both have LaPlace/Inverse LaPlace commands. Both machines have a true CAS, quite good for a handheld, unlike your 48, which has sort of a joke CAS. Both machines can be bought cheaply, especially the original 49, going on eBay as new old-stock for $60-$100. The speed of the 49/49+ is much faster than the 48 as well. If your 48SX is in good shape it will sell on eBay to help finance your 49.

As for the Erable program for the 48, it was way overrated. I found it to be so full of bugs and limitations that it was not worth using. It was not until the author of Erable got paid by HP to develop the true CAS of the 49 that it become a good program.

Re: HP48SX Lack of Laplace transforms

*Message #4 Posted by **David Houston Thompson** on 2 Oct 2005, 7:09 a.m.,*
in response to message #3 by I, Claudius

Thanks I Claudius for your help. I was completely underwhelmed by my HP 48SX's symbolic abilities, but as a novice user I was wary of jumping to conclusions before seeking the opinion of more experienced users. So basically what you are saying is that the HP 48SX has a rubbish CAS. When I tried some Laplace

transforms on an old TI-92 it performed well when given the transform as an explicit integration with lower and upper limits of A and B, then I could let A tend to zero and B tend to infinity.

It's a pitty that the HP 48SX could not provide a capable CAS, and it's only saving grace seems to be it's build quality - ah well.

Thanks

Re: HP48SX Lack of perspective

*Message #5 Posted by **Randy** on 2 Oct 2005, 9:44 a.m.,*
in response to message #4 by David Houston Thompson

Let's see, a graphic calculator designed with a custom 2 mhz processor complete with a high-level language somewhere around 1989 or 1990...

How about some perspective before you go criticizing a fifteen year old example of technology? Please don't forget the title of this forum - the *HP Museum*.

Do you call Wordstar a joke because it had no WYSIWYG print preview?

Edited: 2 Oct 2005, 9:51 a.m.

Re: HP48SX Lack of perspective

*Message #6 Posted by **don wallace** on 2 Oct 2005, 1:51 p.m.,*
in response to message #5 by Randy

Hi Randy,

Good point...

I remember wordstar... (and DBASE II ;-)

DW

Re: HP48SX Lack of Laplace transforms

*Message #7 Posted by **I, Claudius** on 2 Oct 2005, 9:50 a.m.,*
in response to message #4 by David Houston Thompson

To be quite frank, scrap or sell your 48SX. It's an underpowered dinosaur. I know this is heresy in an HP newsgroup, but I'll admit to owning a TI89, the handheld version of the old brick 92. The 92 has now been superseded by a somewhat smaller thing called the Voyage 200. The CAS in the 89, a version of Derive, is outstanding. If the 89 had an RPN OS and memory structure like the 49 it would be almost perfect. Indeed, if you're worried about build quality of the new 49+, and need a reliable calc with a good CAS, buy a TI89.

There are a number of very good programs available for the 89, an equation writer, and an nth-order difeqs program that also does LaPlace. You can find them and other links at http://www.technicalc.org/

Re: HP48SX Lack of Laplace transforms

*Message #8 Posted by **don wallace** on 2 Oct 2005, 1:49 p.m.,*
in response to message #3 by I, Claudius

Hi, I CLAUDIUS,

Thanks for the info, very interesting...

DW

Re: HP48SX Lack of Laplace transforms

*Message #9 Posted by **I, Claudius** on 3 Oct 2005, 8:45 a.m.,*
in response to message #8 by don wallace

Most definitely, the CAS of the 49/49+, while far from perfect, is very good for a handheld. The Erable program for the 48 was quite popular, and the author was a Ph.D mathematician. HP did the smart thing in hiring him to write the 49 CAS. What killed the 49 was its bizarre departure from HP tradition, the ugly "frozen hamster butt" colored case, rubber keys, and stupidly redundant upper screen that scratched with air merely blowing across it. This is probably due to the 49 team being controlled by some very young just graduated engineers, a bad move. There is no doubt in my mind that if HP had simply updated the 48 with the CAS, Flash ROM capability and black screen it would have been a good seller. Then they would have lots of time to get the 49+ or the mythical HP50 right.

Now it's all outsourced to this Kinpo. HP needs to bring all calculator R&D and production back in house, and hire some first rate engineers and programers.

Edited: 3 Oct 2005, 8:50 a.m.

Re: HP48SX Lack of Laplace transforms

*Message #10 Posted by **don wallace** on 3 Oct 2005, 9:01 a.m.,*
in response to message #9 by I, Claudius

Hi, I Claudius,

So I gather from a casual read of these interesting threads, that the 48 is solid and nice, but sucks a bit computationally and the 49G has the firmware but is built like a kludge? Do I have that right?

I was thinking for tinkering round with some cheap graphing calc. For under $100 U.S. what will I get on Ebay, do you think?

Thanks

Don

Re: HP48SX Lack of Laplace transforms

*Message #11 Posted by **Ron Ross** on 3 Oct 2005, 10:18 a.m.,*
in response to message #10 by don wallace

You could buy an Hp48Gii for under $100, new. It is nearly the same as the Hp49G+.

But you could buy the Hp49G+ for $130 new from Hpcalc.org also. At a bit more than $30 over the cost of the Hp48Gii you get a much more capable calculator in terms of memory and upgradability. Today they are nearly equalivant, but as more software becomes available and the OS evolves the gap between the two can only widen.

If you abandon RPN, you widen up your selection significantly. But for brute force abilities, nothing else matches up to the Hp49G series aside from moving to a PC and math software (ie a

PDA loaded up with software). However you give up a dedicated keyboard, fast boot up time, and the lowcost of a calculator in comparision.

The Ti-89 is a good second choice. But at $150, it is 50% more than your stated price ceiling.

Third in capability (CAS wise) is probably a tie between the Casio FX2.0 and an Hp40GS (available only in Europe). These calculators are a distant third in comparision to the Ti-89 above. I would say the Hp40GS should edge out the Casio, but it isn't yet formally available to confirm.

I personally still use an Hp48G at work. I use and carry a 49G+ for its wealth of features and its speed. But for general number crunching, I like my 48G better (I am slow to trust the keyboard of my 49G+ for desktop use).

If you shop ebay, you should get a 49G+ or an older Ti-89 for less than $100. But with the HP, you would not get your 1 year warrentee. I suspect it is worth the $30 more to have one year of support/trade in for the 49G+ and buy it new.

Re: HP48SX Lack of Laplace transforms

*Message #12 Posted by **I, Claudius** on 3 Oct 2005, 5:36 p.m.,*
in response to message #10 by don wallace

Actually, the first HP49 is the most reliable, whereas you're still taking a gamble with the 49+. The rubber keys take some getting used to, but they do work. There are quite a few new old-stock units available on eBay for $60-100. Get one of those and you won't have forked out megabucks. I have heard good things about newer serial numbered 49+s but not consistently. I'm going to wait a bit longer before trying another 49+. I went through several of the early ones, only to get one bad one after another. My original 49 works quite well. Aside from the case and keys, it is a reworked 48 with a CAS, big memory and file system.

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HP 21 display repair

*Message #1 Posted by **Harry (Germany)** on 1 Oct 2005, 5:58 p.m.*

Hi,

did anyone try to repair a 20series display? I got one display with a non working left digit. This seams to be a corrosion problem. A battery leaked into the whole calculator. Then I have another Display from a 20series wich has one faulty segment in the second digit from the right. Now I am wondering how to make one display for my (otherwise very good) 21 that I just bouth. I think there are two options. One is to cut the two display board in half, glue them togather and reconnect the copper lines. The other one is to try and replace the digit on the corroded board with a singel led, as in the 21 this digit is only used for the "-" in negative numbers. Both of those options seam to be very difficult. Any other suggestions? I will probably end up buying another non working 20series for the display :)

Thanks for reading all this nonsense :)

Regards, Harry

Re: HP 21 display repair

*Message #2 Posted by **Gerson W. Barbosa** on 1 Oct 2005, 8:48 p.m.,*
in response to message #1 by Harry (Germany)

Isn't this a 59,5 x 18 mm board with 12 7-segment LED and 20 point connection points for other board? I have one of these in front of me. It was given to me last week by a friend who knows I like these things. There's soldering on three of the connection points (he's a radar technician and like doing experiments - hopefully he hasn't damaged it :-). Anyway, this would cost you ... a post card! E-mail me if interested.

Regards,

Gerson.

You got mail. NT

*Message #3 Posted by **Harry (Germany)** on 2 Oct 2005, 6:16 a.m.,*
in response to message #2 by Gerson W. Barbosa

no text

Re: HP 21 display repair

*Message #4 Posted by **David Smith** on 2 Oct 2005, 3:27 p.m.,*
in response to message #1 by Harry (Germany)

The display module uses chip-on-board technology where the individual LED chips are attached to the board and wire bonded down This makes the LED module like a big integrated circuit chip. You can pretty much forget sawing the thing in half and patching it back together... unless you have a wire bonder, chip bonder, full

chip doctor setup, etc... but if you had these you probably would not have asked the question. Best to find a machine with a bad ACT or RAM chip, and salvage the display module.

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HP 41C Charger lead

*Message #1 Posted by **Chris** on 1 Oct 2005, 9:55 a.m.*

My 82067B charger showed an intermittent fault at the battery connector after accidental crushing underfoot. Dismantling the connector revealed a broken diode(?) embedded in the rubber body.

Is this a Zener or what? Any ideas of characteristics and function?

Grateful for any advice to get 41C operating again: I have had this since new in 1980 and am lost without it!

Re: HP 41C Charger lead

*Message #2 Posted by **David Smith** on 1 Oct 2005, 12:50 p.m.,*
in response to message #1 by Chris

The HP41 nicad battery pack and all the HP41 peripherals ran on the same charger (US model 82059). This charger is a simple AC output transformer with around 8VAC output. There was no diode, etc in the lead.

Re: HP 41C Charger lead

*Message #3 Posted by **Tony Duell** on 2 Oct 2005, 5:42 a.m.,*
in response to message #2 by David Smith

There are components in the charger plug of the topcat/HP41 charger. They're not well-known or documented, but the Portable Plus Technical manual mentions them -- it gives an example circuit for a car charger for that machine, gives a part number for the lead/plug (same cable as for the HP41, etc) and mentions the fact that it contains a pair of zener diodes in inverse series.

I don't know if it's 2 separate diode packages in inverse series or one component that acts like a bidirectional zener. The former would certainly work, though. I seem to remember they're something like 27V each (so they certainly don't do anything in normal use, just suppress transients), I will have to check.

Incidentally, that seems to be the difference between the -A and -B charges for the Woodstock and Spice series. The -B models have the zener diodes. In at least one series they're fitted inside the adapter case, not moulded inside the plug.

Re: HP 41C Charger lead

*Message #4 Posted by **David Smith** on 2 Oct 2005, 3:33 p.m.,*
in response to message #3 by Tony Duell

I once sliced open a bad HP-97 charger plug to fix a broken wire. Did not see any diodes in there, and I did some pretty major hacking on the thing. I eventually wound up cutting the plug off, making a wax mold, and cast a replacement. Looks like not all 82059's have diodes have diodes.

Re: HP 41C Charger lead

*Message #5 Posted by **Chris** on 3 Oct 2005, 9:25 a.m.,*
in response to message #3 by Tony Duell

The broken mystery component was wired across the two leads from the transformer. It probably was about 4 mm long and 1mm diameter, opaque glass casing.

The transformer gives 13 VAC (on my meter), no load. Perhaps two Zener diodes in opposition (or a single bi-directional)could be used to smooth out and reduce this 13VAC to the rated 8 VAC marked on the case. If this is so, what value should they (it) have?

As an experiment I put 1W 7.5V Zener across the lead but it soon overheated and gave 6VAC output!

One of the Forum archive entries (1999?) mentions that the charger built into the battery pack operates from " a 12V rail ".

Finally, what is the Portable Plus manual?

Many thanks for your responses.

Re: HP 41C Charger lead

*Message #6 Posted by **Tony Duell** on 3 Oct 2005, 1:46 p.m.,*
in response to message #5 by Chris

The transformer in this adapter (as in the other HP calculator chargers) has deliberately poor regulation, and appears to the load as having a relatively high (about 10 ohms from what I remember) internal resistance. It may well give 12V+ off-load (or with just a DVM connected), but this will drop when you connect it to a battery pack. A few years ago I connected various load resistors to each type of charger, measured the voltage and plotted the V-I curve. They were all very linear. I still have the data and the calculated values of the open-circuit voltage and internal resistance for various chargers. Let me know if you want this.

I do remember that the zener diodes in this, and in other HP chargers, were a much higher voltage than the transformer would ever give. I remember taking a spare charger lead and connecting it to my bench PSU (0-30V adjustable) with a resistor in series and measuring the zener voltage. I think it was about 27V. The zener therefore has no effect in normal operation, it is there to suppress high voltage transients only.

Finally, the Portable Plus was an HP Laptop computer, an enhanced HP110 (which was called the 'Portable'). It runs MS-DOS from ROM, but is not IBM compatible (neither at the hardware or BIOS level from what I remember). I have a couple, I also have the service manual and technical reference manual for it. It runs off an internal 6V lead-acid battery, but the plug-in charger is the same as the one for the HP41 (and topcats, HPIL peripherals, etc). The techref for that machine certainly mentions the zeners.

Re: HP 41C Charger lead

*Message #7 Posted by **Chris** on 4 Oct 2005, 10:37 a.m.,*
in response to message #6 by Tony Duell

I will try a 27V bi-directional Zener in the cord and see if it will charge the battery pack outwith the calculator.

Thanks for the offer of the VI data but I do not think I would need them at this point. My main aim is to get the 41C back into operation soon.

Again, many thanks for the reponses.

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Little memory in my hp 48gII

*Message #1 Posted by **jose goncalves** on 1 Oct 2005, 8:36 a.m.*

Is it possible that the memory of my HP 48gII is much smaller than what the manual says ? Whem I try to see the memory structure with FILES, all I get is 0: IRAM 80 KB Home 80 KB -CASDIR

I cannot see 1: ERAM nor 2: FLASH and the amount of memory available is nothing close to the fugures I see on page 26-1 of the User´s Guide. Where is it hiding memory ?

The serial number is CNA 4360....

Thanks for helping me to recover memory.

Jose

Re: Little memory in my hp 48gII

*Message #2 Posted by **.** on 1 Oct 2005, 8:49 a.m.,*
in response to message #1 by jose goncalves

You have a HP48gii, NOT a HP49g+. The 48gii does not have this extra memory.

.

Re: Little memory in my hp 48gII

*Message #3 Posted by **Gene** on 1 Oct 2005, 10:28 a.m.,*
in response to message #1 by jose goncalves

Jose, the HP48gII only has about 80K of available memory for the user. The other memory you refer to is in the 49g+. Sorry!

Re: Little memory in my hp 48gII

*Message #4 Posted by **jose goncalves** on 1 Oct 2005, 11:10 p.m.,*
in response to message #3 by Gene

Well, it´s quite remarkable, for the manual I´m using is the HP48gII User´s guide, 2003 edition, that I downloaded from somewhere some months ago.

Jose

Re: Little memory in my hp 48gII

*Message #5 Posted by **Gene Wright** on 2 Oct 2005, 7:33 a.m.,*
in response to message #4 by jose goncalves

Hi again Jose. Can you give me an exact page reference where it says the "48gII" has that much memory?

I have the manual here and would like to look it up.

thanks, Gene

Re: Little memory in my hp 48gII

*Message #6 Posted by **jose goncalves** on 2 Oct 2005, 12:08 p.m.,*
in response to message #5 by Gene Wright

Well, This information is in two segments of the User´s guide: pages 2-32 to 2-35 and again in the Chapter 26 - Managing memory (the main picture of the display is in page 26-1 and is the same you can see in page 2-35.

I am not familiar with the HP 49G+, so I wonder if it´s so completely compatible with the HP 48gII that all functions and commands are the same. Even if this user guide I have was for the HP 49+, I think there might be some noticeable differences in terms of contents.

All I can learn from this is that the HP 48gII doesn´t even have the same amount amount of memory as the HP 48G does. Is this correct ?

Jose

Re: Little memory in my hp 48gII

*Message #7 Posted by **Gene** on 2 Oct 2005, 2:59 p.m.,*
in response to message #6 by jose goncalves

The 48gII and 49g+ are completely compatible with each other. All commands are the same...

other than:

The 49g+ has USB whereas the 48gII has serial. The 49g+ has 1MB of flash ram whereas the 48gII has none. The 49g+ has a larger screen than the 48gII. The 49g+ has an SD card slot but the 48gII does not have one. The 49g+ ROM can be updated but the 48gII cannot.

And, the memory differences you have already noticed (80K on the 48gII).

EVERYTHING else is the same. Any differences are a result of these differences. Example? The default graphing ranges are different on the 48gII vs. the 49g+ with ROM 2.0, since Rom 2.0 is "large screen aware".

For any practical purpose, they are the same with these differences.

Re: Little memory in my HP-49G+, as well ...

*Message #8 Posted by **HrastProgrammer** on 2 Oct 2005, 4:51 a.m.,*
in response to message #1 by jose goncalves

The back page of my HP-49G+ manual says:

"512KB RAM plus 2MB flash ROM"

Where is that "512KB RAM"?!? I see 256K of main RAM and 128K of ERAM (Port 1). Of course, I know

that another 128K bank is reserved for the system but, as user, I am only interested in the amount of RAM which is free for me to use and this is 384K.

"2.5MB of total memory lets you take advantage of the most comprehesive library of calculator programs, etc., etc."

What "2.5MB of total memory"?!? There is 384K of RAM and less than 800K of flash memory (as seen from the Filer) free to the user!

Re: Little memory in my HP-49G+, as well ...

*Message #9 Posted by **James M. Prange (Michigan)** on 2 Oct 2005, 4:07 p.m.,*
in response to message #8 by HrastProgrammer

I suppose that it's sort of like the amount of usable storage of any magnetic disk, optical disk, or flash memory card.

Ever notice how much is actually available to the user for storing files on a "1.44MB" formatted 3.5" floppy? And if I recall correctly, those floppies were first marketed as having "2MB" (small print: unformatted) capacity.

For an even better example, my PC has 512MB of memory, but I've never had that much available for actual use by applications with the MS Windows (or any other) operating system running. And of course the operating system files take up some space on my hard drive too, so even its "formatted" capacity isn't fully available for my use.

The 48 series also have somewhat less than the specified memory capacity actually available for the user.

Face it, sellers will tell us the best-sounding specs that they can get away with, and either put the less fortunate details somewhere inconspicuous, or neglect mentioning them.

They aren't exactly "lying"; that capacity really is built in to the calculator, although since it isn't all available to the user, it does seem rather "misleading".

Regards,
James

Edited: 2 Oct 2005, 4:09 p.m.

Re: Little memory in my HP-49G+, as well ...

*Message #10 Posted by **HrastProgrammer** on 3 Oct 2005, 1:31 a.m.,*
in response to message #9 by James M. Prange (Michigan)

... my PC has 512MB of memory...
... The 48 series also have somewhat less than the specified memory capacity actually available for the user.

As a beginner, I didn't know that, sorry. I believed that all 131072 bytes in my HP-48GX are free! Of course that some amount of memory is reserved for the system, this is normal. I am not talking about system overhead and I haven't even mentioned that HP-49G+ has 256K RAM of which about 240K (or less) is free to user while 16K (or more) is reserved. But HP is talking about 512K RAM of which 128K is totally invisible to the user (not showing in Filer etc.) and about 2M flash memory (for "the most comprehesive library of calculator programs, ...") of which 1280K is occupied by the system ROM!

And of course the operating system files take up some space on my hard drive too, so even its "formatted" capacity isn't fully available for my use

Obviously, you used it to install the operating system because you had many different operating systems to choose from. What isn't available to you is the system BIOS (flash) ROM. It would be wrong if the manufacturer of your PC wrote that you have 2M of flash memory installed for "the most comprehesive library of computer programs" ...

Edited: 3 Oct 2005, 6:21 a.m.

Re: Little memory in my HP-49G+, as well ...

*Message #11 Posted by **James M. Prange (Michigan)** on 4 Oct 2005, 7:40 p.m.,*
in response to message #10 by HrastProgrammer

It gets worse. With ROM 2.00, libraries 266 and 267 (for the Equation Library) are stored in port 2 (user flash), using up over 66KB more of it.

On the other hand, HP's Web site lists the memory for the 49g+ as 1.13MB, so apparently someone at HP realized that advertising 2.5MB was misleading.

Regarfd,
James.

Re: Little memory in my HP-49G+, as well ...

*Message #12 Posted by **HrastProgrammer** on 5 Oct 2005, 12:44 a.m.,*
in response to message #11 by James M. Prange (Michigan)

Thanks for the info. I have a very old HP-49G+ (CN3310...) and the numbers above are from its manual. Good to see that someone at HP was aware of the wrong numbers.

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HP-IL/RS-232-C

*Message #1 Posted by **Gileno** on 30 Sept 2005, 10:18 a.m.*

Which the program that I should use (Win2000) to communicate with HP-IL/RS-232-C Interface?

Thank you

Re: HP-IL/RS-232-C

*Message #2 Posted by **Eric Smith** on 30 Sept 2005, 1:54 p.m.,*
in response to message #1 by Gileno

I have had nothing but trouble with the terminal program supplied with Windows. I use CRT or SecureCRT from Vandyke, and they are *very* good, but they are commercial. You can download them for a time-limited evaluation.

Other than that, a lot of people like PuTTY, which is free (in both senses).

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Concise Calc History

*Message #1 Posted by **Tim Wessman** on 30 Sept 2005, 9:43 a.m.*

Where can I find a concise histroy of calculators since the beginning? A few pages of who did what first, advancements, etc.

Thanks.

TW

Re: Concise Calc History

*Message #2 Posted by **Gene Wright** on 30 Sept 2005, 10:29 a.m.,*
in response to message #1 by Tim Wessman

Just make sure you find a history that has the following item:

December 1, 2005: Tim Wessman and John Evers change the surveying world forever when their 49g+ solution is unveiled.

:-) Be glad when you guys have it available! I think it will be a big hit! Gene

Re: Concise Calc History

*Message #3 Posted by **Tim Wessman** on 30 Sept 2005, 2:21 p.m.,*
in response to message #2 by Gene Wright

Hmm . . . :-0

TW

Re: Concise Calc History

*Message #4 Posted by **Gene** on 30 Sept 2005, 7:05 p.m.,*
in response to message #3 by Tim Wessman

I wasn't being sarcastic. :-)

I think you guys have a great product coming! Gene

Re: Concise Calc History

*Message #5 Posted by **Karl-Ludwig Butte** on 30 Sept 2005, 10:36 a.m.,*
in response to message #1 by Tim Wessman

There may be no one 100%-super-perfect-site. I guess the information is scattered around the Internet and you'll find pieces of the puzzle here and there. Very good pieces you'll find here at our all favourite HP-

Museum, other pieces you can find her: http://www.snarc.net/pda/pda-treatise.htm. Maybe other members of this community will give more links. Have fun putting the pieces together.

Regards

Karl

Re: Concise Calc History

*Message #6 Posted by **Katie Wasserman** on 30 Sept 2005, 10:51 a.m.,*
in response to message #5 by Karl-Ludwig Butte

Rick Bensene keeps and maintains an excellent and concise timeline on his site:
http://www.oldcalculatormuseum.com/timeline.html

Re: Concise Calc History

*Message #7 Posted by **Tim Wessman** on 30 Sept 2005, 2:19 p.m.,*
in response to message #6 by Katie Wasserman

Hey great! That was exactly what I was looking for. Thanks. I appreciate the link!

TW

Re: Concise Calc History

*Message #8 Posted by **don wallace** on 1 Oct 2005, 11:39 p.m.,*
in response to message #6 by Katie Wasserman

Excellent Timeline, but no mention at all of hp 41C series (!)

DW

Re: Concise Calc History

*Message #9 Posted by **Doug Wilder** on 1 Oct 2005, 12:30 a.m.,*
in response to message #1 by Tim Wessman

Another timeline to take a look at (there is also a forum):

http://www.xnumber.com/xnumber/frame_timeline.htm

Best

Re: Concise Calc History

*Message #10 Posted by **db (martinez, ca.)** on 1 Oct 2005, 12:52 a.m.,*
in response to message #1 by Tim Wessman

prologue
approach
HP-41cx
decline
degeneracy

Re: Concise Calc History

*Message #11 Posted by **Howard Owen** on 1 Oct 2005, 2:14 a.m.,*
in response to message #10 by db (martinez, ca.)

Glad you didn't take that any further! 8)

Edited: 1 Oct 2005, 2:14 a.m.

Re: Concise Calc History

*Message #12 Posted by **valentino ducati (switzerland)** on 1 Oct 2005, 5:35 a.m.,*
in response to message #10 by db (martinez, ca.)

@db: sad, bad, but true...

Re: Concise Calc History

*Message #13 Posted by **valentino ducati (switzerland)** on 1 Oct 2005, 5:40 a.m.,*
in response to message #1 by Tim Wessman

@Tim: Have a look at www.finseth.com/~fin/hpdata.html

Down the site you will find an "Evolution Chart". It is an interesting view in very compact and concise format regarding the HP calculators.

Valentino

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UK HP-41CX why ?

*Message #1 Posted by **HP 41 USER** on 30 Sept 2005, 2:21 a.m.*

Does anyone know anything about the brand new hp-41cx being sold on Ebay. I have seen at least 10 to 20 per month in the last 2 years. They are new old stock and all are UK sellers... what is the story behind them?. Were these units hidden, lost, forgotten .. stolen ?

Re: UK HP-41CX why ?

*Message #2 Posted by **Namir** on 30 Sept 2005, 10:28 a.m.,*
in response to message #1 by HP 41 USER

These units were stored somewhere and basically or practically forgotten. They surfaced recently and were selling on eBay. They are unused and new units.

Namir

Re: UK HP-41CX why ?

*Message #3 Posted by **John Nguyen** on 2 Oct 2005, 12:37 a.m.,*
in response to message #1 by HP 41 USER

> Quote:
>
> Does anyone know anything about the brand new hp-41cx being sold on Ebay. I have seen at least 10 to 20 per month in the last 2 years. They are new old stock and all are UK sellers... what is the story behind them?. Were these units hidden, lost, forgotten .. stolen ?

I've only noticed the UK 41CX sales on eBay recently, but I've only seen 1 or 2 per month, not 10. Maybe the stock is getting low? I'd love to have one of those UK New-In-Box 41CXs, but the going price is outrageous. There was one sold back in June for $651.99. Ouch. See http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&category=11713&item=5783408911

John

Re: UK HP-41CX why ?

*Message #4 Posted by **Darin Ingimarson** on 13 Oct 2005, 11:39 a.m.,*
in response to message #3 by John Nguyen

I bought 2 of these from this seller about a year and a half ago. I paid considerably less than the $600+ USD noted in the previous post. Both arrived in new, old stock condition. I saw one go for about $950 once -- pick your battles on ebay and you'll do OK.

Both appear to operate just fine. I bought one as a backup for my trusty but aging 41CX, and the other I bought, well, as a backup for the backup. My wife took a somewhat dim (but ultimately tolerant) view of

this, but she simply doesn't understand why one cannot be without one's 41CX!

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MoHPC *The Museum of HP Calculators*

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Newbie Question re: HP41CX Card Reader

*Message #1 Posted by **Mike DiGirolamo** on 29 Sept 2005, 10:10 p.m.*

Hi Gang,

Just acquired a HP 41CX (I'm a HP-67 user from way back in the days when it was first introduced). I've loaded in a couple of program tapes from the HP-67/97 Standard Pack and they ran well. Went to load another program and I got the message: "NO ROOM, Try Again." Same message repeats if I load again. I have the X-MEM, STAT and MATH 1 modules plugged into memory slots 1-3 respectively. Is there a command, etc I should run to erase or re-allocate memory, etc? Help please!

Thanks,

Mike

Re: Newbie Question re: HP41CX Card Reader

*Message #2 Posted by **Les Bell** on 29 Sept 2005, 10:44 p.m.,*
in response to message #1 by Mike DiGirolamo

Mike, you want the CLP command. Use CAT 1 to list the programs currently in memory, and note an alpha label of you don't want. Now do:

XEQ ALPHA CLP ALPHA, then ALPHA <label> ALPHA

to delete that program from memory.

Alternatively, use stop CAT 1 with R/S when it's on a label of an unwanted program, and do

XEQ ALPHA CLP ALPHA, then ALPHA ALPHA

to clear the current program.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Newbie Question re: HP41CX Card Reader

*Message #3 Posted by **Howard Owen** on 29 Sept 2005, 11:15 p.m.,*
in response to message #2 by Les Bell

Also, you can allocate memory between storage registers and program lines with the SIZE command:

XEQ (alpha)S I Z E(alpha) NNN

Where XEQ is the key to the right of the gold shift key, (alpha) is the alpha key at the extreme upper right, 'S I ' and so forth denotes spelling out the word with the alpha shifted keyboard, *without* spaces, and NNN are 3 numerals, spelling a number less than or equal to 319, the total number of registers on an HP-41CX.

A 41-CX will come up after a complete "MEMORY LOST" reset with SIZE = 100. That means 100 registers are allocated to data, numbered 0 - 99, and 219 are allocated to program steps. You can tell what your SIZE is on a CX, (or a C or CV with the X Functions module) with the SIZE? command:

XEQ (alpha)S I Z E ?(alpha)

That will return the current SIZE to the X register. If you haven't changed it, it should still be 100. If your programs don't need that many registers, you can choose a smaller SIZE and possibly free up enough to load the extra program.

Of course, with the card reader, you can just load whatever you CLP again later. It does eat batteries though.

Edited: 29 Sept 2005, 11:17 p.m.

Re: Newbie Question re: HP41CX Card Reader

*Message #4 Posted by **Mike DiGirolamo** on 30 Sept 2005, 12:35 a.m.,*
in response to message #2 by Les Bell

Hi Les,

Thanks for your reply. I did as you said.. but, still have problems. I cleared two programs that were shown under the Catalog 1 command. Tried to read a tape afterwards and got the original message "No Room" back again. SST'd through Catalog 1 and got the following: END 121 END 121 .END. REG12 Is this diagnostic in telling you that there is still another step I need to perform? I am trying to understand what you said about memory re-allocation but I'm going to need to do more reading to understand what you were saying to me.

Regards,

Mike

Re: Newbie Question re: HP41CX Card Reader

*Message #5 Posted by **Les Bell** on 30 Sept 2005, 1:19 a.m.,*
in response to message #4 by Mike DiGirolamo

Hi, Mike,

I think the problem is that you are reading HP-67 program cards, which the card reader will translate - but because the 67 had no alpha capabilities, it will simply put a single label in the first line of the translated program: "01 LBL 67".

So there are no alpha labels in memory, and when you run CATALOG 1, it will just show the END statements for each program. If you SST through a CAT 1, and then press R/S, you should then be able to press PRGM, and use SST/BST to get to line 01 of the program. If it's a translated 67 program, you'll see the label I described above. You can then use [XEQ] [ALPHA] C L P [ALPHA] [ALPHA] [ALPHA] to delete the program. You might see the display briefly flash "PACK" after doing this.

You can also get more program memory by executing a SIZE 026, since HP-67 programs, when translated, only use the first 26 registers. Since the default for a 41CX is SIZE 100, this should give

you an extra 74 registers' worth of program storage.

Congrats on having a working 41CX and 82104A, btw - the wheel on mine is probably gummy and I've never gotten around to fixing it (one of these days!).

Best,

--- Les
[http://www.lesbell.com.au]

Re: Newbie Question re: HP41CX Card Reader

*Message #6 Posted by **Mike DiGirolamo** on 30 Sept 2005, 6:55 a.m.,*
in response to message #5 by Les Bell

Hi Les,

The problem in stepping up to this powerful little calculator (from a HP-67) is that I want to get in and start using it immediately. There is much to learn - and, it must be accomplished "one line at a time."

After following your instructions and executing the CLP command, the problem is fixed. I am likely to assign the CLP command to one of my keys under the USER menu. Looks like I'll be using it quite a bit when running different card programs.

Thanks for all your help and,

Best regards,

Mike

Re: Newbie Question re: HP41CX Card Reader

*Message #7 Posted by **Les Bell** on 1 Oct 2005, 7:25 a.m.,*
in response to message #6 by Mike DiGirolamo

Glad it worked, Mike.

I just remembered one other thing: you can avoid the need to keep using CLP by simply positioning the calculator on the previous HP-67 program (rather than after all programs, which would you would do with [GTO] [.] [.]). If the calculator is positioned on a program, then the program you read in will replace that program. See the card reader manual, step 2 at the bottom of page 14, for details.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Newbie Question re: HP41CX Card Reader

*Message #8 Posted by **Les Bell** on 30 Sept 2005, 1:23 a.m.,*
in response to message #4 by Mike DiGirolamo

Oh - one more thought: If you want to keep several of those HP-67 programs in memory for frequent use, you might want to insert a short alpha label at the beginning of them, perhaps replacing the "01

LBL 67" that the card reader inserts. Just go into [PRGM] mode, SST to that label, and then press [LBL] [ALPHA] <your text here> [ALPHA]. You will then be able to see your new label in CATALOG 1, making it easier to find the programs you have loaded.

Best,

--- Les
[http://www.lesbell.com.au]

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HP 41CV

*Message #1 Posted by **sdbloom** on 29 Sept 2005, 4:43 p.m.*

The display on my HP41CV goes on only when I hit the shift button. It goes off when I release the shift button. Otherwise it seems to work OK. Any ideas?

Re: HP 41CV

*Message #2 Posted by **David Smith** on 30 Sept 2005, 5:35 p.m.,*
in response to message #1 by sdbloom

This is a rather common problem. Usually caused by old solder flux or other gunk (often invisible) on the display module, connector pins, or the CPU board. Open the machine and clean everything with 91%+ isopropyl alcohol. Keep the alcohol off the display lens or it will leave white spots (that can be polished off).

If this does not fix it, the LCD module is probably bad.

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HP Pioneer slip cover - Will it fit the HP-20S ?

*Message #1 Posted by **Chris Catotti (Florida)** on 29 Sept 2005, 2:26 p.m.*

I have an HP Pioneer cover, pictured at:

http://home.earthlink.net/~stop-n-shop-mom/KD4ACE/PIONEER1.JPG

It should fit the whole Pioneer Series: HP-42S 32S 27S 22S 17B 14B

Will it also hold an HP-20S ?

Thanks! http://home.earthlink.net/~stop-n-shop-mom/KD4ACE/PIONEER1.JPG http://home.earthlink.net/~stop-n-shop-mom/KD4ACE/PIONEER2.JPG

Re: HP Pioneer slip cover - Will it fit the HP-20S ?

*Message #2 Posted by **Thomas Radtke** on 29 Sept 2005, 4:37 p.m.,*
in response to message #1 by Chris Catotti (Florida)

It perfectly fits the 20S.

Thomas

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HP-97 Case Yellowing

*Message #1 Posted by **Mike DiGirolamo** on 28 Sept 2005, 5:32 p.m.*

Has anyone been successful in reversing the case yellowing of HP-97 Calculators? I suspect the yellowing is due to a chemical change in the plastic so a possible thought would be to put it in a bag with some (yet to be identified) odoriferous agent that would penetrate and reverse the action. Has anyone explored this or some other approach? All thoughts and ideas will be appreciated -- Mike

Re: HP-97 Case Yellowing

*Message #2 Posted by **bill platt** on 28 Sept 2005, 9:07 p.m.,*
in response to message #1 by Mike DiGirolamo

You mean that yellow color is not original? ;-)

Re: HP-97 Case Yellowing

*Message #3 Posted by **Frank Boehm (Germany)** on 29 Sept 2005, 2:33 a.m.,*
in response to message #1 by Mike DiGirolamo

Usually, the process of yellowing (UV rays destroying macro molecules, aka plastic) is not reversible. You could try H2O2 (should be easily obtainable), which has a bleaching effect. Remember that the 97 case was not white though - so a white case is probably not what you want. In short: just leave it untouched :)

Re: HP-97 Case Yellowing

*Message #4 Posted by **John Mosand** on 29 Sept 2005, 5:03 a.m.,*
in response to message #3 by Frank Boehm (Germany)

I have considerable experience with many PVC slide rules (e.g. Aristo and Faber-Castell). Some of them had yellowed. As an experiment, I placed them exposed to UV (sunlight). Voila, the yellowing disappeared! As an architect (retired) I have also watched white PVC facade elements and window frames. After years, no yellowing observed except, in some cases, on the inside! All of which leads me to believe that UV isn't necessarily the cause, possibly only the effect of certain indoor climates or conditions(?)

Re: HP-97 Case Yellowing

*Message #5 Posted by **Bram** on 29 Sept 2005, 5:30 a.m.,*
in response to message #4 by John Mosand

> Quote:
>
> PVC slide rules

I am not sure whether the HPs were made of PVC. Cases (of HP21 and HP29C) look more like polypropylene or something alike to me.

Well, perhaps not quite PP, but PVC neither, I think.

Re: HP-97 Case Yellowing

*Message #6 Posted by **Nelson M. Sicuro (Brazil)** on 29 Sept 2005, 9:05 a.m.,*
in response to message #5 by Bram

Isn't the HP calculator cases built on ABS plastic?

Best regards to all,

Nelson

Re: HP-97 Case Yellowing

*Message #7 Posted by **bill platt** on 29 Sept 2005, 12:50 p.m.,*
in response to message #6 by Nelson M. Sicuro (Brazil)

the Voyagers (11c) seem to be made of polystyrene...

Re: HP-97 Case Yellowing

*Message #8 Posted by **Mike T.** on 29 Sept 2005, 4:26 p.m.,*
in response to message #6 by Nelson M. Sicuro (Brazil)

I remember reading somewhere (the Hp97 manual ?) that the case was made from a high grade ABS plastic of the same type as used in crash helmets. I think the same was true of the SPICE series, and my HP10C and 11C look like they were made of the same stuff..

It is certainly tough enough, I was once careless enough to allow my HP32E to slide off the desk I was working and out of a first (US second) floor window. I survived a 14' fall onto a concrete surface, suffering only a reasonably minor chip to the bottom left hand corner of the case where it hit the ground - in all other respects it didn't seem to be affected at all (I don't think I even lost the contents of the X-Reg!). I think I aged more than it did!

I still use it today, 24 years later.

Mike T.

Re: HP-97 Case Yellowing

*Message #9 Posted by **Ronald** on 3 Oct 2005, 4:53 p.m.,*
in response to message #1 by Mike DiGirolamo

Hi Mike,

I succesfully revert severely yellowed HP97 cases by leaving them for 1 to 2 days in a chlorine solution. Here in Holland we have something for cleaning your toilet based on chlorine (called Glorix Bleek, dikste ooit). The stuff is quit a thick fluid substance (high viscosity) if you know what I mean.

I put 1 1/2 liter (3 bottles) in a stainless steel pan and let it soak.

After 1 day it lookes likes original and has a very "clean smell".

As far as I have seen no impact on structure etc. of the plastic itself.

I do not heat the solution to speed up the proces, for I am afraid the plastic will deform otherwise. With this there is no need anymore to use abbrasive polish etc.

Succes and let me know how it worked for you.

Ronald

Re: HP-97 Case Yellowing

*Message #10 Posted by **Mike DiGirolamo** on 3 Oct 2005, 5:47 p.m.,*
in response to message #9 by Ronald

Ron,

Could you kindly check the label of "Glorix Bleek" and list the ingredients? I will investigate what products are available in the USA that most closely match up. And, thank you very much for your post! --

Warmest regards,

Mike DiGirolamo

Re: HP-97 Case Yellowing

*Message #11 Posted by **Etienne Victoria** on 4 Oct 2005, 1:49 a.m.,*
in response to message #10 by Mike DiGirolamo

Hello!

Label: http://204.110.160.227/eupioti/pictures/brand/Glorix.jpg

Formula:

Aqua
Sodium Hypochlorite
Sodium Chloride
Cocamine Oxide
Sodium Hydroxide
Sodium Laurate
Parfum
Sodium Silicate

(source Unilever Nl)

Personal comment: Do NOT swallow!

Have a nice day!

Etienne

Edited: 4 Oct 2005, 1:51 a.m.

Re: HP-97 Case Yellowing

*Message #12 Posted by **Ronald** on 5 Oct 2005, 4:20 p.m.,*
in response to message #11 by Etienne Victoria

Hi,

Hi,

Yes, that is the correct label and ingredients,

Is is basic chlorine stuff used to clean the toilet. Only with some trick to make it a bit more syrup like so it will stream away directly.

The chlorine is the bleaching part.

However be carefull do not overdo do it for it will in that case belach some parts of the plastic almost white and some and the desired colour. I am not sure why that is, maybe that the plastic not fully homogenious ?

Also make sure you submerge it completely otherwise you get some parts more bleached that the others if you do match timng very carefully. (I have to confess I found this out the first time).

Succes

Ronald

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Data arithmetic / elapsed days calculation program

*Message #1 Posted by **Stephen Easterling** on 28 Sept 2005, 3:32 p.m.*

Does anyone have a basic program for calculating elapsed days between two given dates? I would like to run this program on a 15C, 33S or any Pioneer series model, and a 48-series.

Re: Data arithmetic / elapsed days calculation program

*Message #2 Posted by **bill platt** on 28 Sept 2005, 3:47 p.m.,*
in response to message #1 by Stephen Easterling

That seems like a "data-intensive" program. Can you make a good alogrythm? Try july31 1947 to april 6, 2004. I guess I would write a supbroutine that 1st figures out the "day number". So you do 31 <enter> 4 <enter> 1947 GSB(x) and calculates days through march---how to store that----a series of if/then could build essentially a "lookup table" so that with "4" it returns 90 days--what about the leap years--a nested if/then for that?

Then you add the days to the month "lookup table reuslt" and that is stored in a register, as is the start year.

Then you run the same thing for the second date. Then the years subtract--oh, we need a leap year figurer for that part, too.

I think this is too much memory for hte 15c, but it would fit in the 33s and the 48g.

I am sure there is a program for (on the 48 and 49) this available at hpcalc.org.

Regards

You're joking, right ? :-)

*Message #3 Posted by **Valentin Albillo** on 29 Sept 2005, 4:18 a.m.,*
in response to message #2 by bill platt

Hi, Bill:

Bill wrote:

"I think this is too much memory for hte 15c, but it would fit in the 33s and the 48g."

You're joking, right ? The HP-15C can do this sort of calculation using 1/10th of its programming resources, at most.

As for the 33s and its 32 Kb of RAM, try and invert an 8x8 matrix using it. The 0.4 Kb HP-15C can do that directly from the keyboard.

Best regards from V.

Re: You're joking, right ? :-)

*Message #4 Posted by **bill platt** on 29 Sept 2005, 8:52 a.m.,*
in response to message #3 by Valentin Albillo

Hi Valentin,

Glad I got your attention; I have not conversed with you in some time :-)

Well, seeing that some here are more clever than me, yes indeed it looks like you can easily fit the problem into a 15c.

I am afraid that my stream-of-consciousness idea of a solution would never fit into the 15c.

Yet another example of how much more effective brains (15c, excellent built-in resources, efficient memory allocation) wins over brawn (33s, gobs of memory, difficulty using most of it) any day.

On this day, I fit into the brawn category :-(

Regards,

Bill

Re: You're joking, right ? :-)

*Message #5 Posted by **Gerson W. Barbosa** on 29 Sept 2005, 9:45 p.m.,*
in response to message #4 by bill platt

Hi Bill, folks,

Valentin is right: a DAYS BETWEEN DATES program does fit in the 15C memory. It even fits in the 11C memory. The following program has 140 lines and includes DAY OF WEEK as well (Of course Valentin would need only half of these, or even less if he manages to concoct a more amazing formula :-) . This is a direct implementation of the formulas used by the Master Library Module of the TI-59 calculator, one of my earliest 15C program, so do not expect anything close to perfection, quite the contrary! (Apparently, at the time I did not know what LSTx was for. I would also sometimes use 2 10^x instead of 100 just to save a step, even though this just makes the program slower, sometimes in the same program I would use simply 100).

```
f LBL 0 x<>y STO 0 x<>y ENTER g INT STO 1 Rv RCL 1 - 2 10^x * ENTER
        g INT STO 2 Rv f FRAC 4 10^x * STO 3 2 ENTER RCL 2 g TEST 7
        GTO 1 RCL 3 ENTER 1 - 100 / 1 + g INT .75 * g INT CHS ENTER RCL 3
        ENTER 1 - 4 / g INT + RCL 2 ENTER 1 - 31 * + RCL 1 + RCL 3
        ENTER 365 * +
        g RTN
f LBL 1 RCL 3 ENTER 365 * RCL 1 + RCL 2 ENTER 1 - 31 * + RCL 2
        ENTER .4 * 2.3 + g INT - RCL 3 ENTER 4 / g INT + RCL 3
        ENTER 100 / 1 + .75 * g INT -
        g RTN
f LBL A GSB 0 RCL 0 GSB 0 RCL 0 - CHS
        g RTN
f LBL B GSB 0 ENTER CHS ENTER 7 / g INT 7 * +
        g RTN
```

f A works just like the DeltaDYS on the 12C, when D.MY format is set.

Unlike the DATE function on the 12C, f B requires only one argument (the date) and returns 0=Sat, 1=Sun, ... 6=Fri. This is quite handy in Portuguese as the days of the week are the corresponding ordinal numbers from Monday (segunda = 2nd) to Friday (sexta = 6th) :-)

Example:

01.012005 ENTER 31.122005 f A => 364

29.092005 f B => 5 'Today is quinta-feira, oops, Thursday!'

Regards,

Gerson.

---------- Notes:

1) The listing is supposed to be ok as I have just keyed it in the 11C and it worked. The program seems to be ok too. Of course g TEST 7 should be replaced by f x>y on the 11C. For speed, occurrences of 2 10^x and 4 10^x should be replaced by 100 and 10000 (or 100 g x^2), respectively.

2) The Brazilian edition of the TI-59/59 Master Library Module Manual has some typos (missing parentheses and brackets). I think the pencil annotation I made is correct:

```
if m < 3 then
  f:=365a + d + 31(m-1) + int ((a-1)/4)-int(3/4(int((a-1)/100)+1))
else
  f:=365a + d + 31(m-1) + int(a/4) - int(3/4(int(a/100) + 1)) - int(0.4m + 2.3)

day of week = f + (int(-f/7)*7)

a=year; m=month; d=day
```

A funny mistranslation in this manual:

The HI-LO GAME (ML-21) was translated as JOGO: Alô? Veja! (GAME: Hello? Look!) which made no sense at all! Apparently, the translator thought LO was short for 'LOOK' and HI was just the interjection 'hi'.

(Edited to correct a couple of typos - I never get rid of them!)

(Edited again to include a missing **g INT** in third line)

To the list of beginner's mistakes in this program, I have to mention at least ten unnecessary ENTERs :-) There's going to be a cleaner version below in the thread.

Edited: 1 Oct 2005, 1:19 a.m.

Re: Data arithmetic / elapsed days calculation program

*Message #6 Posted by **don wallace** on 29 Sept 2005, 6:24 a.m.,*
in response to message #2 by bill platt

Hi all, Hi Bill.

Good question, Stephen. I'm into astronomy, so also into this stuff... (JD etc...)

One thing about the forum, you sure get some REALLY GOOD ANSWERS!

Even if you were on a desert island and had no calculator, it's easy to work out how many days old you are (that is also sobering...we are a bit ephemeral, imho).

You just work out what the leap years are (easy since if they divide into four they are, except for years divisible by 400).

Make a small list of them (a single small look up table). You just then some simple work (30days hath september...) to get from start day/month to end day month (ignoring years). Add to this the 365 x number of years between the dates (if more than 1) and finally, count how many leap years are in between, adding one day for each leap year. There's your answer. Nearly do it in your head...

DW

Re: Data arithmetic / elapsed days calculation program

*Message #7 Posted by **James M. Prange (Michigan)** on 28 Sept 2005, 3:54 p.m.,*
in response to message #1 by Stephen Easterling

For the 48 (and 49) series, you can use the DDAYS command, as long as the dates are from October 15th, 1582 through December 31st, 9999.

With system flag -42 clear, the arguments should be formatted as MM.DDYYYY, and with flag -42 set, the format is DD.MMYYYY.

Regards,
James

HP48 Day-of-week (was: Data arithmetic / elapsed days calculation program)

*Message #8 Posted by **Vieira, L.C. (Brazil)** on 30 Sept 2005, 5:09 p.m.,*
in response to message #7 by James M. Prange (Michigan)

Hi;

the day-of-week (DOW in the HP41CX or HP41 Time Module) in the HP48G may be obtained with TSTR (Time STRing). A brief description of TSTR can also be found here: HP48GII Users´s Guide (chapter 25).

TSTR uses the contents in both Level 2 (time stamp) and Level 1 (date reference) to compose a string (ALGEBRAIC mode demands arguments in the same order),. Given that both contents are valid, the resulting string (Level 1) is added a three-character reference **head** for the day-of-week (MON, TUE, WED...).

Cheers.

Luiz (Brazil)

Edited: 30 Sept 2005, 5:14 p.m.

Re: HP48 Day-of-week (was: Data arithmetic / elapsed days calculation program)

*Message #9 Posted by **Gerson W. Barbosa** on 30 Sept 2005, 6:42 p.m.,*
in response to message #8 by Vieira, L.C. (Brazil)

Quote:

> Given that both contents are valid, the resulting string (Level 1) is added a three-character reference head for the day-of-week (MON, TUE, WED...).

Hi Luiz,

TSTR is very handy, but the output is in English. What about days of the week in languages other than English, like good ol' Portuguese, for instance?

<< "SábDomSegTerQuaQuiSex" 1.012 ROT DDAYS 7 MOD 3 * 1 + DUP 2 + SUB >>

Flag -42 setting is irrelevant! Just enter the date according to the date format on your calculator:

30.092005 => "Sex" (sexta-feira)

Replace "SabDomSegTerQuaQuiSex" with your favorite string:

```
"SamDimLunMarMerJeuVen"
"SabDomLunMarMerGioVen"
"SábDomLunMarMiéJueVie"
"SâmDumLunMarMieJoiVin"
"SatSunMonTueWedThuFri"
"SamSonMonDieMitDonFre"
"ZatZonMaaDinWoeDonVri"
"LörSönManTisOnsTorFre"
"LauSunMaaTiiKesTorPer"
"SobNiePonWtoSroCzwPia"
```

etc...

Cheers,

Gerson.

Re: Data arithmetic / elapsed days calculation program

*Message #10 Posted by **Gunnar Degnbol** on 28 Sept 2005, 5:14 p.m.,*
in response to message #1 by Stephen Easterling

I don't have a calculator program, but it is fairly easy:

1) Move new year to the first of march, so that march is month 0 and february is month 11 of the previous year.

2) Compute the days since some day in january 1 BC as

dn = year DIV 400 - year DIV 100 + year * 1461 DIV 4 + month * 153 DIV 5 + dayofmonth

DIV is integer division, a very useful operation on the HP 33S (but easy to substitute with divide and INTG).

3) Do this for both dates and subtract the results.

If you want the day of week, this can be reduced to

dow = (year DIV 400 - year DIV 100 + year * 5 DIV 4 + month * 13 DIV 5 + dayofmonth) MOD 7

This is called Zeller's congruence.

You can ignore the year DIV 400 - year DIV 100 part if you are only interested in the 20th and 21st centuries.

Re: Data arithmetic / elapsed days calculation program

*Message #11 Posted by **htom** on 28 Sept 2005, 5:48 p.m.,*
in response to message #10 by Gunnar Degnbol

Convert each to Julian Day Numbers and subtract.

http://scienceworld.wolfram.com/astronomy/JulianDate.html

Or if you can limit your range, use the Modified Julian Day Numbers (note that these change at midnight, not noon!)

http://scienceworld.wolfram.com/astronomy/ModifiedJulianDate.html

Re: Data arithmetic / elapsed days calculation program

*Message #12 Posted by **Stephen Easterling** on 28 Sept 2005, 8:21 p.m.,*
in response to message #11 by htom

Thanks (everyone) for a terrific response. I knew it had something to do with Julian date, but I was wondering if there were other ways since some of these calcs keep time / date.

Re: Data arithmetic / elapsed days calculation program

*Message #13 Posted by **Bram** on 29 Sept 2005, 5:38 a.m.,*
in response to message #12 by Stephen Easterling

> Quote:
>
> (...), but I was wondering if there were other ways since some of these calcs keep time / date.

You do know that the HP-12C even has a button to calculate days between dates, don't you?

Re: Data arithmetic / elapsed days calculation program

*Message #14 Posted by **Stephen Easterling** on 29 Sept 2005, 12:23 p.m.,*
in response to message #13 by Bram

Yeah, I have the 12C and love this feature about it. I have several other HPs that calculate elapsed days. For the ones that don't calculate this, I want to write a short program to calculate it. Reason: I'm a medical physicist and frequently I need to calculate elapsed days for a cancer patient's treatment (from start to finish). This is most helpful for the physicians, really, but I have to "QA" every patient's chart weekly. For years I either do it in my head or manually (but using a calc). Now I'm learning to think smarter (or just being lazy!). I think I will first try the Modified Julian Date method since it seems easier. I have over a dozen new HPs added to my collection and trying to rotate them in/out of use (at home and at work) and need them to do what I want them to do. (My first HP was a 28S in '89 and cut my teeth on it.)

Re: Data arithmetic / elapsed days calculation program

*Message #15 Posted by **Gerson W. Barbosa** on 30 Sept 2005, 12:27 p.m.,*
in response to message #14 by Stephen Easterling

Meanwhile, you can use the 15C program above. It is no masterpiece but it works!

In testing it, I can see that today I am exactly 16141 days old, a prime number. And that I got married on a Wednesday (11/11/1987, all prime numbers too... but that was not on purpose), which matches what I can remember.

To use the MM.DDYYYY format you're used to, just replace the first two lines with these:

```
f LBL 0 x<>y STO 0 x<>y ENTER g INT STO 2 Rv RCL 2 - 100 * ENTER
        g INT STO 1 Rv f FRAC 4 10^x * STO 3 2 ENTER RCL 2 g TEST 7
```

Best regards,

Gerson.

Re: Data arithmetic / elapsed days calculation program

*Message #16 Posted by **Andrés C. Rodríguez (Argentina)** on 28 Sept 2005, 7:27 p.m.,*
in response to message #1 by Stephen Easterling

A simple program appears in the HP25 Applications Handbook; a more sophisticated version is published in the HP41 Applications Pac.

The HP25 version is quite simple, due to the limitations of that model (one of my favorites, indeed!). If you would like to understand how it works, and then adapt it to other machines, it may be a very appropriate starting point.

Re: Data arithmetic / elapsed days calculation program: HP 42S

*Message #17 Posted by **R Lion (Spain)** on 29 Sept 2005, 2:22 a.m.,*
in response to message #16 by Andrés C. Rodríguez (Argentina)

I wrote a version of this prg for the 42S and I like very much how it works. Feel free for asking if interested.

Raul

Re: Data arithmetic / elapsed days calculation program: HP 42S

*Message #18 Posted by **Stephen Easterling** on 29 Sept 2005, 12:25 p.m.,*
in response to message #17 by R Lion (Spain)

Yeah, I'm interested. I have a 42S, too, and would like to rotate it in/out of professional / home use and be able to calculate elapsed days. If it makes it easier, my email address is....

s_easterling@earthlink.net

Thanks!

Stephen Melbourne, FL

Re: Data arithmetic / elapsed days calculation program

*Message #19 Posted by **Meindert Kuipers** on 29 Sept 2005, 2:50 p.m.,*
in response to message #16 by Andrés C. Rodríguez (Argentina)

Also check out the PPC ROM Manual (for the HP41) for the functions CJ and JC, these have an excellent backgrounder. These work with both Julain and GRegorian calendars.

Meindert

The PPC ROM versions are very good

*Message #20 Posted by **Gene Wright** on 29 Sept 2005, 5:31 p.m.,*
in response to message #19 by Meindert Kuipers

And are a good starting point for all this. Not very long and they work.

Re: Data arithmetic / elapsed days calculation program

*Message #21 Posted by **Vassilis Prevelakis** on 30 Sept 2005, 12:30 a.m.,*
in response to message #1 by Stephen Easterling

Have a look at the Calendar Functions program for the HP-67/97 Its quite readable and well documented

http://www.hpmuseum.org/software/67pacs/67calend.htm

**vp

Data arithmetic for 42S and 41

*Message #22 Posted by **R Lion (Spain)** on 30 Sept 2005, 2:21 a.m.,*
in response to message #21 by Vassilis Prevelakis

I was wrong above: the program I adapted for the 42S, is this one for the 67 of the software library. I also wrote a version for the 41.

Raul

Watch out for Y2K

*Message #23 Posted by **Palmer O. Hanson, Jr.** on 30 Sept 2005, 9:43 p.m.,*
in response to message #22 by R Lion (Spain)

It might be appropriate to be careful about using days beween dates programs from the 1900's since many of those programs did not recognize that the year 2000 would be a leap year (the Y2K problem). If you translate one of those old programs you should check that the number of days between 01/01/2000 and 01/01/2001 is 366. The routine from the TI-59 Master Library mentioned in Gerson Barbosa's submission gets 366.

If you are a dedicated purist, and what RPNer isn't, you might want to check the number of days the routine finds between 01/01/4000 and 01/01/4001. It should be 365. The routine from the TI-59 Master Library gets 366, but everyone knows that AOSers aren't purists.

Re: Watch out for Y2K

*Message #24 Posted by **Gerson W. Barbosa** on 30 Sept 2005, 11:01 p.m.,*
in response to message #23 by Palmer O. Hanson, Jr.

4000 will be a leap year since it is divisible by 400, won't it? Anyway, the program fails for 1700, 1800, 2100, 2200, etc. However I am not sure whether this is due to something wrong in the TI-59 Master Library routine or in the 15C program since I don't have a TI-59. The 12C returns 365 for 01/01/2100-01/01/2101 and 366 for 01/01/4000-01/01/4001.

I have just checked 01/01/2100-01/01/2101 and 01/01/4000-01/01/4001 on Miroslav Nemecek's TI-59 Emulator and the results match those of the 12C. I have to see what is causing the 15C program to return 366 for 01/01/2100-01/01/2101.

Edited: 30 Sept 2005, 11:36 p.m.

Day of Week & Days Between Dates - Lighter version (Was Re: Watch out for Y2K)

*Message #25 Posted by **Gerson W. Barbosa** on 1 Oct 2005, 2:25 a.m.,*
in response to message #24 by Gerson W. Barbosa

There was just a missing **g INT** in the third line. Here is a 15C lighter version after removing a lot of unneeded ENTER's:

```
001:  f LBL 0 x<>y STO 0 x<>y ENTER g INT STO 2 Rv RCL 2 - 100 * ENTER
016:          g INT STO 1 Rv f FRAC 4 10^x * STO 3 2 ENTER RCL 2 g TEST 7
028:          GTO 1 RCL 3 1 - 100 / 1 + g INT .75 * g INT CHS RCL 3
046:          1 - 4 / g INT + RCL 2 1 - 31 * + RCL 1 + RCL 3 365 * +
067:          g RTN
068:  f LBL 1 RCL 3 365 * RCL 1 + RCL 2 1 - 31 * + RCL 2 .4 * 2.3 +
091:          g INT - RCL 3 4 / g INT + RCL 3 100 / 1 + .75 * g INT -
111:          g RTN
112:  f LBL A GSB 0 RCL 0 GSB 0 RCL 0 - CHS
119:          g RTN
120:  f LBL B GSB 0 ENTER CHS 7 / g INT 7 * +
130:          g RTN
```

Date format is MM.DDYYYY

f A: works just like the DeltaDYS on the 12C.

f B: similar to DATE on the 12C, but requires only one argument, the date, and returns 0=Sat, 1=Sun, ... 6=Fri.

On the 11C, **g TEST 7** should be replaced with **f x>y**

Everything appears to be all right now. Sorry for the inconvenience.

When does a calendar week start? (was: Day of Week & Days Between Dates - Lighter version)

*Message #26 Posted by **James M. Prange (Michigan)** on 1 Oct 2005, 3:41 a.m.,*
in response to message #25 by Gerson W. Barbosa

I notice that you have Saturday=0 through Friday=6, but ISO 8601 defines the day of week numbers as Monday=1 through Saturday=7, presumably in accordance with European calendars starting the week on Monday.

Here in the U.S.A., our calendars have stuck with the tradition of the week starting on Sunday, so the ISO numbers seem very strange.

Just out of curiosity, of the cultures represented in this forum, which ones start the week with Sunday, and which start it with Monday (or the equivalents in the local language)?

Does anyone know when European calendars switched to starting the week with Monday?

Or why, for that matter? Was it just to emphasize that secular culture isn't bound by church rules?

Regards,
James

Re: When does a calendar week start? (was: Day of Week & Days Between Dates - Lighter version)

*Message #27 Posted by **Gerson W. Barbosa** on 1 Oct 2005, 12:01 p.m.,*
in response to message #26 by James M. Prange (Michigan)

> Quote:
>
> I notice that you have Saturday=0 through Friday=6, but ISO 8601 defines the day of week numbers as Monday=1 through Saturday=7, presumably in accordance with European calendars starting the week on Monday. Here in the U.S.A., our calendars have stuck with the tradition of the week starting on Sunday

I thought it was quite the contrary, because as least in two European languages, Portuguese and German, the week seems to start on Sunday. The word for Wednesday in German is Mittwoch, which means, I think, "middle of the week". If this is correct, then Wednesday is the fourth day of the week and therefore Sunday is the first day.

In Portuguese, as I have already mentioned, the business days are ordinal numbers: segunda-feira, terça-feira, quarta-feira, quinta-feira and sexta-feira, litteraly "second fair", "third fair",... "sixth-fair" (fair = market place). I think this is because the medieval fairs that were held throughout the week, but I may be wrong (I have heard of another reason, but I don't remember what should it be).

If European calendars now start the week on Monday, you may be right about the reasons. Soon after the French Revolution, for a while they even abandoned the Gregorian calendar.

Regards,

Gerson.

Re: When does a calendar week start?

*Message #28 Posted by **James M. Prange (Michigan)** on 2 Oct 2005, 1:50 a.m.,*
in response to message #27 by Gerson W. Barbosa

Note that language doesn't always stay in synch with the calendar. For example, our English September, October, November, and December have roots in the Latin for seven, eight, nine, and ten, even though March hasn't been the first month for quite some time.

Regards,
James

Edited: 2 Oct 2005, 2:15 a.m.

Re: When does a calendar week start? (was: Day of Week & Days Between Dates - Lighter version)

*Message #29 Posted by **Christoph Giesselink** on 5 Oct 2005, 3:26 p.m.,*
in response to message #27 by Gerson W. Barbosa

> Quote:
>
> I thought it was quite the contrary, because as least in two European languages, Portuguese and German, the week seems to start on Sunday. The word for Wednesday in German is Mittwoch, which means, I think, "middle of the week". If this is correct, then Wednesday is the fourth day of the week and therefore Sunday is the first day.

Before 1976 in Germany Sunday was the first day of the week, since 1976 Monday is the first day according to DIN 1355 (for those who understand German http://de.wikipedia.org/wiki/Woche).

About a later question if calendar weeks are used, I can definitely say "Yes" for Germany. Mostly every working dead line is given as calendar week. In practise this means, when the dead line is for example KW39 (German for Kalenderwoche 39, 09/26/05-10/02/05) you should have it on Monday KW40. ;-)

Finally I want to point to my date conversation routines for the HP-42S which can be found at http://www.hp42s.com/programs/date/date.html working with every date of the Gregorian calendar (October 15/1582 to December 31/9999). Technical notes about implementation can be found at http://www.hp42s.com/programs/date/olddate.html.

Regards,

Christoph, Germany

Re: When does a calendar week start? (was: Day of Week & Days Between Dates - Lighter version)

*Message #30 Posted by **James M. Prange (Michigan)** on 7 Oct 2005, 7:44 a.m.,*
in response to message #29 by Christoph Giesselink

Thank you! I was very curious as to when the week changed from starting with Sunday to starting with Monday for part of the world.

Does anyone know of a country that changed earlier?

But really now, a DIN was published and everyone changed their calendars just because of that?

Okay, I realize that it's an ISO standard and ANSI (American National Standards Institute) is a member, but I wouldn't expect our calendars to change in the foreseeable future. Even (or perhaps especially) if the government were to recommend the change, Americans often tend to stick with tradition. For example, our packages for most consumer products usually have SI units on them where applicable, but rarely lack showing the "customary" units as well.

"Weekly planning" pages in business "planners" start with Monday with small

entries at the end for Saturday and Sunday, (a bit annoying for most of us) but the full-month and full-year calendars in them start the week with Sunday.

But the planners do show the ISO 8601 week number on the weekly and daily pages, as well as the day of year and days remaining in year on the daily pages. I suppose they'd be useful if one were ever dealing with someone who used them, but the general consensus around here seems to be that the week numbers don't make any sense at all, so they're simply ignored.

"KW40" is just fine for use within German-speaking countries, but even if you find an American familiar with ISO week dates, he's not likely to recognize that as meaning a week of the year.

Of course an American would understand 10/02/05 or 10-02-05 as meaning October 2nd, 2005 without a second thought, and if even slightly acquainted with German notation, would understand 02.10.05 to be the same date. But written as 02/10/05, 02-10-05, 10.02.05, or 05-10-02, it's probably going to be misinterpreted over here. Personally, I prefer 2005-10-02, particularly for international use, or else October 2nd, 2005. Of course printed forms often indicate that the date should be in MM/DD/YYYY notation.

I doubt that ISO week dates will catch on in the U.S., except perhaps for very limited uses.

First there's the oddity of the week starting with the "wrong" day, and the days being numbered "wrong".

Worse, the first week of the year may lack up to the first 3 days of the year, or may include up to the last 3 days of the previous year, and correspondingly, the last week of the year may include up to the first 3 days of the next year, or lack up to the last 3 days of the year. Okay, for purposes of comparing statistics for the weeks among years, I don't see any way to avoid such problems, at least not without causing even worse problems. But it's difficult for me to imagine ever using such a system for scheduling purposes or recording events.

Regards,
James

Re: When does a calendar week start? (was: Day of Week & Days Between Dates - Lighter version)

*Message #31 Posted by **valentino ducati (switzerland)** on 11 Oct 2005, 5:33 p.m.,*
in response to message #30 by James M. Prange (Michigan)

Quote:

@James :
:
:
"Weekly planning" pages in business "planners" start with Monday with small entries at the end for Saturday and Sunday, (a bit annoying for most of us) but the full-month and full-year calendars in them start the week with Sunday.

> But the planners do show the ISO 8601 week number on the weekly and daily pages, as well as the day of year and days remaining in year on the daily pages. I suppose they'd be useful if one were ever dealing with someone who used them, but the general consensus around here seems to be that the week numbers don't make any sense at all, so they're simply ignored.
>
> "KW40" is just fine for use within German-speaking countries, but even if you find an American familiar with ISO week dates, he's not likely to recognize that as meaning a week of the year. :
> :
> **I doubt that ISO week dates will catch on in the U.S., except perhaps for very limited uses.** :
> :
> :

Hi James

That's funny, we **all** here are aficionados of artefacts that really does catch with week days: our hp calculators.

Have a look at the serial number coding that hp uses for the calculators.

Here they are - in a big U.S. company. The calendar weeks you call obsolete... :-D

Valentino

Re: When does a calendar week start?

*Message #32 Posted by **James M. Prange (Michigan)** on 12 Oct 2005, 3:26 a.m.,*
in response to message #31 by valentino ducati (switzerland)

First off, the use of a calendar week number in HP serials would be an example of "very limited use". And yes, I was well aware of it. I wonder, does HP's week numbering system follow ISO 8601? There are quite a few other ways one could number the weeks in a year.

I never called it "obsolete", just of limited usefulness.

Regards,
James

Edited: 12 Oct 2005, 6:06 a.m.

Carnival and Easter Days on the HP-42S - no listing! (Re: When does a calendar week start?)

*Message #33 Posted by **Gerson W. Barbosa** on 7 Oct 2005, 1:11 p.m.,*
in response to message #29 by Christoph Giesselink

> Quote:

> Finally I want to point to my date conversation routines for the HP-42S which can be found at http://www.hp42s.com/programs/date/date.html working with every date of the Gregorian calendar (October 15/1582 to December 31/9999)

Very interesting routines! There's even one for calculating the day of the Easter!

About twelve years ago a wrote a 42S program for doing this. No, not for religious purposes, just for planning my vacations. I had to choose my vacations at least six months in advance, and I wouldn't want them to coincide either with Carnival or Easter, since here they are a five-day holiday anyway :-)

By what I can remember, the program is based on a formula by Euler (I simply ported a BASIC program that was published in a local scientific magazine to the HP-42S). It works for any year in the range from 1900 to 2099 (enough for what I had in mind). For example, given 2005 the output will be:

```
Carnival: Feb-06-2005
  Easter: Mar-27-2005
```

The program (361 bytes long) is far from being of general interest. Anyway, I can provide a .RAW file for Emu42 (Thanks, Christoph!) if anyone is interested.

Regards,

Gerson.

Edited: 7 Oct 2005, 1:18 p.m.

Re: When does a calendar week start? (was: Day of Week & Days Between Dates - Lighter version)

*Message #34 Posted by **Gunnar Degnbol** on 2 Oct 2005, 4:42 a.m.,*
in response to message #26 by James M. Prange (Michigan)

> Quote:
>
> Does anyone know when European calendars switched to starting the week with Monday? Or why, for that matter? Was it just to emphasize that secular culture isn't bound by church rules?

I did some googling. It turns out the reason is theological:

1) The third commandment says: Remember thou keep holy the Sabbath day

2) The Christian Sabbath is Sunday

3) The Sabbath is the seventh day

Therefore, Monday is the first day of the week. QED.

Here are some links:

The Days of the Week. Lots of information about weekdays names in different

languages, and this:

> Quote:
>
> The convention, becoming more common, to start calendar weeks on Monday, is a result of the Western European names, especially the German ones, which do not call Saturday the Sabbath -- or do not do so anymore in a recognizable way. Since Christians, especially Protestants, think of Sunday as the "Sabbath," the tendency is to number it as the 7th, rather than as the 1st, day. Familiarity with Greek or Arabic, or several Romance languages, however, would inform one that Saturday remained the Sabbath, as in Hebrew, even for Christians and Muslims.

Sunday:

> Quote:
>
> In ancient Jewish tradition Saturday is the sabbath. Many languages lack separate words for "Saturday" and "sabbath". Eastern Orthodox churches distinguish between the sabbath (Saturday) and the Lord's day (Sunday). Roman Catholics put so little emphasis on that distinction that many among them follow — at least in colloquial language — the Protestant practice of calling Sunday the sabbath.

Sunday is NOT the Sabbath!. This page explains why real protestants keep Saturday holy:

> Quote:
>
> So which authority do you acknowledge, the Word of God that commands seventh day Sabbath worship or the Tradition of the Catholic Church which commands Sunday, first day worship? There is no other choice.

Re: When does a calendar week start?

*Message #35 Posted by **James M. Prange (Michigan)** on 2 Oct 2005, 8:35 a.m., in response to message #34 by Gunnar Degnbol*

Granted, the Jewish may use "Remember the Sabbath Day to keep it holy." My understanding is that the Hebrew names for the first six days of the week mean simply first through sixth, and that "Sabbath" comes from the Hebrew word for "rest", not "seventh". Since the Old Testament tells us that God rested on the seventh day, the Jews (and some Christians) quite naturally observe their day of rest (their Sabbath) on the seventh day of the week; surely God's example should be a good thing to follow.

Since the word "remember" is used in the commandment, I surmise that it was an established tradition that was sometimes forgotten or ignored.

Note that the seven-day week wasn't restricted to Jews in pre-Christian times; at least the Romans used it. Where and when it started and how widely it was used, I don't know; I suppose that the obvious answer for "where" would be in the Garden

of Eden, and for "when" would be when God rested after Creation.

If I recall correctly, my catechism said "Remember to keep holy the Lord's Day." Anyway, keep in mind that these commandments are abbreviated (and translated, or perhaps mistranslated) forms of the full text of the Old Testament. Note that Christians generally consider the New Testament as superceding the Old Testament, so old rules could be replaced by new rules. From my reading of the Bible, it seems to me that God changed his policies quite a few times; for anyone who believes that Christ was God incarnate, surely Christ's authority overrides anything in the Old Testament. As the New Testament tells us that Christ's resurrection as well as the Holy Ghost's descent occurred on Sunday, many Christians (particularly Roman Catholics and most Protestants) consider Sunday to be the "Lord's Day", and thus the day of rest (the Sabbath). Surely many early Christians preferred not to honor the Jewish holy day. That doesn't mean that the first day of the week suddenly became the seventh day of the week, but rather that the holy (and rest, or Sabbath) day changed from the seventh day to the first day (for these Christians).

As far as I can determine, the traditional seven-day cycle of the week was unbroken for thousands of years, although of course various cultures used various names for the days of the week, and (many) Christians changed the day of rest from the seventh day to the first day, and for that matter, Muslims changed it to the sixth day, but with Sunday (or the equivalent in the various languages) still considered to be the first day of the week. As far as I can figure out, starting the week on Monday seems to be a relatively recent (20th century?) European innovation.

Anyway, in the U.S.A., calendars still show the week as starting on Sunday. Although in "planners" (such as Franklins), intended primarily for business use, "weekly" pages start with Monday, with smaller entries at the end for Saturday and Sunday, and both the "daily" and "weekly" pages show the ISO 8601 week of year number. That said, even in a Franklin planner, full monthly and yearly calendars show the week as starting on Sunday, and of course, the ISO 8601 week of year and day of week isn't often (ever?) used in the U.S.A.

So where does the week start on your calendar?

For that matter, do you ever use the ISO 8601 week of year and day of week numbers?

By the way, I'm trying to avoid starting any religious-based flame war here; I'm not saying that any particular religion is right or wrong. Still, religions have certainly influenced history, particularly the history of calendars.

Regards,
James

Edited: 2 Oct 2005, 8:44 a.m.

Re: When does a calendar week start?

*Message #36 Posted by **Gunnar Degnbol** on 2 Oct 2005, 10:23 a.m.,*
in response to message #35 by James M. Prange (Michigan)

> Quote:
>
> As far as I can figure out, starting the week on Monday seems to be

> a relatively recent (20th century?) European innovation

I think that if the reason really was to make Sunday the seventh day of the week to make it fit the Bible, then it sounds more like a 18th or 19th century thing, at the latest. Few 20th century Europeans would bother.

> Quote:
>
> So where does the week start on your calendar?

The week always starts on Monday here. Software that does not allow configuration of the start of the week is broken.

> Quote:
>
> For that matter, do you ever use the ISO 8601 week of year and day of week numbers?

ISO 8601 Week numbers are used a lot, for holiday planning and anything that references a specific week. There is not much reason to number the days in a week (except internally in software), they have names.

My Nokia supports weeks starting on Saturday, Sunday or Monday, and shows ISO week numbers if it starts on Sunday or Monday.

> Quote:
>
> By the way, I'm trying to avoid starting any religious-based flame war here; I'm not saying that any particular religion is right or wrong.

No, that was my worry after I posted :-)

> Quote:
>
> Still, religions have certainly influenced history, particularly the history of calendars.

Yes, it is very interesting to discover the logic, to the extent there is any, behind the things we take for granted. It is very often based in religion.

Re: When does a calendar week start? (was: Day of Week & Days Between Dates - Lighter version)

*Message #37 Posted by **Arnaud Amiel** on 3 Oct 2005, 2:01 p.m.,*
in response to message #26 by James M. Prange (Michigan)

In Chinese, Monday is "Week 1" Tuesday "Week 2" etc until sunday which is "Week Day" Also, the name of months is easy January "1 Month" up to "12 Month"

Arnaud

Re: When does a calendar week start? (was: Day of Week & Days Between Dates - Lighter version)

*Message #38 Posted by **James M. Prange (Michigan)** on 6 Oct 2005, 6:00 p.m.,*
in response to message #37 by Arnaud Amiel

So it seems that they start the week with Monday in China, surely a large proportion of the world's populataion.

How about in the U.K.?

Regards,
James

Re: Watch out for Y2K

*Message #39 Posted by **Howard Owen** on 30 Sept 2005, 11:02 p.m.,*
in response to message #23 by Palmer O. Hanson, Jr.

Must be a part of the algorithm I'm unfamiliar with. Why wouldn't 4000 be a leap year, since it's divisible by 400?

Re: Watch out for Y2K

*Message #40 Posted by **James M. Prange (Michigan)** on 1 Oct 2005, 12:58 a.m.,*
in response to message #39 by Howard Owen

In the Gregorian calendar, a year divisible by 4 is a leap year, unless it's also divisable by 100, in which case it's not a leap year, unless it's also divisible by 400, in which case it's a leap year after all.

Regards,
James

Re: Watch out for Y2K

*Message #41 Posted by **Howard Owen** on 1 Oct 2005, 1:16 a.m.,*
in response to message #40 by James M. Prange (Michigan)

Yes.

Re: Watch out for Y2K

*Message #42 Posted by **James M. Prange (Michigan)** on 1 Oct 2005, 2:41 a.m.,*
in response to message #41 by Howard Owen

Sorry Howard, I guess that I got mixed up as to whom I meant to reply to.

By the way, I strongly suspect that what Palmer had in mind was a **proposed** additional rule, suggested by the famous astronomer John Herschel, that years divisible by 4000 not be leap years. This would change the average calendar year length from 365 97/400 days to 365 969/4000 days, and would be closer to the observed length of a tropical year, although still a trifle long. However, as far as I know, no church, government, or standards organization has ever officially adopted this rule; it's certainly not part of the Gregorian calendar.

Of course, with the leap seconds, years are (on average) slightly longer, and I suppose that leap seconds will be needed more frequently in the future, which would move the calendar even farther out of synchronization with the seasons, so maybe Herschel's proposed rule wouldn't be enough by the time the year 4000 gets here. But I've read that the U.S. has (unfortunately, IMO) proposed eliminating these adjustments to keep UTC in synch with astronomical time.

I think dealing with the leap seconds is enough for now; changes to the calendar rules can be left for future generations to deal with.

Regards,
James

Re: Watch out for Y2K

*Message #43 Posted by **Garth Wilson** on 1 Oct 2005, 4:29 a.m.,*
in response to message #42 by James M. Prange (Michigan)

> Quote:
>
> This would change the average calendar year length from 365 97/400 days to 365 969/4000 days,

According to HP, there are 365.242198781 days per year.

Year length (was: Watch out for Y2K)

*Message #44 Posted by **James M. Prange (Michigan)** on 1 Oct 2005, 5:47 a.m.,*
in response to message #43 by Garth Wilson

Actually, at least in the 48/49 series, the units base for 1 year is 31556925.9747 seconds, but I don't know where they got that value from. Of course they equate 1 day to 86400 seconds, so they don't attempt to take leap seconds into account. So yes, 1_yr converts to 365.242198781_d in these calculators.

Anyway, a Gregorian calendar year, averaged over the 400 year cycle, is 365.2425 days. With Herschel's proposed change, averaged over the resulting 4000 year cycle, it would be 365.24225 days; still a little long.

Of course the Greek Orthodox calendar uses a different set of rules for exceptions to having a leap year every 4th year, which brings them a bit closer to the observed tropical year.

Regards,
James

Edited: 1 Oct 2005, 5:50 a.m.

Re: Year length (was: Watch out for Y2K)

*Message #45 Posted by **John Limpert** on 3 Oct 2005, 1:49 p.m.,*
in response to message #44 by James M. Prange (Michigan)

That long number (31556925.9747) is from the definition of the ephemeris second as the fraction 1/31556925.9747 of the tropical year for 1900 January

0 at 12h ephemeris time.

Re: Watch out for Y2K

*Message #46 Posted by **Palmer O. Hanson, Jr.** on 1 Oct 2005, 9:47 p.m.,*
in response to message #42 by James M. Prange (Michigan)

I was relying on the following quotation from page 619 of Volume 4 of the 1969 version of *Encyclopedia Britannica*:

"... Later, a slight change was made in the Gregorian calendar to bring it still more closely into line with the tropical year. The Gregorian calendar was still in error by one day in 3,323 years and, in consequence, a further rule of intercalation has been adopted that makes the year 4000, 8000, etc., common years, i.e., years without an intercalated day. The calendar is now, therefore, correct to within one day in 20,000 years. ..."

Leap year rules (was: Watch out for Y2K)

*Message #47 Posted by **James M. Prange (Michigan)** on 2 Oct 2005, 12:50 a.m.,*
in response to message #46 by Palmer O. Hanson, Jr.

I'm surprised.

At least ISO 8601:2000 section 4.3.2.1 includes:

"The Gregorian calendar distinguishes common years with a duration of 365 calendar days and leap years with a duration of 366 calendar days. A leap year is a year whose year number is divisible by four an integral number of times. However, centennial years are not leap years unless they are divisible by four hundred an integral number of times."

Could it be that the *Encyclopedia Britannica* is mistaken?

That said, I haven't seen a copy of ISO 8601:2004, and don't feel like paying $101 for a copy of it.

Regards,
James

Re: Leap year rules

*Message #48 Posted by **James M. Prange (Michigan)** on 2 Oct 2005, 1:34 a.m.,*
in response to message #47 by James M. Prange (Michigan)

PS:

With an error of one day in 3,323 years, the proposal to drop leap years every 3200 years seems to make more sense. See:
http://mindprod.com/jgloss/leapyear.html.

Of course, I don't see calendar reform as being particularly urgent.

Regards,
James

Re: Leap year rules

*Message #49 Posted by **Howard Owen** on 2 Oct 2005, 2:14 a.m.,*
in response to message #48 by James M. Prange (Michigan)

This is all very interesting and enlightening. I've learned a whole lot more about calendars than I knew before this thread. One thing I did know was that leap-seconds aren't added for the purpose of correcting for the base error in the calendar the way additional leap-year days are. They are there to compensate for the slowing of Earth's rotation, and consequent lengthening of the day.

But what makes us look for an even multiple of 100 to correct an error whose period is 3,323 years? In other words, why not make the year 3323 a leap year, instead of 4000 or even 3200?

Edited: 2 Oct 2005, 2:15 a.m.

Re: Leap year rules

*Message #50 Posted by **James M. Prange (Michigan)** on 2 Oct 2005, 5:02 a.m.,*
in response to message #49 by Howard Owen

Yes, seconds are added (or dropped, though that hasn't occurred) to keep the clock very nearly in synch with Earth's varying rotation, not to keep the calendar in synch with the seasons.

However, a leap second does have the additional effect of lengthening the year, thus having a small effect on the discrepancy between the calendar and the seasons. After all, 86400 leap seconds would have the same effect on this as one extra leap year.

How many years will it take for 86400 leap seconds to accumulate? I don't know; I haven't researched that, but since tidal forces are slowing Earth's rotation, it seems reasonable to expect that leap seconds will be needed more frequently in the future. Unless, of course, we actually do stop using leap seconds and just allow astronomical time to drift farther and farther out of synch with clock time.

As for looking for an integer multiple of 100 instead of simply using multiples of 3323 to make additional corrections to the calendar, we'd want to (in addition to our current rules) drop a leap year around that time, not add one, so it would at least have to be a year that would be a leap year by the other rules. Clearly, the year 3323 is out; how about years that are integer multiple of 3324? At first, that seems to work, but how about the year 83100 (25*3324)? That wouldn't be a leap year by the current rules. Even just a multiple of 100 wouldn't suffice, as 3 out of 4 multiples of 100 aren't leap years by current rules. It seems to me that it would be best to use years that are multiples of 400 (always leap years by current rules), such as 3200 or 4000, for

any additional rule.

Of course, by the year 83100 (or even 3323, for that matter), who knows what kind of clock and calendar systems they'll be using? Will they remember an extra rule? (Recall the questions of whether the year 2000 would be a leap year.) How many leap seconds will have accumulated by then? Will they still be using a decimal number system, or will they have changed to, say, an octal or hexadecimal system for everyday counting by then? Will they feel bound by "the dead hand of the past"?

Maybe we'll just wait until the discrepancy between the calendar and the seasons is (averaged over a 400 year cycle) a whole day and then drop a leap year.

By the way, the Gregorian leap year rules are intended to keep the vernal equinox on or near March 21st, as it was at the time of the First Council of Nicea (A.D. 325), which determined that March 21st (regardless of the actual equinox) should be treated as the vernal equinox for Easter calculations, which explains Pope Gregory XIII's interest in the matter. More information on this can be found at http://www.newadvent.org/cathen/03168a.htm.

Of course, even though the calendar reform was for ecclesiastical purposes, keeping the calendar in synch with the seasons also serves a secular purpose.

Regards,
James

Re: Leap year rules

*Message #51 Posted by **Walter B** on 2 Oct 2005, 9:05 a.m.,*
in response to message #50 by James M. Prange (Michigan)

Ok, folks, let's strive to reach the year 3323 at all!

Remember oil will be exhausted within the next 50 years. And there is the greenhouse effect leading to some more severe hurricanes and similar stuff.

Oh sorry, I forgot, according to the present administration there is no greenhouse effect! So there is a good (?) chance a well known superpower will start a war on this with the result there is no need for long range calendar corrections anymore.

Good luck! ((;-)

Re: Leap year rules

*Message #52 Posted by **James M. Prange (Michigan)** on 2 Oct 2005, 9:40 a.m.,*
in response to message #51 by Walter B

Hey, I'm pretty certain that I, personally, won't reach the year

3323.

Yes, there are certainly plenty of problems far more urgent than additional leap year reform to be solved. I think we can leave that issue for (hoped-for) generations far in the future to address.

Of course, I do rather wish that the silly ISO 8601 week of year numbers would be dropped; since a Gregorian calendar year never has an integer multiple of 7 days in it, there doesn't seem to be any good way to number the weeks of the year.

And since there seems to be very little chance that those cultures that start the week with Sunday will ever use the ISO day of week numbers starting with Monday as 1, they seem much more likely to cause confusion than to standardize usage

Regrds,
James

Re: Leap year rules

*Message #53 Posted by **don wallace** on 2 Oct 2005, 2:50 p.m., in response to message #51 by Walter B*

Hi all. Interesting thread.

NOTE: The following IS kinda o.t.: (but provided as a community service announcement of sorts)

Actually the permanent oil crisis is here now. Although many still aren't too aware (state of denial) and figures in the tens of years (50,100) are often seen, the data are scary, much closer than 50 years.

The (fatal?) impacts will probably arrive in an irreversible form within TEN years, maybe FIVE. Consider that running out of oil is not the problem, but the END OF CHEAP OIL is. See www.aspo.org

Maybe someone might like to do a quick simulation (on an hp calc of course) to predict economic collapse from incremental rise in oil prices (with resulting flow on effects into EVERY COMMODITY REQUIRING TRANSPORT). The modern economy is in fact very fragile and Bush and Cheney know it. So does John Howard and Tony Blair.

Of course, one (tried and tested) way to avoid collapse is to steal assetts / resources from other countries under a pretext. That action only staves off the end, of course. I saw a documentary called: End of Suburbia and can recommend it. Of course I have read extensively on this problem (only since april 2004). I am amazed how complacent most people still are about this problem.

All the best for the future everyone.

Don W

Edited: 2 Oct 2005, 2:51 p.m.

Re: Leap year rules

*Message #54 Posted by **Gerson W. Barbosa** on 2 Oct 2005, 10:55 p.m.,*
in response to message #50 by James M. Prange (Michigan)

> Quote:
>
> Of course, even though the calendar reform was for ecclesiastical purposes, keeping the calendar in synch with the seasons also serves a secular purpose.

In order to achieve this, shouldn't we also compensate for the effect of the precession of the equinoxes on the dates seasons begin? Any ideas?

Regards,

Gerson.

Re: Leap year rules

*Message #55 Posted by **James M. Prange (Michigan)** on 4 Oct 2005, 6:17 p.m.,*
in response to message #54 by Gerson W. Barbosa

> Quote:
>
> > Quote:
> >
> > Of course, even though the calendar reform was for ecclesiastical purposes, keeping the calendar in synch with the seasons also serves a secular purpose.
>
> In order to achieve this, shouldn't we also compensate for the effect of the precession of the equinoxes on the dates seasons begin? Any ideas?

I think that if we were using a sidereal (star-based) calendar year, based on something like keeping the rising of a particular star near the ecliptic at a certain time on a particular day of the year, you'd have a very good point.

But in fact the Gregorian calendar is designed to keep the observed vernal equinoxes, on average, near March 21st, so

everything that's affected the timing of the vernal equinox is already included, to the extent that the vernal equinox actually does (on average) stay near March 21st.

Regards,
James

Re: Watch out for Y2K

*Message #56 Posted by **Gerson W. Barbosa** on 2 Oct 2005, 1:00 p.m.,*
in response to message #46 by Palmer O. Hanson, Jr.

Perhaps neither TI nor HP expected their products to last until the year 4000 A.C. :-)

Though the calendar is now that accurate, you'll be celebrating Christmas in the Summer, like we do down here, by the year 15,000 A.C. ... Will this be a problem?

Besides your post being enlighting, it helped me spot a mistake in my listing that would prevent the program to work correctly for some years ending in 00. (My hand-written listing on the Master Library was ok though). Thanks.

Edited: 2 Oct 2005, 1:03 p.m.

Re: Watch out for Y2K

*Message #57 Posted by **valentino ducati (switzerland)** on 3 Oct 2005, 5:51 p.m.,*
in response to message #56 by Gerson W. Barbosa

> Quote:
>
> Perhaps neither TI nor HP expected their products to last until the year 4000 A.C. :-)

But, apart from battery problems and capacitors drying: Is the "plastic" body of a classic, woodstock, voyager, pioneer or 41/48/49 still all right in a few 100 years? Or even thousands? And what about the metal parts of the older calculators? And the platin and chips on it? How long could they last?

Anyone here with that material knowledge?

Re: Watch out for Y2K

*Message #58 Posted by **John Limpert** on 3 Oct 2005, 10:28 p.m.,*
in response to message #57 by valentino ducati (switzerland)

Assuming they are used, the ICs will eventually fail from electromigration of the metal layer. The time period depends on feature size and current density.

Re: Watch out for Y2K

*Message #59 Posted by **Palmer O. Hanson, Jr.** on 3 Oct 2005, 10:58*

p.m.,
in response to message #57 by valentino ducati (switzerland)

My guess is that plastic cases will become a problem. Some plastics become brittle with age. One of the prized items in my collection was a Speedee Add-a-matic (see the section of the museum on old calculators). Last spring I inadvertently knocked it off a table onto a terrazo floor. The plastic case shattered into about twenty pieces. The metal mechanism still works.

By comparison back in the early 1980's I inadvertently knocked my almost new Radio Shack Model 100 off the same table onto the same terrazo floor. There was a small crack in one corner of the case. Some of the keys came off and the batteries came out of the compartment. I put the batteries back in, pressed the keys back in place and the machine was able to complete the calculations that were in process. That machine still works today.

A "shock test" which illustrates how sturdy some of the hand-helds are when they are relatively new is the test of the oscillator described in the service manual for the TI-59. I'm not going to repeat that test today. Sorry about that! Who's going to do a drop test on his HP-35? I do have some old Sharps, Casios, and a number of spare TI-30's at my winter home. When I'm back there I just may have to do some drop tests.

I also have three of the Addometers (again, see the old calculator section) which were all metal and made by a typewrter manufacturer back in the 1920's. Two of the three work well. The third is somewhat rusty and the dials only turn with some difficulty.

A bad choice of metal can be a problem. The early Pickett slide rules used a magnesium alloy (I think) base. They often didn't move smoothly even when new but that problem can be solved these days with a little WD-40. Many of those now have the slide and frame fused together by corrosion. The late aluminum base devices have fewer problems.

Re: Watch out for Y2K

*Message #60 Posted by **Dave Shaffer** on 3 Oct 2005, 7:53 p.m.,*
in response to message #56 by Gerson W. Barbosa

"Though the calendar is now that accurate, you'll be celebrating Christmas in the Summer, like we do down here, by the year 15,000 A.C. ... Will this be a problem?"

Nope! It is, in fact, precisely the addition of leap years which KEEPS the seasons where they belong, due to the precession of the equinox. Us northerners will still have spring starting (about) March 21 and Christmas will still be in the winter.

What will happen in 13000 years (half of a precession cycle) is that the stars which you now think of as "winter" stars (again, for us northerners; perhaps better stated as "December" stars) will be instead the summer/June stars. i.e. the constellation Orion will be prominent on June/July evenings in the year 15000, rather then the December/January evenings when we see him now.

Another minor effect will be due to the ellipticity of the Earth's orbit. At this time, the Earth is closest to the Sun in early January. The effect on incoming solar energy is only a few percent, but this means that northern hemisphere winters are now somewhat warmer than they will be in 13000 years, when winter will be occuring when the Earth is farthest from the sun.

Leap seconds (or the alternative now being touted by some folks at the US Naval Observatory - officially charged with keeping track of time for the United States - of changing the rate of atomic time by about 20 parts per billion) keep the rotational position of the Earth aligned with the stars. I have to think a bit about whether the accumulated leap seconds affect leap years. The Earth is not only slowing down overall, but at the level of 10's of microseconds per day speeds up and slows down - somewhat at random but also with seasonal variations that basically relate to the fact that there is more land mass in the northern hemisphere than in the southern hemisphere.

This stuff is all very critical for very accurate (sub-centimeter) global geodesy. For more details on precise earth orientation and timekeeping, go to http://maia.usno.navy.mil .

Re: Watch out for Y2K

*Message #61 Posted by **Gerson W. Barbosa** on 3 Oct 2005, 10:50 p.m.,*
in response to message #60 by Dave Shaffer

> Quote:
>
> Nope! It is, in fact, precisely the addition of leap years which KEEPS the seasons where they belong, due to the precession of the equinox. Us northerners will still have spring starting (about) March 21 and Christmas will still be in the winter.

I always thought the addition of leap years keeps the seasons in place because this makes the year closer to its actual length. But the seasons shifts due to the precession of the equinoxes would not be corrected by this method. Have I misunterstood anything?

Here is an excerpt of Isaac Asimos's "A choice of catastrophes":

"... In 12890 years, the [Earth's] axis shall turn to the opposite direction... ...and the Summers's Solstice [in the northern hemisphere] will be on December 21, and the Winter's Solstice on June 21..." (This is a bad translation back to English. The actual text should be somewhat different, but hopefully I may have kept the right meaning).

(deleted post)

*Message #62 Posted by **deleted** on 4 Oct 2005, 12:11 a.m.,*
in response to message #60 by Dave Shaffer

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

placeholder disappear.

Re: Watch out for Y2K

*Message #63 Posted by **Dave Shaffer** on 4 Oct 2005, 12:49 a.m.,*
in response to message #62 by deleted

Don,

Precession can be viewed as the "sliding" of the celestial reference frame (right ascension and declination - "RA/Dec" in astronomer shorthand) which is tied to the Earth (basically projection of latitude and longitude onto the sky) along the ecliptic (the more-or-less plane of the planetary orbits).

If you think of the position of stars in an ecliptic coordinate system, they will not change with time. In the RA/Dec system, the star positions change continuously.

So yes, the RA/Dec of Orion will change, but Orion will still be in the ecliptic, as will ALL the ecliptic constellations (so beloved of astrologers (gack, I HATE that word!). The path of the Sun, as viewed from the Earth, will continue to circle around the ecliptic once per year.

Also, as I said earlier, leap years REALLY DO take care of the sliding of the seasons. The reason calendar reform was necessary was because the date March 21 was clearly no longer coinciding with the "beginning" of spring (defined as the day of the year on which the declination of the Sun is ZERO (i.e. the Sun was exactly on the celestial equator = Declination of the Sun is 0 degrees)). What was the problem: the length of the year was too short (as noted elsewhere in this discussion) if only 365 days were alloted to a year. So, leap years merely adjust the length of the year to match the actual time that the Earth takes to go around the Sun - with year here defined as the length of time from the beginning of one spring to the next spring. That's what our current calendar is based on - the spring-to-spring year.

If the date of the seasons was going to switch, we would have already seen the effect. This problem has been known, more or less, for several thousand years. That would be enough to switch the beginning of spring by a month (i.e. around a twelfth of the 26000 year precession period) - which has not happened.

So, (as long as we stick to the current calendar or some close approximation) Spring will continue to occur on March 21 for the forseeable future. In particular, for the next 13000 years.

For more on this, try

http://www-istp.gsfc.nasa.gov/stargaze/Sprecess.htm

Re: Watch out for Y2K

*Message #64 Posted by **Gerson W. Barbosa** on 4 Oct 2005, 11:26*

a.m.,
in response to message #63 by Dave Shaffer

> Quote:
>
> If the date of the seasons was going to switch, we would have already seen the effect. This problem has been known, more or less, for several thousand years. That would be enough to switch the beginning of spring by a month (i.e. around a twelfth of the 26000 year precession period) - which has not happened.

Now you have convinced me! Thanks!

Ne sutor ultra crepidam.

From now on this shoemaker will stick just to heels, soles, shoelaces and the like :-)

Re: Watch out for Y2K

*Message #65 Posted by **James M. Prange (Michigan)** on 6 Oct 2005, 5:14 p.m.,*
in response to message #63 by Dave Shaffer

My attempt to explain the "precession of the equinoxes", Milankovitch cycles, leap years...

But I'm not anastronomer; I wouldn't even consider myself an "amateur astronomer" (I don't even have a telescope). But I do find astronomy, calendars, and time-keeping interesting. Maybe I'm an "armchair astronomer"? Anyway, take the following with a few grains of salt.

First off, we have at least three major definitions of a year based on astronomy, in addition to the various calendar years.

A "tropical" year, the period of the seasons. For example, from vernal equinox to vernal equinox; our Gregorian calendar year is based on this.

A "sidereal" year, the period of the earth's revolution around the sun in relation to the "fixed stars", or equivalently, the apparent position of the sun against the starry background. Of course, the stars, galaxies, quasars, and so on are actually moving, but due to their immense distance from us, except for the nearest stars, any change in their apparent angular relationships as viewed from the earth is negligible. A sidereal year is about 20 minutes longer that a tropical year. Note that even the length of the sidereal year is changing, presumably due to transfers of angular momentum among the bodies of the solar system, "friction" with interplanetary gas and "dust", the affects of the solar wind, and so on. Everything in the universe affects everything else.

An "anomalistic" year, the period from the earth's perihelion (closest approach to the sun in its elliptical orbit) to its next perihelion. An anomalistic year is about 25 minutes longer that a tropical year, or 5 minutes longer than a sidereal year. This precession is due (at least mostly) to perturbations of our orbit from the major planets, particularly Jupiter and Saturn. The period of this precession (in relation to the fixed stars) seems to be about 114000 years. The eccentricity (how nearly a true circle the orbit is) is thought to vary too, with a period of about 95000 years.

The ecliptic is the plane of earth's orbit, so called because an eclipse of the sun or moon occurs when the moon crosses this plane very nearly at the new or full moon. Of course the sun, as viewed from the earth, always appears to be on the ecliptic. The constellations that appear to be on the ecliptic are called the zodiac. The sun, as viewed from the earth, appears to move through the zodiac once per sidereal year. As noted in another post, the ecliptic is very stable (at least in terms of human history), and except perhaps for some relatively nearby stars, so is the zodiac. Of course, when the sun evolves into a red giant, that will effect Earth's orbit, to put it mildly, but no one on Earth will be concerned with that. The moon's orbital plane around the earth is at an angle of about 5.1 degrees to the ecliptic. The orbital planes of the other planets, except Pluto, are near the ecliptic, ranging from about 0.8 degrees from the ecliptic for the orbital plane of Uranus to 7.0 degrees for Mercury's, so the planets also appear to be near the ecliptic. Even Pluto's orbital plane is only about 17.2 degrees from the ecliptic.

The celestial equator is the earth's equator projected into the sky. Of course the plane of the celestial equator is perpendicular to the earth's axis of rotation.

The celestial poles are the earth's axis of rotation projected into the sky. Currently, the north celestial pole is near Polaris (the North Star).

Currently, the planes of the ecliptic and celestial equator are at an angle of about 23.5 degrees, though that's thought to vary a few degrees with a period of about 41000 years.

An equinox occurs when the earth passes through the line of intersection of the planes of the ecliptic and the celestial equator.

Because the earth spins, it has an equatorial bulge. The sun's and moon's gravity pull on this bulge, one might say trying to pull it into alignment with a line from the sun to the moon, in effect, applying a torque to the earth's rotational axis. As anyone who's played with a gyroscope should recognize, the affect is to cause a precession of the earth's axis, causing it to sweep out a (more or less) cone in the sky, relative to the fixed stars. This precession has a period of about 26000 years, relative to the fixed stars. One effect is that Polaris is near the axis only periodically; the stars (as viewed from the northern hemisphere) won't always appear to

revolve around it. The celestial poles move in (more or less) circles in the sky. Since the plane of the celestial equator is perpendicular to the axis, as the axis precesses, this plane "wobbles" (for lack of a better term) in synch with it, and of course, this causes its line of intersection with the ecliptic plane to rotate one full turn for every period of the precession, and thus the equinoxes to move relative to the fixed stars, so the apparent position of the sun at the time of the vernal equinox moves through the zodiac once for every period of precession. Note that there are also smaller. faster, oscillations of the axis, known as nutations.

As noted above, the point of perihelion is precessing, and the combined effect of this precession with the precession of the equinoxes in the opposite direction is that the period of Earth's perihelion coinciding with the vernal equinox is about 21000 years.

Because the earth's orbital speed (like a comet's) is fastest at perihelion (currently about January 3rd) and slowest at aphelion (currently about July 5th) the length of the seasons vary too; currently shortest for (northern hemisphere) winter, with autumn longer, then spring, and summer longest.

We all know that the sun appears to revolve around the earth due to the earth's rotation, but actually, the sun's apparent daily motion across the sky is a combination of both the earth's rotation and its revolution around the sun.

After all, if the earth didn't rotate at all in relation to the fixed stars, the sun would appear to revolve around us once per sidereal year, in the direction opposite to what we're familiar with. As the earth is both closest to the sun and at its highest orbital speed at its perihelion, the sun's apparent motion from the earth's revolution around the sun would be fastest at perihelion.

A sidereal day, the period of Earth's rotation relative to the fixed stars, is about 3 minutes 56 seconds shorter than a mean solar day. The earth really rotates, relative to the stars, about 366-1/4 times per year, but Earth's revolution around the sun makes the sun appear to revolve around the earth only about 365-1/4 times per year, that is, the earth's revolution around the sun slows down the apparent motion of the sun around the earth.

Because the earth's orbital speed is fastest at perihelion, and the distance to the sun is shortest, the sun's overall apparent motion is slowest at perihelion, so a solar day (as from high noon to high noon) is longest near perihelion.

No doubt Earth's actual orbit is much more complicated than I've mentioned, but I think that I've covered the most important points.

The relationships of the above periodic motions are the bases of Milankovitch cycles, which may well have an affect on our climate, though they don't totally account for the apparent

climatological record.

To simplify timekeeping, we use a "mean solar day".

Of course now we no longer define a second as 1/86400 mean solar day, but rather define a second by atomic clocks, and a day as 86400 seconds, adding (or potentially dropping) a second occasionally as needed to keep UTC close to astronomical time.

As noted in another post, earth's rotation varies, and it's difficult to predict exactly how long a solar day will be. Before accurate timekeeping was available, a day was a solar day. Exactly how long was a solar day in Caesar's or Pope Gregory's time? At first glance, that would seem to be a good question for geophysicists, but maybe astronomers can have an important role in this. Because the earth's and moon's orbits are known, astronomers can determine when an eclipse occurred in the past. By looking at records of eclipses, some answers as to the exact date of some events can be found, even though various calendars were used. Astronomy can also tell us where a solar eclipse should have been visible from; comparing this with the historical record could give us information on the rotation of the earth. Of course, an astronomer may well respond "been there, done that".

Regarding leap years, to be pedantic, they're used simply because a tropical year, rather inconveniently, doesn't happen to be a whole number of days long.

Before Julius Caesar's reform, Roman years varied in length, typically with 355 days, with an extra month added to the year as needed to bring the calendar back close to the seasons. Sometimes, as in times of war, they neglected to add the extra month. Besides the rather irregular length of year, exactly when to add the extra month was subject to political/financial pressures, a rather unsatisfactory situation for many.

Of course now we change the dates of the "fiscal year" instead, and Michigan's government is currently shifting the dates of its "property tax year". Of course, they're not increasing the taxes, they're just having the counties collect taxes earlier every year for the next few years. Yeah, right....

Anyway, a fixed-length year would be an obvious solution the Romans' problems with the calendar, but a 366-day calendar year is too long, and a 365-day calendar year is too short. Having a "partial day" in every calendar year would seem rather inconvenient.

Julius Caesar's calendar reform came fairly close. The idea is to keep the average calendar year very nearly the same length as the average tropical year, while also keeping each calendar year a whole number of days long, and varying the length of the calendar year by only 1 day. Three calendar years of 365 days followed by one of 366 days, and repeating this cycle indefinitely, was an

elegant solution.

Unfortunately, with Julius Caesar already dead, his reform was apparently misunderstood to mean a leap year every three years, and this error was finally corrected by Caesar Augustus after 36 years.

Of course it would've been more "elegant" to distribute the days of the months something like the following:

Month number	normal year length	leap year length
1	30	30
2	31	31
3	30	30
4	31	31
5	30	30
6	31	31
7	30	30
8	31	31
9	30	30
10	31	31
11	30	30
12	30	31
total	365	366

and for that matter, start both month #1 and the year on (okay, near) the day of the vernal equinox.

Why the vernal equinox? Well, it's the beginning of spring, a season that seems to me symbolic of renewal (birds, bees, eggs, flowers, bunnies, etc.), and an equinox is fairly easily verifiable by rather simple astronomical observation, and thus a good time to start a new year. On the other hand, the solstices seem to me even more obvious (sunrise and sunset farthest south or north, sun at "high noon" farthest south or north relative to the zenith), so wouldn't be bad choices, although the changes in sunrise/sunset direction and the daily highest point of the sun are smallest near the solstices and greatest near the equinoxes.

Of course the year has actually started on various dates in various cultures.

But the Julian calendar was certainly a huge improvement from the previous Roman system. Besides, February is such a depressing month around here that I'm rather glad that it's the shortest of all.

Notably, under the Julian calendar, the vernal equinox was considered to be on the 21st of March, regardless of the actual astronomical date, and for the purpose of calculating the date of Easter, it still is by most western Christian churches, even with the Gregorian calendar. By Pope Gregory's time, it was evident that the average calendar year was too long, with an all too noticeable accumulated error of about 10 days in the date of the vernal equinox. Rather than totally discarding the existing leap year rules and starting over, they chose to modify them, dropping 3 out of every 100 leap years.

Of course they also dropped 10 calendar days, so 1582 had only 355 days, at least in the Vatican's reckoning.

In my opinion, it might've been simpler to just acknowledge that the vernal equinox was actually on a different date, and settle for the leap year modifications to keep it from drifting much farther. Maybe it would've been easier to get the rest of the world to go along with this? But this still would've changed the date of Easter, giving the Protestant churches yet another reason to condemn the Pope.

Of course other leap year rules, some arguably better, can be (and have been) devised, but for now, most of the world has adopted the Gregorian calendar, at least for most secular purposes.

Regards,
James

Re: Watch out for Y2K

*Message #66 Posted by **James M. Prange (Michigan)** on 7 Oct 2005, 8:17 a.m.,*
in response to message #65 by James M. Prange (Michigan)

> Quote:
>
> Of course they also dropped 10 calendar days, so 1582 had only 355 days, at least in the Vatican's reckoning.
>
> In my opinion, it might've been simpler to just acknowledge that the vernal equinox was actually on a different date, and settle for the leap year modifications to keep it from drifting much farther.

But after thinking a little more, I realize that this would've been a big problem for the liturgical calendar. The entire Easter cycle could occur as much as ten days earlier, and without changing the timing of the Christmas cycle, the Easter cycle could begin before the "time after Epiphany" (the last part of the Christmas cycle) had even begun. No wonder they chose to keep the vernal equinox on March 21st.

Regards
James

Re: Watch out for Y2K

*Message #67 Posted by **James M. Prange (Michigan)** on 4 Oct 2005, 4:12 a.m.,*
in response to message #56 by Gerson W. Barbosa

> Quote:

> Perhaps neither TI nor HP expected their products to last until the year 4000 A.C. :-)

"A.C."?

Indeed, the valid "system time" on the 48/49 series covers only a 100-year range. For the 48SX/S, 1989-01-01 through 2088-12-31, and for the 48G series and 49 series, 1991-01-01 through 2090-12-31. Attempting to set a date outside of these ranges results in an "Invalid Date" error. Setting a date and time just before the maximum and letting it tick up to midnight results in a warmstart, with WSLOG showing a "System time is corrupt" entry, and for the 48 series and 49G, the system time jumps back 100 years, but strangely enough, my 49g+ jumps back only to 2003-01-01. Trying CLKADJ to try adjust it out of range either earlier or later jumps it to these same times, but without causing a warmstart.

I find it interesting that they didn't move the range ahead a bit for the 49 series.

Apparently it's an "artificial" restriction; with the 52-bit clock at 8192 ticks per second, they could've made the range far larger. It turns out that a binary system time (as from TICKS) of #0 would correspond to exactly time 00:00:00 on 0000-01-01 in a proleptic Gregorian calendar, and a binary system time of #FFFFFFFFFFFF would be sometime in late January, 17421.

Maybe they simply chose the range so that TSTR would only have to use 2 digits for the year?

Similarly, the range of 1582-10-15 through 9999-12-31 for date arithmetic seems "artificial". It seems to me that, assuming a proleptic Gregorian calendar, the range could've been 0000-01-01 through 99999999-12-31. I'm not sure how much trouble it would've been to allow negative years, but if it were feasible at all, I suppose that they could've gone back to January 1st, -99999999.

But I doubt that they expected the calculators to still be in use even in 2088. They may well be surprised that the older models, or even the 48SX/S, are still in use even today.

But with the most recent models, I sometimes can't quite help suspecting that they designed in some planned obsolescence.

> Quote:
>
> Though the calendar is now that accurate, you'll be celebrating Christmas in the Summer, like we do down here, by the year 15,000 A.C.

Well, barring some major medical breakthroughs and several other near miraculous circumstances, I won't be around here then.

As others have pointed out, maybe it could be considered miraculous if

humans weren't in a long "dark age" by then, if not extinct.

Anyway, the way I figure, ignoring the effects of leap seconds, and assuming no adjustments other than the current Gregorian calendar rules were made, the seasons would occur only a bit less than 4 days earlier in the calendar year then, and I doubt that leap seconds would accumulate even a day's extra error in that time, so I suppose anyone living around here would be celebrating Christmas about 8 or 9 days after the winter solstice instead of about 4 days after it.

> Quote:
>
> ... Will this be a problem?

I rather doubt that the few days drift would be a problem, unless accusations of heresy for not celebrating Easter at the proper time become fashionable again.

Certainly it would be noticeable to astronomers, but I trust that they'd be able to deal with it.

As for celebrating Christmas in the summer, at least they wouldn't have to put up with freezing rain, sleet, and snow while trying to do last-minute Christmas shopping, and the Christmas decoration lights wouldn't be on for so long, thus saving energy. But the kids would be trying out their new bicycles immediately, instead of their new sleds.

Do Australians include artificial snowflakes, snowmen, and such in their Christmas decorations?

> Quote:
>
> Besides your post being enlighting, it helped me spot a mistake in my listing that would prevent the program to work correctly for some years ending in 00. (My hand-written listing on the Master Library was ok though). Thanks.

Well, I'm glad that it helped. I confess that I didn't even attempt to follow the programs posted. The only "True RPN" model that I have is thr 16C that I inherited, and though I did work through the examples in the manual and try a few variations, I haven't tried programming it since. The 16C is wonderful for working with binary though.

Regards,
James

Edited: 4 Oct 2005, 4:19 a.m.

(deleted post)

*Message #68 Posted by **deleted** on 4 Oct 2005, 6:05 a.m.,*
in response to message #67 by James M. Prange (Michigan)

This Message was deleted. This empty message preserves the threading

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

Re: Watch out for Y2K

*Message #69 Posted by **James M. Prange (Michigan)** on 4 Oct 2005, 8:47 a.m.,*
in response to message #68 by deleted

Maybe your snowflakes and snowmen make it feel a little cooler? I suppose that many early "settlers" often wished they were back in Britain.

Regarding the pagan origins for Christmas, St. Valentine's day, Easter (at least the eggs and bunny associations), All Saints' Day, Thanksgiving, etc., I suppose that telling the pagans to quit having their festivals would have been a dismal failure; much easier to change them to (more or less) Christian festivals.

Around here, we really **need** something like Christmas to cheer us up around that time of year. Personally, I'd like a better celebration around Groundhog Day (February 2nd).

The kids colour hard-boiled eggs before Easter, so they know where those came from. The usual story is that the Easter Bunny takes them out of the refrigerator and hides them various places around the house the night before Easter, but I don't think any of them actually believe that. They know full well that the Easter candy is from Gramma and Grandpa. Some organizations hold Easter egg hunts for large groups of children, with chocolate eggs hidden outdoors, but I don't think anyone believes any story that the Easter Bunny left them.

Christmas is a different story though. I'm always amazed that most children actually do seem to believe in Santa Claus until they're about 7 years old. I don't remember ever believing in Santa Claus, any more than I believed in Donald Duck or Bugs Bunny. We did exchange presents of course, but no one pretended that Santa Claus was anything other than an amusing myth. Maybe my parents thought that Santa Claus was a bad idea for religious reasons, or maybe they thought that with with three older brothers and an older sister, I'd soon be told otherwise. I expect that their reasons were religious; Christmas and Easter always started with going to Mass, and the somewhat secular aspects were limited to a Christmas tree, lights, decorations, exchanging gifts on Christmas, and more elaborate dinners than usual, most of which had a religious explanation; these were very clearly "holy days" more than "holidays" in our home.

Regards,
James

Re: Watch out for Y2K

*Message #70 Posted by **Gerson W. Barbosa** on 4 Oct 2005, 9:50 p.m.,*
in response to message #67 by James M. Prange (Michigan)

> Quote:
>
> "A.C."?

I should have said AD (Anno Domini). As I know you use the abbreviation BC (Before Christ), I wrongly guessed you'd use also use AC (After Christ) as we do here.

About the dramatic seasons shifting as a consequence of the precession of the equinoxes, I was wrong as Dave Shaffer pointed out. By what I can see, contrary to what I thought, we are doomed to celebrating Christmas in the Summer for ever, a problem only for thousands of southern Santas that have work in Winter clothings under a tropical sun :-)

Regards,

Gerson.

Re: Watch out for Y2K

*Message #71 Posted by **James M. Prange (Michigan)** on 6 Oct 2005, 1:57 a.m.,*
in response to message #70 by Gerson W. Barbosa

A.C. (After Christ) is new to me, though I'm familiar with C.E. (Christian Era) and B.C.E. (Before Christian Era) for the proleptic Gregorian calendar. Incidentally, this is usually taken to have a year 0000, which is a leap year, so the same leap year rules apply for negative years.

For the Julian calendar, which doesn't have a year 0, A.D. and B.C seem to be the rule, but of course these have also been used for the Gregorian calendar. I suppose that C.E. and B.C.E. might by applied to the julian calendar too. I guess for dates before all western cultures adopted the Gregorian calendar (around 1750?), it's best to be specific about which calendar is meant.

For my niece's genealogical research, I think that "New Style" and "Old Style" dates have caused some apparent anomolies. Which date something occurred on depends on which calendar is used.

Regards,
James

Common Era

*Message #72 Posted by **Eric Smith** on 6 Oct 2005, 8:19 p.m.,*
in response to message #71 by James M. Prange (Michigan)

More generally referred to in non-religious context as Common Era (CE) and Before Common Era (BCE). See the Wikipedia article on the Common Era.

Re: Common Era

*Message #73 Posted by **James M. Prange (Michigan)** on 7 Oct 2005, 3:47 a.m.,*
in response to message #72 by Eric Smith

Okay, now that you mention it, I think I've also seen "Common Era", but the alternative of "Current Era" on that page makes more sense to me.

But if they wanted to get references to Christ out of the date, why didn't they choose some other epoch than the birth of Christ? Using that epoch makes the connection to Christianity extremely obvious.

And of course Gregory was a pope, so shouldn't we stop using the term "Gregorian calendar"? Perhaps ISO 8601 should change all occurences of "Gregorian calendar" to, for examples, "ISO calendar", "common calendar", or "current calendar"?

Like it or not, Christianity has had a real influence on history, including the epoch for our calendar.

Not that I feel that a calendar for secular purposes particularly should have religious references, but since it already does, I don't see any good reason to change that.

Regards,
James

Re: Common Era

*Message #74 Posted by **John Limpert** on 8 Oct 2005, 11:55 p.m.,*
in response to message #73 by James M. Prange (Michigan)

The problem is that A.D. stands for Anno Domini, "Year of our Lord". For a huge number of people, Jesus isn't "our Lord".

Re: Common Era

*Message #75 Posted by **James M. Prange (Michigan)** on 9 Oct 2005, 12:37 a.m.,*
in response to message #74 by John Limpert

> Quote:
>
> The problem is that A.D. stands for Anno Domini, "Year of our Lord". For a huge number of people, Jesus isn't "our Lord".

Yes, obviously, but few would seriously doubt that Jesus Christ was a very real historical person. Even

those who might think that the New Testament were completely fictitious wouldn't dispute the historical reality of Christianity, hence my mistake that "C.E." stood for "Christian Era". After all, whoever came up with "C.E." and "B.C.E." didn't choose to base a calendar on a new epoch that had nothing to do with Christianity.

Regards,
James

Edited: 9 Oct 2005, 1:14 a.m.

Re: Common Era

*Message #76 Posted by **Eric Smith** on 9 Oct 2005, 3:02 p.m.,*
in response to message #73 by James M. Prange (Michigan)

> Quote:
>
> But if they wanted to get references to Christ out of the date, why didn't they choose some other epoch than the birth of Christ?

So that they wouldn't have to change the dates of everything.

The epoch of the Gregorian calendar (and the Julian calendar) isn't really the birth of Christ anyhow; scholars seem to think that happened some time around 4 or 5 BCE.

Re: Common Era

*Message #77 Posted by **James M. Prange (Michigan)** on 12 Oct 2005, 4:42 a.m.,*
in response to message #76 by Eric Smith

> Quote:
>
> So that they wouldn't have to change the dates of everything.

So it seems to me that they weren't really very serious about removing any religious references from the calendar. Obviously, "A.D." (Anno Domini, Year of the Lord), would seem very inappropriate to non-christians, but I don't see why anyone would object to, for example, "Christian Era".

> Quote:
>
> The epoch of the Gregorian calendar (and the Julian calendar) isn't really the birth of

> Christ anyhow; scholars seem to think that happened some time around 4 or 5 BCE.

Yes, there's very good reason to believe that the birth of Jesus of Nazareth actually occurred a few years before our calendar would seem to indicate. However, the particular scholar (Dionysius Exiguus) whose work the epoch is based on, apparently believed that Jesus turned 1 year old in 754 A.U.C., so he established that as the year 1 A.D. How certain he was, I don't know.

Regards,
James

Re: Watch out for Y2K

*Message #78 Posted by **blurdybloop** on 5 Oct 2005, 12:26 a.m.,*
in response to message #42 by James M. Prange (Michigan)

> Quote:
>
> By the way, I strongly suspect that what Palmer had in mind was a proposed additional rule, suggested by the famous astronomer John Herschel, that years divisible by 4000 not be leap years.

The current Gregorian calendar is slow by 25.92 seconds/year (much better than the 11 1/2 minutes of the Julian calendar!); the Y4K proposal makes it slow by 4.32 seconds/year. However, that means that there will be a Y20K problem.

Note too that the Eastern Orthodox church in 1923 proposed an alternative rule to correct the leap year problem in the Julian calendar. In their system, century years modulo 900 must have a value of 200 or 600 to be considered a leap year. This first year of divergence is in 2800, where the Gregorian calendar has a leap year but the Orthodox calendar does not until 2900.

The Orthodox calendar is slow by 1.91 seconds/year, so their day of reckoning doesn't happen until Y45K.

An additional problem is that the end of the current interglacial period (*not* "the next ice age" since we're in the middle of an ice age now!) is due around Y25K and may cause further perturbations on the Earth's rotation and revolution.

Re: Watch out for Y2K

*Message #79 Posted by **Dave Shaffer** on 5 Oct 2005, 11:10 a.m.,*
in response to message #78 by blurdybloop

re: "An additional problem is that the end of the current interglacial period (not "the next ice age" since we're in the middle of an ice age now!) is due around Y25K and may cause further perturbations on the Earth's rotation and revolution."

As I try to make the difference when I teach Astronomy 101, "rotation" is the turning of the Earth on its axis, whereas "revolution" is the orbital motion of the

Earth around the Sun.

So, while a new ice age may well affect the rotation rate of the Earth (due to changes in the moment of inertia of an ice-clad Earth) it WILL NOT affect the revolution (i.e. the orbital period).

Sorry to be so technical, but when among geeks and nerds, we should make sure we have it right!!

Re: Watch out for Y2K

*Message #80 Posted by **blurdybloop** on 6 Oct 2005, 12:35 a.m.,*
in response to message #79 by Dave Shaffer

> Quote:
>
> So, while a new ice age may well affect the rotation rate of the Earth (due to changes in the moment of inertia of an ice-clad Earth) it WILL NOT affect the revolution (i.e. the orbital period).

Note that I said "the end of the current interglacial period" and not "the return of the glaciers." The latter is one aspect of the former. Consider the possibility that ice ages and interglacial periods are caused by something that also impacts the revolution of the Earth.

That's what I meant when I said "rotation and revolution". Rotation can be affected by the ice, whereas revolution *and* ice could be affected by some common external cause.

This is all speculation, of course.

Re: Watch out for Y2K

*Message #81 Posted by **James M. Prange (Michigan)** on 5 Oct 2005, 10:43 p.m.,*
in response to message #78 by blurdybloop

My impression is that the additional rule was actually adopted by the Greek Orthodox church, and also that for Russia (and I suppose maybe some others), this is the official calendar. I hope that everyone will agree on a uniform civil calendar before the Gregorian and Orthodox calendars get out of synch in 2800.

I wouldn't expect lunar calendars for religious and traditional uses to be abandoned though.

Regarding ice ages, land in many northern (and southern?) regions is still rebounding from the last big melt-off, so mass is being redistributed closer to Earth's axis. I'd expect this "glacial rebound" to tend to speed up the earth's rotation, opposing tidal braking's slowing of it. Then too, glaciers at all latitudes seem to be shrinking currently, which surely has some effect on the distribution of Earth's mass.

What happens if (when?) the ice caps on Greenland and Antarctica melt or slide into the ocean? I suppose for one thing, for most people, whether the vernal equinox falls very near March 21st will be among the least of their problems.

Of course the distribution of inland water varies, largely due to human engineering. Ocean and atmospheric currents (and their portion of the angular momentum) vary, and the distribution of mass in the oceans and atmosphere varies (El Nino and so on).

I've read that Earth's core rotates at a different rate than its crust, and the "slippage" probably varies, thus changing the distribution of angular momentum.

Quite a lot of things affect the distribution of Earth's angular momentum, and the rotation has to change to conserve total angular momentum. Well, of course in the case of tidal braking and the moon moving farther out, it's the angular momentum of the Earth-Moon system that's being conserved. As it seems difficult to predict the exact distribution of angular momentum of, it's also difficult to predict the exact rotation.

But all of the above affects Earth's rotation (its day length), not it's revolution (year length). They would be relevant for leap seconds (or occasionally dropping a second) or redefining a second to make 86400 seconds closer to 1 mean solar day.

To the extent that the average length of a day varies, the number of such days in a year must vary too.

To affect the revolution, we need something outside of the Earth-Moon system, such as perturbations from other planets, or perhaps the solar wind or impact with extra-planetary "dust". My understanding is that it's perturbation from the major planets that causes the precession of Earth's perihelion (no, this isn't the same as the "precession of the equinoxes").

Regards,
James

Re: Watch out for Y2K

*Message #82 Posted by **blurdybloop** on 6 Oct 2005, 12:25 a.m.,*
in response to message #81 by James M. Prange (Michigan)

> Quote:
>
> To affect the revolution, we need something outside of the Earth-Moon system, such as perturbations from other planets, or perhaps the solar wind or impact with extra-planetary "dust". My understanding is that it's perturbation from the major planets that causes the precession of Earth's perihelion (no, this isn't the same as the "precession of the equinoxes").

Hence my reference to the Earth's revolution; as we are not certain what causes ice ages, we need to consider the possibility that it is due to something external to the Earth-Moon system.

Re: Watch out for Y2K

*Message #83 Posted by **R Lion (Spain)** on 1 Oct 2005, 2:59 a.m.,*

in response to message #23 by Palmer O. Hanson, Jr.

The 67 program, and the 41 and 42 versions I rewrote, give 366 :-(

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Cleaning a HP 48GX: Can I dip it in a solvent to clean?

*Message #1 Posted by **David** on 28 Sept 2005, 12:42 p.m.*

I have a HP 48 GX that I've not used particularly hard. The on key is variable in its function. I blew some air into the key area and have noted improvement with the function of the key...so was wondering if dust could be the culprit...if so...what is the best way to clean below the keys...can I dip the calculator in a solvent...batteries out of course...or does this require only compressed air.

Thanks, David

Re: Cleaning a HP 48GX: Can I dip it in a solvent to clean?

*Message #2 Posted by **I, Claudius** on 29 Sept 2005, 9:37 a.m.,*
in response to message #1 by David

No solvents except distilled water! And that only after you've removed the batteries for at least a week to let the capacitor discharge. You will then have to wait several days for it to dry out. As for using compressed air, those little cans shouldn't hurt, but don't use true shop-type compressor air, it's way too powerful.

Last but not least, the cost of replacing your 48 is going up. eBay prices range about $300-$400, and Samson Cables now wants $999 for new-in-box old stock units. Just before the first HP49 came out, prices for a 48 dipped to about $100 at my old college bookstore...

Re: Cleaning a HP 48GX: Can I dip it in a solvent to clean?

*Message #3 Posted by **David Zane** on 29 Sept 2005, 11:52 a.m.,*
in response to message #2 by I, Claudius

I wonder that I shouldn't just let the calculator discharge...when I whack it on the side in the palm of my hand...the ON button works...so I've considered some kind of static charge...or electrical issue...as well as dust. The ON button is working about 90% of the time after applying compressed air...I can always get it to turn on...it just takes more than one time occassionally.

I have seen a link to fixit.com...but for $78 dollars, I'd chip in the extra $50 to get the newest model...I'm not a collector.

Thanks for your help, David

Re: Cleaning a HP 48GX: Can I dip it in a solvent to clean?

*Message #4 Posted by **I, Claudius** on 30 Sept 2005, 2:53 p.m.,*
in response to message #3 by David Zane

Getting the new machine might be your best bet. The new HP49+ with serial numbers beyond CNA515... with ROM version 2.0 seem to be OK. The software of the 49 is far and away more powerful than the old 48. The computer algebra system, while not Mathematica, is darn good for a handheld. The new CPU seems like lightspeed compared the 48, which was quite slow for certain

operations. If you do get a dud, HP seems to be good at warranty exchanges. Best of luck.

Re: Cleaning a HP 48GX: Can I dip it in a solvent to clean?

*Message #5 Posted by **Hugh Evans** on 29 Sept 2005, 9:19 p.m.,*
in response to message #2 by I, Claudius

Agreed, solvents are not what's needed here. But I could see some advantage to using a mild detergent soak followed by several rinses in DI. Carrying this all out in a sonicator might also help. If you have an oven with a "warm" setting, 90°F or so (verify this with a thermometer), you could let it air out for several hours.

Caps won't cause you any trouble as they will discharge during the process. If you're feeling paranoid you could discharge them with a piece of hookup wire, paperclip, etc.

Best of luck,

HDE

Re: Cleaning a HP 48GX: Can I dip it in a solvent to clean?

*Message #6 Posted by **Brian** on 29 Sept 2005, 11:57 a.m.,*
in response to message #1 by David

A common problem, similar to your description, with the HP 48 has to do with an internal intermittant connection. Try putting some light pressure between the display and the softkey 'C' prior to depressing the 'ON' key. If this improves the situation, I have noticed someone claiming to be able to permanently repair that problem.

Good luck,

Brian

Re: Cleaning a HP 48GX: Can I dip it in a solvent to clean?

*Message #7 Posted by **don wallace** on 3 Oct 2005, 2:47 a.m.,*
in response to message #1 by David

Hi David,

I would (very strongly) advise against a "bath" in anything!

At some risk to the feel of the keys on some hp calcs (e.g. 41) you can use CRC brand "Contact Cleaner" in minimal amounts.

It is very gentle but used on the older hp calcs like the 41 the keys lose their tactile feedback quality when the spray is applied. As the plastic components "dry out" (rapidly!) some of this tactile feedback characteristic recovers. At least the keys then operate! They feel a little spongy, though and don't make a clicking sound. A small price to pay for a functional keyboard.

Never use any detergents at all (!). If you want to run a small *risk and use ultrasonic cleaning in a fluid (I don't have access to such exotic stuff!) the only liquid to use is isopropyl alcohol. Distilled water sounds okay, but metal can be induced to oxidize. At least isopropanol is as inert as you are going to get.

*If liquid permeates between the LCD interconnects to a PCB, then often you will lose the display (connections).

For What Its Worth...

DW

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What happened to Don and his posts? [NT]

*Message #1 Posted by **Massimo Gnerucci (Italy)** on 28 Sept 2005, 12:35 p.m.*

I said "No Text"! ;-)

Re: What happened to Don and his posts? [NT]

*Message #2 Posted by **Howard Owen** on 28 Sept 2005, 1:24 p.m.,*
in response to message #1 by Massimo Gnerucci (Italy)

He seems to have vanished.

He seemed really upset last night, at the direction people were taking ith their technology projects it appeared, but maybe just a general disgust. He signed off implying he was going away for good. Today all his posts are gone. I think he'd need the curator's help to do that, but maybe not.

Sorry to see him go. He was rough around the edges, and frequently insensitive to the feelings of others. But he had interesting stuff to say, if you could discount all that.

Best wishes, Don.

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HP-97 Printer Paper Advance

*Message #1 Posted by **Mike DiGirolamo** on 28 Sept 2005, 7:57 a.m.*

When printing, my HP-97 sometimes doesn't fully advance the paper which results in an overlapping of print lines. Can someone tell me what's wrong and how to fix this problem? Is it a clutch, lube or ?? problem?

Thanks - Mike

Re: HP-97 Printer Paper Advance

*Message #2 Posted by **Katie Wasserman** on 28 Sept 2005, 9:24 a.m.,*
in response to message #1 by Mike DiGirolamo

There are several things that can cause this that I've come across:

- The little rubber (soft plastic of some type, actually) drive rollers on the extreme right and left side of the paper advance bar are dirty.

- The springs that push this bar against the paper are week.

- A bad idler gear (the middle of the three drive gears).

- Bad paper -- old paper seems to slip more often for some reason.

- There's excess friction in the paper path -- something else is dirty in there.

Re: HP-97 Printer Paper Advance

*Message #3 Posted by **David Smith** on 28 Sept 2005, 3:38 p.m.,*
in response to message #1 by Mike DiGirolamo

The usual cause is flat spots on the printer rollers. These are caused by not using the printer. The rollers are constantly pushed against the platen rollers which causes a flat spot on the rubber. This shows up as a hiccup every four lines (assuming the paper moves at all). Mint-in-box never used machines are almost always severly affected.

Cures: 1) Clean the rollers and printer mechanism. If you can find it, apply some rubber belt conditioner to the rollers (like slot car tire traction liquid or MG Chemicals sells somthing called Rubber ReNew. These are usually sodium salicylate based solvents that disolve rubber and make it tacky).

2) Clamp a large paper clamp to the end of the roll of paper, hang it over the edge of a table, print some long listings.

3) If this does not get things working you can try removing the printer drive cam and sanding the rollers round again. Removing the drive cam and reinstalling it is not for the mechaincally challenged. You have to remove and reinstall the printhead... klutzes will crack their heads.

4) If this does not work replace the drive cam with one from the HP41 82143A printer.

Re: HP-97 Printer Paper Advance

*Message #4 Posted by **Tony Duell** on 28 Sept 2005, 3:47 p.m.,*
in response to message #3 by David Smith

If the problem is caused by the pressure of the rear rollers against the rubber drive rollers, would it be worth unhooking the 2 little tension springs at the sides of the printer in any machine that you're going to store rather than use? It's easy enough to do, and a Topcat can be opened without disturbing any labels (for those who care about such things).

Re: HP-97 Printer Paper Advance

*Message #5 Posted by **Tony Duell** on 28 Sept 2005, 3:45 p.m.,*
in response to message #1 by Mike DiGirolamo

I've fixed several machines with this problem, and every time it's been a problem with the actual rubber rollers. Unlike the one in the card reader, I've yet to have one turn to goo, thankfully.

The main problem is getting the roller assembly out. I would seriously recomend getting the service manual that's on the MoHPC CD-ROMs. Then :

Take out the battery, take off the bottom cover (6 screws), slide out the printer paper window, take out the 3 screws, washers, and grommets that hold the printer in place. Unplug the printer PCB from the logic PCB and take the whole lot out.

Unplug the 6 single wires from the PCB, noting their positions (2 white -- home position reed swtich, 2 red -- out-of-paper contact, red and black -- motor). It's difficult to unplug the printhead tapewire from the PCB without damaging it -- one trick that helps is to push a couple of old magnetic cards between the tapewire and the socket connects, then pull the wire out. If you're not happy doing that, leave the printhead connected to the PCB.

Undo the 2 screws holding the metal 'tab' clamp that holds the printhead in place. Slide out the printhead (with the PCB still attached if you've not disconnected it). When reassembling, make sure the printhead is properly seated before fitting the clamp, and tighten the screws carefully and evenly. There is a real risk of cracking the ceramic head if you're not careful.

Mark the position of the home switch, take out the screws and take it off. Take out the 3 screws holding the motor in place and remove that. Take off the E-circlip and remove the idler gear.

Take off the E-circlip and the gear on the end of the leadscrew. Turn the leadscrew to move the carriage away from the RHS of the frame, then press on the leadscrew to force out the RH leadscrew bearing. Slide the carriage and leadscrew towards the right, Push the LH leadscrew bearing to the right (into the frame) and remove that too. Then 'unscrew' the leadscrew from the carriage and remove it through the left side of the printer frame.

Remove the 2 E-clips on the carriage rails _inside the frame_. Take out the rails and remove the carriage. Notice how the ridge on the paper feed roller fits into the carriage. The platten strip will probably fall out at this point.

Unhook the tension springs on the sides of the printer that pull the paper feed pressure shaft forwards. You can now push the feed assembly rearwards and unclip it from the slots at the side.

I've found that carefully rubbing the rubber tyres with 1000-grit wet-n-dry paper (used dry) will greatly

improve their grip.

When reassembling, put a smear of plastic grease on the leadscrew, and a bit of dry-film (teflon) lubricant on the carriage rails, the idler gear spindle and the gear teeth.

Another Topcat printer comment

*Message #6 Posted by **Tony Duell** on 28 Sept 2005, 3:54 p.m.,*
in response to message #1 by Mike DiGirolamo

There's a printer feature of topcat models that might cause you to spend a couple of hours looking for a non-existant fault. If you use the printer paper feed button _without paper loaded_, the head will go back and forth as it should do, but it will not be correctly braked when you release the button. It will just coast to a stop, and will not necessarily stop at the right position.

I spent a bit of time looking at the printer schematics and testing transistors (this is made harder by 2 facts, firstly the drive signals go straight from the PIK chip to the bases of transistors, so there's almost no voltage change there to check with a logic analyser, and secondly, the HP schematic doesn't show how the transistors in the 3 quad transistor arrays are allocated. I have my own schematic that does (on the HPCC CD-ROM), but...)

Only after a lot of thought did I realise that the way the out-of-paper circuit works (it grounds the FWD line, preventing the head from moving forward, if printer is out of paper and the feed button is not pressed) would also affect the brake circuit.

Disconnecting one of the red wires from the out-of-paper contact to the printer PCB proved the point. As did putting some paper in the thing.

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Hoping to stop people asking me for a .pdf of the HP01 manual, which I got from the Museum

*Message #1 Posted by **Michael Tjebben** on 27 Sept 2005, 6:16 p.m.*

Here's an email that I just sent to someone who wanted me to send him the HP01 manual, that I have from the HP-Museum DVD. Because multiple people are finding my email address via google and other searches, I thought maybe posting again to the Museum might help people also find out that I do not wish to send the .pdf, because I don't feel "right" about it, because I obtained it by buying the Museum DVD and would like to support the Museum.

I have changed the recipient's specifics to protect him.

Thanks! -Mike Tjebben

Hello Dirk-

I actually get a LOT of such requests from people who have found a reference to me by an internet search engine.

As I tell everyone:

I obtained my manual by purchasing the EXCELLENT DVD at www.hpmuseum.org. I don't feel right about sending you the .pdf from that site, but suggest you get one from there. I'm sorry to re-direct you, but you'll find that site to be outstanding!

Good luck!

-Mike

-----Original Message----- From: Dirk Sent: Sep 27, 2005 3:18 PM To: motjebben@mindspring.com Subject: HP-01 manual

Hello,

I found your address on the internet. I read you have an PDF File of the HP-01 manual?

Still have it? Can you sen me a copy. I would be very very happy.

Best regards.

Dirk

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Why do people do this?

*Message #1 Posted by **Don Davis** on 27 Sept 2005, 5:11 p.m.*

Why would someone post a calculator for auction - described as in excellent condition - and go to the trouble of posting not one, but TWELVE photos - all completely out of focus! Hey, gang... You can select the LARGE version of these out of focus pictures if you need a better view. You still cannot tell anything about the condition, but maybe if you really squint . . .

HP 16C

I must be missing something.

Don

Re: Why do people do this?

*Message #2 Posted by **Don Shepherd** on 27 Sept 2005, 10:21 p.m.,*
in response to message #1 by Don Davis

Just because you HAVE a digital camera does not mean you know how to use it.

another Don

Re: Why do people do this?

*Message #3 Posted by **Karl Schneider** on 28 Sept 2005, 1:59 a.m.,*
in response to message #1 by Don Davis

I think that Don S. is right. The pix appear to have been taken with a digital camera at an inadequate resolution, not out of focus.

-- KS

it's simply out of range

*Message #4 Posted by **Frank Boehm (Germany)** on 28 Sept 2005, 2:14 a.m.,*
in response to message #1 by Don Davis

aka "too close to focus"; the first picture is fine, but the seller obviously doesn't have a macro or wide angle lens :)

I agree, it's pointless to post those pictures...

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HP 9114B Batteries. Help !!!!

*Message #1 Posted by **Gileno** on 27 Sept 2005, 1:09 p.m.*

Where can I find one of these batteries Panasonic Lead-Acid Battery LCR-226P or equivalent for HP 9114B Thanks.

Re: HP 9114B Batteries. Help !!!!

*Message #2 Posted by **Jeff D** on 27 Sept 2005, 1:25 p.m.,*
in response to message #1 by Gileno

DigiKey! I have purchased two of them and they work fine. Check the catalog for the specs. I have also had to replace faulty circuit board inside the battery enclosure. One of mine was faulty. JMTCW

Re: HP 9114B Batteries. Help !!!!

*Message #3 Posted by **Howard Owen** on 27 Sept 2005, 1:51 p.m.,*
in response to message #2 by Jeff D

So where did you get the replacement circuit board, if I may ask?

Re: HP 9114B Batteries. Help !!!!

*Message #4 Posted by **Tony Duell** on 28 Sept 2005, 6:11 a.m.,*
in response to message #3 by Howard Owen

Why would you want to replace the circuit board (unless it was physically missing)? There are no custom components on it, you can get a schematic on the HPCC CD-ROM.

The most common failure, of course, is the 5A picofuse between the battery and the output socket.

If you have problems getting the right 'block battery', 3 2.5Ah Cyclon cells (2V lead acid) in series fit the case perfectly.

Re: HP 9114B Batteries. Help !!!!

*Message #5 Posted by **Vieira, L. C. (Brazil)** on 27 Sept 2005, 4:35 p.m.,*
in response to message #1 by Gileno

Hi, Gileno;

I found a "Made in Brazil" lead acid that fits fine in the 9114B battery pack. It is a 6V/2800mAh (yeap, .4Ah +). I'll add pictures later, so you can check the model # and order it, if so. It cost me R$22,00 (Not so expensive, ahn? Not US$, R$).

Best regards.

Luiz

Edited: 27 Sept 2005, 4:36 p.m.

Re: HP 9114B Batteries. Help !!!!

*Message #6 Posted by **Gileno** on 27 Sept 2005, 5:06 p.m.,*
in response to message #5 by Vieira, L. C. (Brazil)

I am waiting. Thank you very much! ! ! !

Small correction (was: HP 9114B Batteries. Help !!!!)

*Message #7 Posted by **Vieira, L. C. (Brazil)** on 27 Sept 2005, 8:21 p.m.,*
in response to message #6 by Gileno

Hi Gileno, guys;

the sealed battery is a UNIPOWER, and it is actually made in China (sorry) and I confused the origin because it has all specs printed in Portuguese.

I´ll add identification and photos later (not home yet).

Cheers.

Luiz (Brazil)

Small correction (was: HP 9114B Batteries. Help !!!!)

*Message #8 Posted by **Gileno** on 27 Sept 2005, 8:59 p.m.,*
in response to message #7 by Vieira, L. C. (Brazil)

Can you supply myself the data of the battery the site or address that you bought?

Replacement batts (was: HP 9114B Batteries. Help !!!!)

*Message #9 Posted by **Vieira, Luiz C. (Brazil)** on 28 Sept 2005, 2:48 a.m.,*
in response to message #1 by Gileno

Hi Gileno, guys;

these are the pictures I got: (click any to enlarge)

http://www.logeng.com.br/images/unipower_02_short.jpg
http://www.logeng.com.br/images/unipower_04_short.jpg
http://www.logeng.com.br/images/unipower_06(stick)short.jpg

Specs are visible and readable, though. Unipower battery ID is UP628. The National LCR6V2.4P is the one that came with the 9114B I have (thanks, D.M.). Physical dimensions for UP628 match LCR6V2.4P except for the largest dimension: UP628 case is about 2mm `taller`. UP628 contacts are also in different orientation and position, so I had to solder another wire for negative terminal. Anyway, it fits fine in original 88014B (battery pack).

Gileno, if you do not find it in local suppliers, let me know. Mine was brought from Sao Paulo, and I do not know the original supplier address, only the local supplier. If you do not succeed finding it, let me know.

Cheers.

Luiz

Edited: 28 Sept 2005, 2:52 a.m.

Re: Replacement batts (was: HP 9114B Batteries. Help !!!!)

*Message #10 Posted by **gileno** on 28 Sept 2005, 10:08 a.m.,*
in response to message #9 by Vieira, Luiz C. (Brazil)

Thank you very much. Luiz

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Off Topic: HP-9816

*Message #1 Posted by **Howard Owen** on 27 Sept 2005, 1:02 p.m.*

Apologies for mentioning the definitely-not-a-calculator 9816. I've recently acquired one, and this community is the closest I could find to ask questions of. I've been unable to find th items below on the web or on USENET.

I'm looking for manuals for my 9816. Specifically, I'm looking for pinouts of the serial connector, or even a source for an adapter to standard RS232. I have RMB 2.0 on two floppies, but no documentation, so I'm looking for pointers to manuals. Finally, I have a nearly complete Pascal 2.1 disk and manual set. I say "nearly complete" because I can't locate the INTERFACE library module needed to reconfigure the system (to compile CTABLE.PAS.)

Hopefully that is brief and to the point. Thank you for tolerating this digression from the normal flow of the forum. 8)

Re: Off Topic: HP-9816

*Message #2 Posted by **Vassilis Prevelakis** on 27 Sept 2005, 11:03 p.m.,*
in response to message #1 by Howard Owen

check Appendix A at: http://www.series80.org/Misc/HP9816-Intro.pdf

**vp

Re: Off Topic: HP-9816

*Message #3 Posted by **Howard Owen** on 28 Sept 2005, 1:29 a.m.,*
in response to message #2 by Vassilis Prevelakis

Vassilis, you are a digital pack rat after my own heart! Thanks for pulling another obscure piece of documentation out of your archive! There's lots of other useful information in that little manual too. Thanks again!

Don, I try not to think of how old *I* am. I just concentrate on the old machine. What I really love about this hobby are two things. First, there's combining my memory of a machine I used "back in the day" with whatever I (or helpful folks like Vassilis and yourself) can dig up on the Internet or our root cellars, plus whatever I can discover using my lifetime's experience with systems in playing with the actual device today. This crosses so many areas I find pleasurable in my life, that I sometimes don't have time to get to the second thing I really love: making these old machines talk to my modern machines and networks. I have 7 Linux boxes up and running on my home network, not counting laptops, PDA or Windows boxes. This is my laboratory for work, and my primary playground. If I can get my former life talking to my present life why, I'm peculiarly delighted! 8)

Now if only someone could pull a set of RMB 2.0 manuals out of some dark and musty corner.

Edited: 28 Sept 2005, 1:30 a.m.

Re: Off Topic: HP-9816

*Message #4 Posted by **J-F Garnier** on 2 Oct 2005, 5:20 a.m.,*
in response to message #3 by Howard Owen

There is at least a QRG for Basic 4.0 on the Museum CDs.

And if you master the HP-71B, you can master any RMB system :-)

J-F

Re: Off Topic: HP-9816 (BASIC 4.0 Manual)

*Message #5 Posted by **Vassilis Prevelakis** on 3 Oct 2005, 12:29 a.m.,*
in response to message #4 by J-F Garnier

If you are interested in the Basic 4.0 Language Reference Manual for the HP 9000 200/300 computers, then you can find it at:

http://www.series80.org/Manuals/Basic40LangRef.pdf

(note that its pretty big, 22Mb and more than 600 pages).

**vp

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hp 41c battery pack rebuild

*Message #1 Posted by **Hal** on 27 Sept 2005, 3:09 a.m.*

Hi, I've just acquired a 41c which needs the batery pack rebuilt, and was wondering if someone could share a little of their expertise / experience here in this forum. My questions are as follows: 1. What's the best way to get the battery pack apart...does it snap apart or is it glued?

2. What voltage does a working battery pack supply to the calculator? (looks like 5v to 6v from the configuration)

3. Since the wall adapter output is 8vac, am I correct in assuming that there is a rectifier built into the battery pack?

4. Whats with the center contact in the battery compartment...does it tap off an intermediate voltage or something?

Any and all information very much appreciated. Thanks, Hal

Re: hp 41c battery pack rebuild

*Message #2 Posted by **Etienne Victoria** on 27 Sept 2005, 4:49 a.m.,*
in response to message #1 by Hal

Hi!

1. It is seamed & does not snap apart: I use an Xacto Blade (or cutter for Europeans) to cut it apart cleanly, taking care not to break it.

2. Normal spec is 4x1.2V=4.8V which is enough. Up to 5 or 6V is not a problem as alcalines provide 6V anyway. I get 5V steady with my 4x 1/3 AA rebuit accupack.

3. Yep...with beautiful tiny fragile standard diodes.

4. Nein, it just links the 2 middle batteries. It is useless with a rebuilt rechargeable battery pack.

Small cells like 1/2N are hard to get. Therefore, you can use 1/3AAA for your first try but won't get a great capacity with these. When you get more practise, you can use 4x1/3AA which give you much more capacity but require careful grinding & sanding the accupack inside to give more room.

Friendly regards from France.

Etienne
Fourqueux, Yvelines, France, Earth

Edited: 27 Sept 2005, 3:03 p.m. after one or more responses were posted

Re: hp 41c battery pack rebuild

*Message #3 Posted by **Hal** on 27 Sept 2005, 12:59 p.m.,*
in response to message #2 by Etienne Victoria

Thanks very much for the information. I think I can find the little N cells. If I have any problems, I'll post another message. Best regards from Idaho (Northwestern US). Hal

Re: hp 41c battery pack rebuild

*Message #4 Posted by **Etienne Victoria** on 27 Sept 2005, 2:59 p.m.,*
in response to message #3 by Hal

Yes Hal, I'm pretty sure you can find N cells quite easily.

However, those are too big to fit in the rechargeable pack. They can just serve as substitute for the dead-expensive N alcaline batteries in the **non rechargeable** battery container.

To recell the rechargeable pack, you'll want 4x **1/2 N cells** which in my opinion are not found so easily at least here in Europe.

That's why I was advising 1/3 AAA or 1/3 AA+hard work.

Have a nice day!

Etienne
Fourqueux, Yvelines, France, Earth

Edited: 27 Sept 2005, 3:03 p.m.

Re: hp 41c battery pack rebuild

*Message #5 Posted by **Jon** on 27 Sept 2005, 4:08 p.m.,*
in response to message #4 by Etienne Victoria

Hi Etienne:

I have rebuilt a lot of battery packs with NiMH 1/3AAA cells. They are 150mAh and last a lot. I have never seen a battery pack with 1/3AA cells. Do you have any photograph?. My email is jonjosebaibNOSPAM@euskalnet.net

Regards

Jon

Re: hp 41c battery pack rebuild

*Message #6 Posted by **Claudio** on 28 Sept 2005, 12:37 p.m.,*
in response to message #5 by Jon

> I have rebuilt a lot of battery packs with NiMH 1/3AAA cells.

Hi Jon, I'm doing the same thing with my HP41CX, but can you confirm me that the charge of these NiMH batteries is OK with the standard HP charger?

Are there any problems with this way?

Thanks for any info. Claudio

(Remove the double _NOSPAM_ from my e-mail address) 1234

Re: hp 41c battery pack rebuild with 1/3AA

*Message #7 Posted by **Etienne Victoria** on 28 Sept 2005, 12:46 p.m.,*
in response to message #5 by Jon

Hello Jon & all!

As requested, I propose a few pics of an Hp-41 battery pack recelled with **1/3 AA** :

Hp-41C battery pack recelled with 1/3 AA

Just click "Start slideshow" to get bigger pictures.

Sorry for the lack of aesthetics but it's the 1st one I did...the others are gone to other Hp 41!

In a few days, I'll try to post a step by step description on the recelling when I can get new dead packs.

I intend also to refit an inexpensive **alkaline J-type battery** & will post the pics if I succeed.

The best solution till now for me is indeed the **1/3 AA** cell for it's increased capacity.

Friendly regards from France!

Etienne

Edited: 28 Sept 2005, 12:47 p.m.

Re: hp 41c battery pack rebuild with 1/3AA

*Message #8 Posted by **Jon** on 28 Sept 2005, 4:39 p.m.,*
in response to message #7 by Etienne Victoria

Hi Claudio & Etienne

There isn´t any problem to charge the cells with the standar charger. It works fine. These cells have higher capacity (150mAh) than originals. So it is more difficult to overcharge them. If you take care to wait until the calculator shows BAT to recharge, you won´t have problems. I can send photographs to your email if needed.

The final aesthetic result is very good but capacity of the cells is, of course, lower than Etiennes pack. Etienne, just wondering if the contact is good when you insert the pack or you have to adjust it each time...

I have also succed using 2/3AAA NiMH cells (300mAh) with an standar alcaline holder. I found a plastic 12/10mm pipe that increases the diameter so the final dimensions are the same as N cells (28mm x 12mm). But you have to charge them outside . There are chargers for that (MAHA,...)

Regards

Jon

Re: hp 41c battery pack rebuild with 1/3AA

*Message #9 Posted by **Etienne Victoria** on 28 Sept 2005, 6:39 p.m.,*
in response to message #8 by Jon

Hi Jon,

Thank you for your tips!

On the recelled battery packs, I put the original metal contacts from the Hp pack.

Therefore the look & contact quality are the same, I do not have to reajust anything and the calc looks the same as normal.

The recelled pack is NOT thicker as the original because of the 2 hours spent grinding & sanding the inside.

You cannot see these original contacts on my pictures because....I've lost them when rebuilding my first pack!!!

Sorry, the next recelling "J-type" or 1/3AA will be more beautiful I hope!

Cheers!

Etienne

Edited: 28 Sept 2005, 6:41 p.m.

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So Eric, what's with the new hardware?

*Message #1 Posted by **Howard Owen** on 26 Sept 2005, 11:31 p.m.*

Looking over the HHC 2005 conference notes, I see where you demonstrated some hardware running your simulator code. (I will leave the debate over whether this then would constitute an "emulator" or not to others.) I recall threads here discussing using an HP-97 as the "user interface" for a souped-up modern calculator, including the ability to run nonpareil, but I thought it was just theoretical. Now I know you had this project up your sleeve the whole time. 8)

So, when are you going to cut the rest of us in on the details?

Re: So Eric, what's with the new hardware?

*Message #2 Posted by **Howard Owen** on 27 Sept 2005, 1:51 a.m.,*
in response to message #1 by Howard Owen

The photos of a device with key actuators being fitted with an HP-41 faceplate look intriguing. Is that your hardware? Sort of KML in the flesh? Cool!

Re: So Eric, what's with the new hardware?

*Message #3 Posted by **Eric Smith** on 27 Sept 2005, 12:19 p.m.,*
in response to message #1 by Howard Owen

I need to send an updated paper by Richard Ottosen on the hardware to Ron Johnson for the conference CD proceedings, if it's not too late. I'll make the paper available on my web site as well.

The current hardware uses a PIC18F6680 microcontroller. This has 64KB of flash memory and 3328 bytes of RAM. We added a 256KB serial flash chip for storage of application module code, and a 2KB serial FRAM for the user registers. There's also an SD card slot, a serial port, and an LED to drive an IR printer.

The case is made of many layers of thin plexiglass laser-cut and laminated together. There are 39 tact switches (buttons with integrated snap discs) arranged in an HP-41 layout. Rather than using keys to press the switches, there is an overlay which slides into the calculator.

The firmware wasn't working in time to be demonstrated at the conference, so only a simple hardware test program was shown. The real firmware will simulate Woodstock and Spice series calculators as well as the HP-41. The code is hand-written assembly, not Nonpareil.

The HP-41 firmware running on this hardware will be slightly faster than a real HP-41. We were more concerned with battery life than speed.

Re: So Eric, what's with the new hardware?

*Message #4 Posted by **Gene Wright** on 27 Sept 2005, 12:21 p.m.,*
in response to message #3 by Eric Smith

And, I'm still on the list to buy one...good looking case or not.

I'd be hopeful that other calculators could be emulated...like an HP67? ? :-)

Re: So Eric, what's with the new hardware?

*Message #5 Posted by **Eric Smith** on 27 Sept 2005, 1:19 p.m.,*
in response to message #4 by Gene Wright

> Quote:
>
> I'd be hopeful that other calculators could be emulated...like an HP67?

There are two issues with that:

1. Currently I don't understand how a subtlety of pointer wraparound works on the Woodstock CPU, so the 19C, 29C, 67, and 97 get stuck in a loop whenever they search for a label. I need to build a ROM emulator to hook up in place of the HP ROMs to run my own test code.
2. I haven't figured out how the card read instructions work.

Once these problems are solved, it should run fine on the new hardware.

Re: So Eric, what's with the new hardware?

*Message #6 Posted by **Gene Wright** on 27 Sept 2005, 1:24 p.m.,*
in response to message #5 by Eric Smith

And, the card reader instructions (at least, read/write) would be nice to point to files on the SD card. :-)

If we have to sacrifice some of the other uses of card instructions (merge comes to mind), to be able to play with an HP67 in all other ways, I could easily live with that. :-)

Re: So Eric, what's with the new hardware?

*Message #7 Posted by **Bernhard** on 27 Sept 2005, 4:26 p.m.,*
in response to message #5 by Eric Smith

Why don't you ask me to give you the schematics of my ROM emulator ?

regards, Bernhard

Re: So Eric, what's with the new hardware?

*Message #8 Posted by **Howard Owen** on 27 Sept 2005, 12:45 p.m.,*
in response to message #3 by Eric Smith

Coool!

So the photos in Richard Nelson's conference report *are* of the new machine! So the 256K serial FRAM is for modules, there's 2K for registers (291, by my count) and 3328 bytes of RAM for user programs. So what is the SD slot for? I note there are two lines in the LCD. Alpha and X? X and Y? Selectable? What does the serial support look like on the calculator side? Is there a meta OS in the 64K?

This is pretty damned exciting stuff!

Re: So Eric, what's with the new hardware?

*Message #9 Posted by **Eric Smith** on 27 Sept 2005, 1:15 p.m.,*
in response to message #8 by Howard Owen

The 256KB of serial flash is for storage of calculator microcode (though some will be in the PIC's internal flash) and application module (ROM) images.

My previous posting was incorrect; the FRAM is 8KB, which allows for the full addressable register address space of the 41 (1024 registers), though unless I modify the microcode it will have the same effective capacity as the 41CX with two extended memory modules.

Future units may use a 32KB FRAM; we weren't able to obtain any in that capacity when we ordered the components. Modified extended function module microcode might allow for the equivalent of an extra twelve extended memory modules, for a total of 3459 usable registers of extended memory.

The SD slot is for mass storage. The intention is to write a compatible replacement for the mass storage functions of the HP-IL module.

The second line of the 2*16 LCD is used for the annunciators. Because the 41 can actually display up to 24 characters in alpha mode (if every other character is a period, comma, or colon), the alpha mode display can spill over into the second line. I may hack the microcode for alpha display to remove the special-casing of the punctuation, and always display only 12 characters in alpha mode. (Making it use 16 characters would be substantially more work.)

There are not yet any plans for the serial support; it may simply be left for future use.

> Quote:
>
> Is there a meta OS in the 64K?

I'm not sure exactly what you mean, so I guess the answer is no. What would a "meta OS" do for you?

Eric

Re: So Eric, what's with the new hardware?

*Message #10 Posted by **Howard Owen** on 27 Sept 2005, 1:23 p.m.,*
in response to message #9 by Eric Smith

I guess I meant that in connection with the serial port. There being no direct serial support on a real 41C, you'd have to have some "glue," at least, to turn that port into something the calculator would see as HP-IL, for example. The mass storage emulation would also be a piece of OS-like glue.

I called it a "meta-OS" because it would be above the level of the calculator's own OS.

Re: So Eric, what's with the new hardware?

*Message #11 Posted by **HrastProgrammer** on 28 Sept 2005, 1:35 a.m.,*
in response to message #9 by Eric Smith

though unless I modify the microcode it will have the same effective capacity as the 41CX with two extended memory modules.

From my experience: it is possible to address 3392 data/program registers by modifying the

firmware (I have done this 4 years ago). But, you'll have to change a lot of things, not only in HP-41 ROM ...

Modified extended function module microcode might allow for the equivalent of an extra twelve extended memory modules, for a total of 3459 usable registers of extended memory.

I really doubt you can have extra 12 XM modules ... you'll have to completly rewrite XF/XM module and all parts of CCD, Advantage and perhaps some other modules dealing with extended memory. The best I came to (without sacrifying too much of a compatibility) was 686 XM registers. Again, this is from my experience and can, as well, be wrong ...

The SD slot is for mass storage. The intention is to write a compatible replacement for the mass storage functions of the HP-IL module.

Do you plan to rewrite the complete HP-IL ROM or provide the HP-IL hardware emulation and use the existing HP-IL ROM?

I may hack the microcode for alpha display to remove the special-casing of the punctuation, and always display only 12 characters in alpha mode. (Making it use 16 characters would be substantially more work.)

The emulation of display instructions and a lot of things have to be changed in HP-41 ROM (Printer ROM, ...) but it is possible to have 16-characters LCD ...

Re: So Eric, what's with the new hardware?

*Message #12 Posted by **Namir** on 27 Sept 2005, 12:54 p.m.,*
in response to message #3 by Eric Smith

I'm buying one (or two) also!!!

Re: So Eric, what's with the new hardware?

*Message #13 Posted by **Walter B** on 27 Sept 2005, 8:35 p.m.,*
in response to message #12 by Namir

Hmmm, could well be I buy one, too. But first, please show me your offer, the photos and the price. d;-)

Re: So Eric, what's with the new hardware?

*Message #14 Posted by **Howard Owen** on 27 Sept 2005, 9:20 p.m.,*
in response to message #13 by Walter B

Sounds like it's not quite to that stage yet, but well along.

Re: So Eric, what's with the new hardware?

*Message #15 Posted by **Bill Wiese** on 27 Sept 2005, 4:48 p.m.,*
in response to message #3 by Eric Smith

Quote:

The firmware wasn't working in time to be demonstrated at the conference, so only a simple hardware test program was shown. The real firmware will simulate Woodstock and Spice

series calculators as well as the HP-41. The code is hand-written assembly, not Nonpareil.

Hi Eric...

Hmmm. How come Nonpareil emulation wasn't just ported over (of course w/perhaps minor changes for I/O related stuff)? There are C compilers for PIC CPUs. That way you aren't dealing w/a whole new body of code, since Nonpareil is getting good exercise now...

Bill Wiese
San Jose

Re: So Eric, what's with the new hardware?

*Message #16 Posted by **Eric Smith** on 28 Sept 2005, 8:03 p.m.,*
in response to message #15 by Bill Wiese

Would have been lower performance. The PIC18 architecture is somewhat better suited to C code than the older PICs, but it's still not great. Also Nonpareil wasn't written with such a limited-memory device in mind.

Re: So Eric, what's with the new hardware?

*Message #17 Posted by **Howard Owen** on 28 Sept 2005, 9:05 p.m.,*
in response to message #16 by Eric Smith

Score another one for hand-optimized assembly code!

In an era of bloatware, it's somehow reassuring that there is still room for that sort of thing. Of course, it's easy to take that line when I don't actually have to *do* any of it. 8)

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41 battery circuit - opinions wanted

*Message #1 Posted by **Jim Creybohm** on 26 Sept 2005, 12:12 p.m.*

I again received an email from the chinese company that does the flex ciruits. I am not an electronics twinky and so I don't really know how to describe the 41's battery tracings. I suspect Don Wallace or someone of his caliber might be better with this than myself. I am interested in pursuing this, however I wonder if these guys are legit and, if this might be a realistic option.

Anyways, the message follows. The only mention of a company however is at the bottom of the text whom I suspect is only a portal like yahoo.

****** message begins **********

Dear sir, Wish you have good health!

We are glad to introduce a printed circuit (FPC ,PCB) factory. We use The latest technology make flex(rigid, rigid-flex) printed circuits for use in any Electronic products.the factory is iso9001:2000 confirmed and IPC Criteria. The main capacity: We can make "ROLL TO ROLL" flexible printed circuits.

We can make very long (250 mm x 100 meter) single sided flexible printed circuits item.

We can make 4 layers ,5 layers,6 layers rigid-flex printed circuits.

We can produce 3 layers,4 layers,5 layers,6 layers flexible printed circuits and double side with min 0.06mm trace width. The square hole of the coverlayer can be min 0.4 mm.

We also can produce 4 layers,6 layers,8 layers,10 layers,12 layers rigid printed circuits board(PCB). and 14 layers,16 layers,18 layers,20 layers HDI rigid printed circuits board.

Our products have exported to USA,Canada,Japan,UK,Germany,France,Australia etc More then 20 countries.

We would welcome you to visit our factory.

Please e-mail your circuit design by gerber file,or auto cad,or protel files and advise us of: Fpc size, and number of layers.

You can get the directly factory price!

We can make samples for your approval.

Thank you for your support!

Best regards!

chai ming di

chaimingdi@126.com

Re: 41 battery circuit - opinions wanted

*Message #2 Posted by **David Smith** on 26 Sept 2005, 2:44 p.m.,*
in response to message #1 by Jim Creybohm

Yes, they are probably legit... but most Chinese compaines only want to do business with you if you want to order a zillion pieces. You can ask them though. There are US companies that will do small lot/prototype orders. Setup charges can be high.

Re: 41 battery circuit - opinions wanted

*Message #3 Posted by **Garth Wilson** on 26 Sept 2005, 3:45 p.m.,*
in response to message #1 by Jim Creybohm

How many do you want to make? If it's only a couple, the setup charges (or having to buy thousands) will be a kiiler, so you might want to get some adhesive-backed copper foil and make (or repair) your own. This kind of material is used for things like connecting top & bottom ground planes on RF stripline or microstrip circuits around the edge of the board-- at least that was my first exposure to it. I got a roll of it for practically nothin' at an electronics swap meet.

(deleted post)

*Message #4 Posted by **deleted** on 26 Sept 2005, 8:51 p.m.,*
in response to message #1 by Jim Creybohm

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

Re: 41 battery circuit - opinions wanted

*Message #5 Posted by **Garth Wilson** on 26 Sept 2005, 11:13 p.m.,*
in response to message #4 by deleted

> Quote:
>
> I have not seen the stuff Garth spoke about. Assuming the material was available at reasonable cost, One would have to go to a lot of trouble to actually build a rig to do, say ten, flex PCB's. This is called tooling up. One makes a phtotmask, builds/buys a UV lightbox, makes/buys an ecthing tank, etc.,etc. Once the photomask was made then one could make a hundred, of course. I may consider this if I could get the flexible copper/mylar. Garth, is that stuff etchable (without adhesive failure)?

For just doing one, I would first try to stick the copper foil on the plastic backing and draw the pattern on it and then use an X-Acto knife to make the cuts (being careful not to cut the plastic backing), and peel away the unwanted material. You might have to experiment with different backings to find one that can handle whatever small amount of soldering you need to do. Then I would probably just cover the parts I want insulated with a good transparent packing tape.

I was thinking earlier about whether you could etch this stuff like a PC board. I guess the thing to do would be to experiment. I used to etch my PC boards for home projects (and did many, many of them) but I abandoned that over 20 years ago in favor of off-the-shelf breadboards that are available in different types for different kinds of projects. With the right kind of breadboard, I can usually exceed the density I was getting before (sometimes having to cut a trace here and there), and I no longer have trouble with

corrosion. With the home-made ones, it seemed like no matter how well I washed them after etching, some etchant must still have been held in the pores of the board, and a year or two later a tiny bit of corrosion would start to show at the edges of the traces.

Re: 41 battery circuit - opinions wanted

*Message #6 Posted by **James** on 27 Sept 2005, 4:09 a.m.,*
in response to message #1 by Jim Creybohm

At a 2004 electronics industry trade show in Vancouver, I noticed one rep had samples of flex circuits. When I inquired about ballpark setup charges, minimum quantities, etc. for a single sided design, I was astounded.

The fee was around US$400 for setup, plus $150 per (whatever you could fit on an) 11x17" panel.

This was presuming you provided ready-to-use artwork, and yes, this really was flex... copper on kapton. I didn't ask about masking and gold plating, but I did ask about cutting the outline... it could be arbitrarily complex as they etch the kapton.

Perhaps the reality is different from the ballpark guesstimate, but I think it is worth investigating.

http://www.tech-etch.com/flex/index.html

Since then, I've been pondering the question of how to attach a 41C replacement flex circuit so that it doesn't require the plastic welds... I think this is key to making a successful retrofit. I have some ideas but whomever is going to take this on probably has their own :-)

HTH,

James

Re: 41 battery circuit - opinions wanted

*Message #7 Posted by **David Smith** on 27 Sept 2005, 12:52 p.m.,*
in response to message #1 by Jim Creybohm

I have seen people pay over $100 for a replacement battery contact assembly... too much in my opinion. But I suspect if you can get the costs down to around $50 or so to replace a bad one, that you could sell a good amount of them. Setup charges of a a couple of hundred bucks or so would not be too bad spread out over a run of 100 or so pieces.

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Where to Find 12C Platinum Programs?

*Message #1 Posted by **Jeff** on 26 Sept 2005, 11:28 a.m.*

I know there are a lot of programs out there for useful applications, but I wasn't able to find such a site. Can anyone suggest one?

Thanks.

Re: Where to Find 12C Platinum Programs?

*Message #2 Posted by **Gene Wright** on 26 Sept 2005, 11:31 a.m.,*
in response to message #1 by Jeff

First, try the HP12c platinum solutions book, available free in PDF form from HP's website. Find it here: http://h10032.www1.hp.com/ctg/Manual/c00367123.pdf

Second, there are a few games listed in the forum here for the 12cp. Seach for listings from Tony.

Third, there are quite a few useful programs for the HP12c platinum found in the back issues of Datafile, the publication of the HPCC club. Some of these were written by a museum contributor Valentin and by the previously mentioned Tony.

Otherwise, I'm not aware of a site dedicated to the HP12c platinum. But, perhaps that is a good idea. :-)

Re: Where to Find 12C Platinum Programs?

*Message #3 Posted by **Jeff** on 26 Sept 2005, 12:45 p.m.,*
in response to message #2 by Gene Wright

Many thanks, Gene. You're the go-to guy here!

Re: Where to Find 12C Platinum Programs?

*Message #4 Posted by **Gene Wright** on 26 Sept 2005, 12:47 p.m.,*
in response to message #3 by Jeff

ha! I can't let that stand! There are lots of people here who have more answers than I would ever dream of having! Just look how poorly my bagels game for the 12cp compared to Tony's. :^)

We're all just trying to help each other. Shame everyone in the world can't take that approach, isn't it?

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How to program rich INFORMs on the 49G+

*Message #1 Posted by **Karl-Ludwig Butte** on 26 Sept 2005, 8:32 a.m.*

Hi all,

while doing some programming on an HP 49G+ I wondered how to do an INFORM input form with check- and choose fields as it can be seen in the MODE INFORM. Does anyone could please give me a hint or link how to realize such nice INFORM forms ? Thank you very much in advance.

Re: How to program rich INFORMs on the 49G+

*Message #2 Posted by **Tim Wessman** on 26 Sept 2005, 8:45 a.m.,*
in response to message #1 by Karl-Ludwig Butte

They can only be done in sysRPL. HOWEVER, there is a nice program named Inform Builder that lets you use an interface to add things like checks and stuff. Download it here and then send an email to thank the author if you like it: http://www.hpcalc.org/details.php?id=3258

For even more powerful inform boxes, you can use Debug4x, but that needs a PC and a little more knowledge to use.

Inform boxes tend to be large, but if you compress them the size can usually drop 50% or so.

TW

Re: How to program rich INFORMs on the 49G+

*Message #3 Posted by **Karl-Ludwig Butte** on 27 Sept 2005, 3:06 a.m.,*
in response to message #2 by Tim Wessman

thanks Tim, this was the kind of hint I was looking for.

Regards

Karl

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Unusual Packing Methods & Materials

*Message #1 Posted by **Bill (Smithville, NJ)** on 25 Sept 2005, 1:53 p.m.*

When I got home from work on Friday, I noticed a large box (61.9 oz) of kellogg's Frosted Flakes sitting on the dining room table. I thought it very unusual since my wife and I don't eat cerials and wondered why my wife had bought it.

Turned out that a notepad computer I had bought on ebay had been shipped by UPS in the cerial box. The computer was surounded by styropone and stuffed into a cerial box for shipping. Forturnately the computer was okay.

This got me to wondering what unusual packaging others have received and used.

Here's a HP calculator packing story to start it off:

Last year I had bought an entire collection of 12 calculators. Since it included two HP-42S, a HP-71B, a HP-41CX , a HP-15C, and an assortment of other lesser valuable calculators, I was looking forward to them. When the box arrived, it obviously had a rough trip - one entire seam of the bos was torn open and the box was quite squished.

When I nervously opened the box, I found that each calculator had been placed in a plastic grocery bag and then the bag rolled up around the calculator. Then the shipper had padded the box out with hundreds of plastic grocery bags. No wonder the box was squished - it had no internal structural support. The good news was that all of the calculators were in good condition and nothing was harmed.

There was one other unusal part to this story. The top of the box was completely covered (with only the space for Ship to and ship from not covered) with individual Christmas Stamps. This was well after Christmas and someone had decided to use up their supply of Holiday stamps. It turns out that the local post office had done it - not the shipper. The person at the post office told me that ever so often they take a package and use up all their loose stamps they have cluttering up their desk drawers.

The top was so collorful that I cut it off and plan to frame it to hang on the wall. If anyone interested, I could post a photo of it.

What stories do you have?

Bill 12345

Re: Unusual Packing Methods & Materials

*Message #2 Posted by **Chris Woodhouse** on 25 Sept 2005, 2:12 p.m.,*
in response to message #1 by Bill (Smithville, NJ)

A hard drive I ordered from eBay came packed in the out put of a cross cut shredder. What a mess!

Chris W

Gift Giving Made Easy
Get the gifts you want &
give the gifts they want

with the help of The Wish Zone
One stop wish list for any gift,
from anywhere, for any occasion!

That's everyday business

*Message #3 Posted by **Frank Boehm (Germany)** on 25 Sept 2005, 5:04 p.m.,*
in response to message #1 by Bill (Smithville, NJ)

Check out http://www.dau-alarm.de/g_pack.html

(in German, but let the pictures speak for themselves; a couple of pictures are mine...)

Re: That's everyday business

*Message #4 Posted by **Bill (Smithville, NJ)** on 25 Sept 2005, 8:09 p.m.,*
in response to message #3 by Frank Boehm (Germany)

Hi Frank,

Thanks for the link to the pictures. I especially like the care taken with the monitor - just a little foam to protect tube. Great site to make us appreciate when a shipper does it right.

Thanks, Bill 12345

Re: Unusual Packing Methods & Materials

*Message #5 Posted by **Dave Shaffer** on 3 Oct 2005, 2:24 p.m.,*
in response to message #1 by Bill (Smithville, NJ)

Not exactly a calculator (or E-bay) shipping story:

I used to be on the scientific staff at the National Radio Astronomy Observatory (1976-1979). The EEs there were responsible for building the very latest in low noise amplifiers, basically from scratch. One day, the latest in solid-state amplifier chips arrived. This was the actual tiny piece of doped silicon (actually, it probably was a GAsFET chip). It was about 1 millimeter square and perhaps 0.1 mm thick. This chip was in a little container which was in a bigger box which was in a bigger bigger box which was ..... The outer box was about the size of a shoe box. I figure the box to product volume ratio must have been at least 10e6!

Perhaps apochryphal, from the same place: the shipping department figured they needed some packing noodles (styrofoam peanuts). How much to order? Well, a few hundred pounds sounds about right. Oops! That's a whole truckload!!

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Unknoun 'Hex' Annunciator on HP10b

*Message #1 Posted by **Raul Leslie C.** on 25 Sept 2005, 10:03 a.m.*

I've got an old HP10b (1987) but it has an 'Hex' Annunciator on the display, that I want to turn off.

In the manual I didn't found anything about this message.

Please can someone help me with this problem.

Thanks. RLeslie.

Re: Unknoun 'Hex' Annunciator on HP10b

*Message #2 Posted by **randy** on 25 Sept 2005, 10:26 a.m.,*
in response to message #1 by Raul Leslie C.

Just erase memory and it should remove the hex annunciator. From the manual:

Press and hold down [C], then press and hold down both [N] and [E+]. Memory is cleared and the ALL CLr message is displayed when you release all three keys.

Re: Unknoun 'Hex' Annunciator on HP10b

*Message #3 Posted by **Raul Leslie C.** on 1 Oct 2005, 10:52 a.m.,*
in response to message #2 by randy

Randy,

It worked fine.

Thanks for your help. RLeslie

Re: Unknoun 'Hex' Annunciator on HP10b

*Message #4 Posted by **GE** on 3 Oct 2005, 3:59 a.m.,*
in response to message #3 by Raul Leslie C.

Interesting, what is this indicator supposed to be used for ? Probably nothing on the stock 10B, so was there supposed to be another model on this hardware base with base conversion functions ?

Re: Unknoun 'Hex' Annunciator on HP10b

*Message #5 Posted by **Randy** on 3 Oct 2005, 8:35 a.m.,*
in response to message #4 by GE

The 20S provided HEX/DEC/OCT/BIN functions.

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exchanging displays?

*Message #1 Posted by **Bram** on 25 Sept 2005, 5:17 a.m.*

(Seems that 48 is in picture these days.)

Well, I've a question as well. Would it be possible (and feasible) to put the display of an HP 48G in an HP 48GX of which the display is broken?
Technically possible?
Mechanically possible? Case not glued together?

Re: exchanging displays?

*Message #2 Posted by **H.D.** on 25 Sept 2005, 11:37 a.m.,*
in response to message #1 by Bram

It is possible to take apart the HP48 without damage any parts whatsoever. It takes a bit of patience and courage, though. Changing the display, on the other hand, would require lots of techinical skills.

The PCB of the HP48 is held to the top of the calculator by 6 tabs. These tabs are very hard to remove. They look like T's, with the top part of the T twisted (rotated about the vertical axis). You'd have to undo the tabs to get the PCB out.

Only then can you get to the LCD. Check hpcalc.org on how to open the HP48 -- there are even pictures of opened ones to show you what you're up against. Lastly, make sure you read the document on how to open the calculator without damaging it. (It helps to look at ALL the photos of opened ones, first)

If you find that the directions are not as clear, I have some photos I can send you as well as some directions.

Re: exchanging displays?

*Message #3 Posted by **Bram** on 26 Sept 2005, 3:21 p.m.,*
in response to message #2 by H.D.

Thanks for your answer.

I'll study the sources you mentioned. I may give it a try in the future.

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HP-48 blank overlays?

*Message #1 Posted by **Geir Isene** on 25 Sept 2005, 4:55 a.m.*

Is it possible to get hold of blank HP-48 overlays? Haven't seen any on ebay the last couple of months (after I started looking for it). Were they even produced? Otherwise it could be an ok substitute with a non-blank and add my user-labels to it.

Re: HP-48 blank overlays?

*Message #2 Posted by **H.D.** on 25 Sept 2005, 10:35 a.m.,*
in response to message #1 by Geir Isene

If you ever find any, please let us know by posting here, as I too would like to buy some.

Re: HP-48 blank overlays?

*Message #3 Posted by **James M. Prange (Michigan)** on 25 Sept 2005, 8:55 p.m.,*
in response to message #1 by Geir Isene

HP did indeed market an "Overlay Kit" for the 48SX/S, part number 82220A, consisting of three very light grey opaque and three "clear" overlays plus one clear with the standard shifted alpha key functions printed on the reverse surface. All are matte finished on the exposed surface, so "clear" might be better called "translucent".

I've rarely seen them on eBay, but who knows what will turn up there?

The possibilities for making them have been discussed here before; try a search of the Museum Forum archives.

Regards,
James

Edited: 25 Sept 2005, 9:07 p.m.

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Calculators and Snowboarding

*Message #1 Posted by **Katie Wasserman** on 24 Sept 2005, 1:08 p.m.*

This is OT but you're the only people I could think of to tell...

For the snowboarders among us (I'm going to try it soon!), Ride has a new calculator-art snowboard for 2005/06 - take a look at the middle picture here: http://sportstop.zoovy.com/product/RIDER05023. The artwork is by Mark "Fank" Fankhauser, Ride's art director, the pictures are from my website http://www.wass.net/manuals/index.htm.

It's all Fank's idea and work, I would have suggested using HP calculators of course :)

Edited: 24 Sept 2005, 1:11 p.m.

Re: Calculators and Snowboarding

*Message #2 Posted by **Mike T.** on 24 Sept 2005, 4:21 p.m.,*
in response to message #1 by Katie Wasserman

Perhaps an exclusive special edition model...?

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Voyager emulators

*Message #1 Posted by **Ricardo Lira Matte** on 24 Sept 2005, 12:15 p.m.*

Check the link http://homepage.mac.com/riclira for voyager series hp calculators emulators. There are emulators for the 10c, 11c, 15c, 12c and 12c Platinum.

Re: Voyager emulators

*Message #2 Posted by **Peter Geiser** on 25 Sept 2005, 4:36 a.m.,*
in response to message #1 by Ricardo Lira Matte

If you want the same emulators for free, and most older HP calculators as well, check out Nonpareil by Eric Smith (http://nonpareil.brouhaha.com/)

Re: Voyager emulators

*Message #3 Posted by **Gunnar Degnbol** on 25 Sept 2005, 4:12 p.m.,*
in response to message #2 by Peter Geiser

They are not the same. The "emulators" here are what everybody in the big what-is-an-emulator thread agreed are simulators. They reimplement the functionality of the voyagers at the user level, but adds a lot of functionality and possibly unique bugs. Eric Smith's Nonpareil emu^H^H^Hsimulates the Coconut CPU and executes the original firmware, making them identical to the real calculators, except they don't fit in a pocket.

Re: Voyager emulators

*Message #4 Posted by **Peter Geiser** on 25 Sept 2005, 4:45 p.m.,*
in response to message #3 by Gunnar Degnbol

I see. Yes, they have more memory, etc.
Regards
Peter

Re: Voyager emulators

*Message #5 Posted by **Mike T.** on 6 Oct 2005, 4:07 a.m.,*
in response to message #1 by Ricardo Lira Matte

Ricardo -

Your simulators certainly look the part they have very realistic appearance!

The arithmetic accuracy isn't what I'd expect from an HP calculator though, and you should know that this can (and will) cause problems with a number of programs.

As an example try the following

48 - 47.8 - 0.2

The answer should of course be zero but it isn't and any test for x=0 will fail.

To be a true replacement your simulations need to match the accuracy of the real thing.

Mike T.

Re: Voyager emulators

*Message #6 Posted by **Gordon Dyer** on 12 Oct 2005, 6:32 p.m.,*
in response to message #5 by Mike T.

Where are Ricardo's emulators available from?

Re: Voyager emulators

*Message #7 Posted by **Gerson W. Barbosa** on 12 Oct 2005, 6:50 p.m.,*
in response to message #6 by Gordon Dyer

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=78647#78647

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The $1000 HP48

*Message #1 Posted by **I, Claudius** on 23 Sept 2005, 9:56 p.m.*

The oil companies aren't the only ones price-gouging: Samson Cables now has new old-stock 48GXs for $999.

http://www.samsoncables.com/catalog/prodDetail.cfm?Prod_ID=186&Sku=48GXABA

Re: The $1000 HP48

*Message #2 Posted by **Howard Owen** on 23 Sept 2005, 11:12 p.m.,*
in response to message #1 by I, Claudius

It's strange. Thay have used ones for market prices, at least to judge by the eBay prices. They must either be counting on collector interest for a 3X premium over market, or else they really don't want to sell that one. 8)

Re: The $1000 HP48

*Message #3 Posted by **Howard Owen** on 23 Sept 2005, 11:14 p.m.,*
in response to message #1 by I, Claudius

They normally aren't *that* bad, compared to other brick-and-mortar retailers. They're higher than what you can sometimes get on eBay. I've bought books and calculators there before.

Re: The $1000 HP48

*Message #4 Posted by **Namir** on 23 Sept 2005, 11:16 p.m.,*
in response to message #1 by I, Claudius

If it smells like greed, walks like greed, talks like greed ... IT IS GREED. I am not making any excuses for them.

Re: The $1000 HP48

*Message #5 Posted by **Stephen** on 24 Sept 2005, 11:33 a.m.,*
in response to message #1 by I, Claudius

I bought a new 48GX from them for $400 a month ago. Considering the retail cost when in production and current Ebay prices for a new one, I didn't feel so bad, esp. since they have a return policy. However, $1k for a 48GX! I think they're expecting a collector to buy it, not figuring that most collectors don't go for the graphing calculators as much as for the scientifics, Voyagers, etc. Now $1k for a new old stock LED might interest some collectors.

Re: The $1000 HP48

*Message #6 Posted by **Eddie Shore** on 24 Sept 2005, 12:27 p.m.,*
in response to message #1 by I, Claudius

Outrageous. $1,000 for a calcultor? Let alone for one that was built in the 90s? That is nuts!

Could also explain why they are selling used ones for $249 and $299.

Re: The $1000 HP48

*Message #7 Posted by **Howard Owen** on 24 Sept 2005, 1:57 p.m.,*
in response to message #6 by Eddie Shore

That's pretty much par for HP-48GX on eBay. The people bidding them up aren't collectors, but working surveyors. The 48GX can be interfaced to surveying "total stations" and has ROM addons that will drive them. If an auction includes the right ROM card, it's not unusual to see it go for $500.00 and up.

BTW, I wasn't apologizing for Sampson Cables, but making an observation from my own experience. Normally, their prices are a bit high, but not as ridiculous as this.

Re: The $1000 HP48

*Message #8 Posted by **Stephen** on 24 Sept 2005, 4:26 p.m.,*
in response to message #7 by Howard Owen

Howard is right. They are invaluable for surveyors that use them on the job (with the aftermarket overlays and programs). $1k for a field computer is just a tax right-off and S.C. knows it. For the math or physics student or collector, $1k is crazy, but for the professional, working surveyor relying on it, it may be a bargin.

Re: The $1000 HP48

*Message #9 Posted by **Les Bell** on 24 Sept 2005, 9:30 p.m.,*
in response to message #7 by Howard Owen

You're spot on, Howard. What drives the value of these devices are "network effects" (in marketing terms) such as availability of peripherals, software, related books and manuals, etc. Once someone has invested both money in these things and then time in mastering them, they're loathe to switch to a new type of cheese. ;) Hence demand remains higher than supply, and prices rise.

The same thing has happened with the HP-41 - a large part of its value was the stuff that worked with it: manuals, applicatin pacs, peripherals, and programs from the User Library (now gone, unfortunately). I doubt if HP could afford to recreate it today.

Best,

--- Les
[http://www.lesbell.com.au]

Re: The $1000 HP48

*Message #10 Posted by **Randy** on 24 Sept 2005, 10:34 p.m.,*
in response to message #9 by Les Bell

Les said:

> Quote:
>
> I doubt if HP could afford to recreate it today

Sure they could (and would) - ***if market conditions warranted it***

Edited: 24 Sept 2005, 10:45 p.m.

Re: The $1000 HP48

*Message #11 Posted by **Les Bell** on 25 Sept 2005, 12:52 a.m.,*
in response to message #10 by Randy

Randy wrote:

> Quote:
>
> if market conditions warranted it

Aye, there's the rub - but of course, companies will do *anything* if market conditions warrant it. However, I think the conditions that pertained back then - HP's market dominance, a continuous growth of user base from the HP-35 onwards, a base of RPN routines that had evolved over the same time frame, a User Library that was well established for the -65 and -67/97 - no longer apply today. They'd have to start from scratch, which would be very expensive.

On the positive side of the balance sheet, the market is much larger, and the Internet would make running a User Library operation much lower in cost. The hpcalc.org site is a good example.

My view might be coloured by nostalgia for The Good Old Days of the 41, I'll allow. ;)

Best,

--- Les
[http://www.lesbell.com.au]

Re: The $1000 HP48

*Message #12 Posted by **Howard Owen** on 25 Sept 2005, 2:21 a.m.,*
in response to message #11 by Les Bell

> Quote:
>
> On the positive side of the balance sheet, the market is much larger, and the Internet would make running a User Library operation much lower in cost. The hpcalc.org site is a good example.

I've always viewed the wonderful, quirky spirit of sharing in the old time user groups as the direct predecessors of Free Software. Richard Stallman formed GNU because he thought that software companies were trying to get users to act against their own best interests, and those of other users, by making them swear not to tell what they knew about the software they purchased. It was an extreme form of the concern for the user that PPC and other groups (DECUS and USENIX come to mind) stood for.

Most people read the GPL and think it's about a programmer's right to have source code and make changes. But it's really about the *users* of software having ultimate control over the software they use. If you have the source, you have the leverage, not some other person or entity. Even if you don't use that leverage, it's harder for others to use it against you. This is

why "Free/Libre and Open Source Software" (FLOSS) is such a big hit in business. Businesses are the biggest users of software numerically and in monetary terms, at least in the US. Businesses as software users benefit from lock-in protection when they use software released under a Free/Libre license, even (or especially) when it's the leftmost license of them all, the GPL,

Um, I'll tone down that rant now 8). But I really do see this connection between the old-time spirit of information sharing and mutual assistance that the old calculator and computer clubs had in spades, and the user oriented FLOSS movements of today.

Re: The $1000 HP48

*Message #13 Posted by **Gonzalo Fernandez (Spain)** on 25 Sept 2005, 7:53 a.m.,*
in response to message #12 by Howard Owen

I would like HP release a new high quality calculator (may be HP 50?) As soon as HP releases a good quality calculator, nobody will pay such high prices for the HP48GX and soon all ebay prices will drop

Re: The $1000 HP48

*Message #14 Posted by **Stephen** on 25 Sept 2005, 5:03 p.m.,*
in response to message #13 by Gonzalo Fernandez (Spain)

They have released a "better" calculator called the 49G+; however, it suffers from bugs, keyboard problems, lack of documentation, and lack of aftermarket support to utilize the SD card to cater to the working engineer / surveyor. I'll be the first to admit that I hocked my 49G+ after two weeks of frustration in anticipation of a more mature product. But if they offered something like a 49GX or 49G+ with an "X" to make use of PAC cards, then that would be great. I don't think it would be that difficult to springboard from their current design to do that.

Re: The $1000 HP48

*Message #15 Posted by **.** on 26 Sept 2005, 4:39 p.m.,*
in response to message #6 by Eddie Shore

> Quote:
>
> Outrageous..That is nuts!

Correction: It's nuckin' futs!

[12345] to delete ;-)

Re: The $1000 HP48

*Message #16 Posted by **HP USER** on 27 Sept 2005, 8:32 p.m.,*
in response to message #15 by .

This is the same SOB that claims to be the only HP Dealer in town ..

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17BII+ keys been fixed??

*Message #1 Posted by **Stephen Easterling** on 23 Sept 2005, 7:14 p.m.*

I recently bought a new 17BII+ and returned it because of the same "missed entries" with the keypad that I had with the 49G+ and my 9-month-old 12C Platinum. Has anyone else experienced this and found resolution to the problem?

Re: 17BII+ keys been fixed??

*Message #2 Posted by **john** on 23 Sept 2005, 10:01 p.m.,*
in response to message #1 by Stephen Easterling

I've had about five 17BII+ calculators and never had a missed keystroke.

You probably just got a bum unit. Certainly haven't seen any reports here or on the newsgroups about any problem with that calculator's keyboard.

Now the solver has been a different thing altogether.

Re: 17BII+ keys been fixed??

*Message #3 Posted by **Stephen** on 24 Sept 2005, 11:39 a.m.,*
in response to message #2 by john

I got it a week ago at a local Office Depot. What is the SN of one of your that works well? Are your fingertips accustomed to using, e.g., a 17BII or other HP scientifics in the past? I was finding that when I would use one HP scientific and then use the 17BII+, I found it difficult to key in an entry. In fact, I would hit the buttons (of the 17BII+) and hear the click sound, but not get the entry to appear on the display unless I pressed even harder. I believe that if you can hear the click, then it should register the number on the display, and I wasn't experiencing that with this model (or with my new 12C Platinum or with a 49G+,... but I do with a new 33S).

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HP41 card reader repair / opening

*Message #1 Posted by **Peter** on 23 Sept 2005, 4:53 p.m.*

Hello fellow HP friends

How do I open the HP 82104A magnetic card reader? I just aquired one that shows the first signs of the "gummy wheel problem", and would like to fix this.

Btw, when I do this, I will take photos, and publish a visual repair guide, if sufficient interest is here.

Best regards Peter

Re: HP41 card reader repair / opening

*Message #2 Posted by **Randy** on 23 Sept 2005, 7:25 p.m.,*
in response to message #1 by Peter

Visual repair guide already done. Start here: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=57 and finish here: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=239

Edited: 23 Sept 2005, 8:45 p.m.

Re: HP41 card reader repair / opening

*Message #3 Posted by **Peter Geiser** on 24 Sept 2005, 1:34 a.m.,*
in response to message #2 by Randy

Great, thank you! Stupid me didn't find the articles.

So now I have something to do over the weekend ;-)

I'll tell you how it went.

Peter

Re: HP41 card reader repair / opening

*Message #4 Posted by **Howard Owen** on 23 Sept 2005, 7:59 p.m.,*
in response to message #1 by Peter

There are actually two guides in the article archive. But this is such a tricky operation, I don't think a third photo essay would be taken amiss by anyone! 8)

Re: HP41 card reader repair / opening

*Message #5 Posted by **Peter Geiser** on 25 Sept 2005, 1:51 p.m.,*

in response to message #1 by Peter

This afternoon, I repaired the card reader. It works fine now.

As promised, I created a small guide with a few images to document it:
http://www.pmgeiser.ch/calc/index.php?id=HP82104A

Best regards,
Peter

Re: HP41 card reader repair / opening

*Message #6 Posted by **David Smith** on 25 Sept 2005, 3:09 p.m.,*
in response to message #5 by Peter Geiser

Peter, you should add a warning note to your page... Before taking apart the internal mechanism, make a note of the locations of the wires to the read head and motor. They can pop out of the connector pins when you move the motor assembly.

Re: HP41 card reader repair / opening

*Message #7 Posted by **Peter Geiser** on 25 Sept 2005, 4:12 p.m.,*
in response to message #6 by David Smith

Good idea! Thanks for the hint, I have added a short notice for this.

Regards
Peter

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Recognizing HP 41 model (C, CV or CX)

*Message #1 Posted by **Francis** on 23 Sept 2005, 4:33 p.m.*

I have the opportunity to buy a 41 but the buyer as a doubt about the version. The front plate clearly shows 41CX but he's not able to find any time functionalities.

So, what could be a 'simple test' to check the version?

Please keep in mind that I have to explain this to him without having a 41 myself !!!

The serial number of the calculator is 2350S40219.

Regards, Francis

Re: Recognizing HP 41 model (C, CV or CX)

*Message #2 Posted by **Vieira, L.C. (Brazil)** on 23 Sept 2005, 5:04 p.m.,*
in response to message #1 by Francis

Hi;

one of the simplest tests to recognize the existence of the timer module is by pressing [SHIFT][ON] after having the calculator turnned on ([SHIFT] is the golden key, that activates the SHIFT indicator in the display). If it simply turns itself off after the [SHIFT][ON], then it is surely not an HP41CX or it has a bad time module. Also, try [SHIFT][CAT][2]. You should see:

```
[TIME FCN 2_ ] (the underscore represents the version indicator)
[CX TIME FCN ]
[EXT FCN 2_  ]
[CX EXT FCN  ]
```

Any other HP41 (C or CV) will do nothing after CAT 2, unless it has a ROM module plugged in or, if hacked, an internally connected extra ROM.

Hope this helps.

Luiz (Brazil)

Edited: 23 Sept 2005, 5:05 p.m.

Re: Recognizing HP 41 model (C, CV or CX)

*Message #3 Posted by **Garth Wilson** on 23 Sept 2005, 8:58 p.m.,*
in response to message #2 by Vieira, L.C. (Brazil)

There must be many ways to tell a cx from a cv with modules in it, but one extra-quick one should be to try the catalogs above catalog 3. The cx adds catalog 4 for files in extended memory, catalog 5 for alarms, and catalog 6 for key assignments. I think that if you try these on a c or cv, you'll just get catalog 3 (like you do if you try "catalog 7" on a cx).

Re: Recognizing HP 41 model (C, CV or CX)

*Message #4 Posted by **Peter Geiser** on 23 Sept 2005, 5:07 p.m.,*
in response to message #1 by Francis

Catalog 2 (yellow shift - Enter - 2) will show the list of available functions. My CX displays: -TIME 2C -CX TIME -EXT FCN 2D -CX EXT FCN

Best regards Peter

Oops! (was: Recognizing HP 41 model (C, CV or CX))

*Message #5 Posted by **Vieira, L.C. (Brazil)** on 23 Sept 2005, 5:14 p.m.,*
in response to message #4 by Peter Geiser

Hi, Peter;

you are right. I don´t have my CX in hands right now, and the [TIME 2_] plus [CX TIME] are the correct output messages.

Thanks.

Luiz (Brazil)

Re: Recognizing HP 41 model (C, CV or CX)

*Message #6 Posted by **Richard Garner** on 23 Sept 2005, 5:09 p.m.,*
in response to message #1 by Francis

Hi Francis,

One way to find out if the 41 is a CX version is to do a catalog 2.

Shit Key (Gold Key)

Enter Key

2

This will run the system catalog for plugged in modules/devices. The CX funtions will show up as

-CX Time

-CX EXT Fcn

Re: Recognizing HP 41 model (C, CV or CX)

*Message #7 Posted by **Richard Garner** on 23 Sept 2005, 5:15 p.m.,*
in response to message #6 by Richard Garner

Sorry about the misspellings. I hit the post button by mistake while trying to click on something else.

Re: Recognizing HP 41 model (C, CV or CX)

*Message #8 Posted by **don wallace** on 23 Sept 2005, 6:11 p.m.,*

in response to message #1 by Francis

Hi Francis.

You can try to view the CLOCK:

[ON]

[SHIFT] [ON]

Or try to display the current time:

[XEQ][ALPHA]t i m e [ALPHA]

DW

Re: Recognizing HP 41 model (C, CV or CX)

*Message #9 Posted by **Randy** on 23 Sept 2005, 7:59 p.m.,*
in response to message #1 by Francis

You could have him clear the unit back to factory defaults with a simple proceedure.

1. Turn the unit off
2. Press and hold the backspace[clx a]
3. Press and release ON
4. Release the backspace
5. MEMORY LOST appears
6. Turn off and back on again to clear message
7. Press PRGM

A CX will display 219 free registers, a C or CV will display 46 free. Not a conclusive test but sometimes worthwhile.

Re: Recognizing HP 41 model (C, CV or CX)

*Message #10 Posted by **Francis** on 24 Sept 2005, 6:04 a.m.,*
in response to message #1 by Francis

Many thanks to all of you guys... That's exactly what I looked for...

Francis

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HP-97 with different problems

*Message #1 Posted by **Johnny Bjoern Rasmussen** on 23 Sept 2005, 4:16 p.m.*

I'm trying to repair a friends HP-97 and need some help. It sympthoms are:

1. Flashing display, specially the left most digits. The right most are still and not flashing. 2. Printer does not return carrige after being in the right most position. I suspect the reed switch or the magnet to switch the reed to be defective. 3. Only a few of the 'function'-keys work, eg. [sin] and [cos].

I have cleaned the pins cnnecting the PCBs and this helped preventing the calculator craching all the time. But I would like to be able to solve the above problems.

Thank you in advance! Johnny Bjoern Rasmussen

Re: HP-97 with different problems

*Message #2 Posted by **Randy** on 23 Sept 2005, 7:30 p.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

The easy stuff: 1) Stripped printer gear. 2) A key stuck down. 3) Printer daughter board not seated.

#1 will usually result in a blank display.

Do you have the service manual? It's on the MoHPC collection.

Re: HP-97 with different problems

*Message #3 Posted by **Katie Wasserman** on 24 Sept 2005, 2:52 a.m.,*
in response to message #1 by Johnny Bjoern Rasmussen

Do you have a good nicad battery in it? If you don't it can run off the AC supply, but the printer won't work nor will the card reader and the left digits may indeed flash.

Re: HP-97 with different problems

*Message #4 Posted by **David Smith** on 24 Sept 2005, 12:55 p.m.,*
in response to message #3 by Katie Wasserman

Katie has nailed it. You need a good battery pack installed.

Plus the printer gear may be stripped causing the printer to not work. Any attempt to use a printer with a stripped gear will result in a locked up machine and you can hear the printer motor quietly running continuously. If the print head is not in the home position, the machine may not even appear to power on.

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Blue Calculators

*Message #1 Posted by **Eddie Shore** on 23 Sept 2005, 1:35 a.m.*

Is the HP 39g(+) the only blue calculators that ever existed?

Re: Blue Calculators

*Message #2 Posted by **Massimo Gnerucci (Italy)** on 23 Sept 2005, 2:07 a.m.,*
in response to message #1 by Eddie Shore

No, have a look a the *easily readable!* HP6 ;-)

Re: Blue Calculators

*Message #3 Posted by **Howard Owen** on 23 Sept 2005, 2:09 a.m.,*
in response to message #1 by Eddie Shore

The 49G is a metallic blue, also.

Re: Blue Calculators

*Message #4 Posted by **Matthias Wehrli** on 23 Sept 2005, 6:31 a.m.,*
in response to message #3 by Howard Owen

I have a blue HP-41 ;)

(deleted post)

*Message #5 Posted by **deleted** on 23 Sept 2005, 8:30 a.m.,*
in response to message #4 by Matthias Wehrli

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

Re: Blue Calculators

*Message #6 Posted by **Jeff** on 23 Sept 2005, 9:02 a.m.,*
in response to message #5 by deleted

My 12C Platinum is blue. Also, how about those solar ones they made a few years ago? Wasn't one of those blue?

Re: Blue Calculators

*Message #7 Posted by **Iqbal** on 25 Sept 2005, 10:38 a.m.,*
in response to message #4 by Matthias Wehrli

Hi Matthias, I think I remember seeing a blue 41 somewhere before [maybe ebay]. Do you have any photos of it you would like to share? my email is iqbalNOSPAM@tstt.net.tt [remove NOSPAM] Thanks Iqbal

Re: Blue Calculators

*Message #8 Posted by **Matt Kernal (US)** on 26 Sept 2005, 4:58 p.m.,*
in response to message #3 by Howard Owen

Shortly after the 49G was released, one forum user came up with a name for the Imac-like shade of blue: Frozen hampster butt blue. And the name stuck!

Re: Blue Calculators

*Message #9 Posted by **Howard Owen** on 26 Sept 2005, 5:39 p.m.,*
in response to message #8 by Matt Kernal (US)

ROFL!

I hadn't heard that one. And to think it's been around since 1999 or so. 8)

Re: Blue Calculators -- Sharp

*Message #10 Posted by **Paul Brogger** on 23 Sept 2005, 11:15 a.m.,*
in response to message #1 by Eddie Shore

Sharp has made translucent blue scientifics, and I've seen them at Office Depot, Wal-Mart & etc. of late.

Re: Blue Calculators -- Sharp

*Message #11 Posted by **Howard Owen** on 23 Sept 2005, 4:02 p.m.,*
in response to message #10 by Paul Brogger

Ah, you noticed he didn't qualify "calculators" with "HP". We could probably extend this thread indefinitely if we ran with that. 8)

Edited: 23 Sept 2005, 4:03 p.m.

Re: Blue Calculators -- Sharp

*Message #12 Posted by **Eddie Shore** on 24 Sept 2005, 1:14 a.m.,*
in response to message #11 by Howard Owen

Since I didn't qualify which brand, I would also nominate TI-34 II+, TI-30 XII+ (I think that is correct), TI-82, and TI-83.

I didn't realize blue was a common color in calculators.

Re: Blue Calculators -- Some more...

*Message #13 Posted by **Marcus von Cube, Germany** on 26 Sept 2005, 1:46 p.m.,*
in response to message #10 by Paul Brogger

My HP 720 is blue (Is this a calculator? At least, it's from HP!)

The TI-81 (TI's first graphic) was blue, too.

My ancient TI-36 Solar comes in a blue sleeve (firmly attched to the calc, it opens sideways.) and it has some blue keys. The case itself is aluminum.

The Casio fx-85MS comes in a dark blue/black combination.

Re: Blue Calculators

*Message #14 Posted by **Vieira, L.C. (Brazil)** on 23 Sept 2005, 2:28 p.m.,*
in response to message #1 by Eddie Shore

Hi;

compared to the HP48S/SX series, the HP48G-series have a 'blue-like' case.

Re: Blue Calculators

*Message #15 Posted by **Howard Owen** on 23 Sept 2005, 4:00 p.m.,*
in response to message #14 by Vieira, L.C. (Brazil)

Blue*ish*, I'd say. My subjective analysis: the back and sides are a blue-green that is closer to green than blue, and the keypad background is the same color, but in different material. The frame around the (black on olive green, usually) screen is a lighter blue-green that is slightly closer to blue than green. To top it off, the right-shift button and labels are all turquoise, whuch adds to the overall "bluish" effect.

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hp 27s operating manual

*Message #1 Posted by **Nate Whipple** on 22 Sept 2005, 11:47 p.m.*

A coworker of mine pulled out his calculator the other day asking me if I knew how to re-enter some programs that he had. He did not change the batteries in time and lost what he had entered into it.

He no longer has the opperating manual to find the procedures to do this. Where is the best place to find this information, or an operation manual. I think he would like an orriginal but would settle for an electronic version if anyone had scanned one.

would appreciate any feedback at whipmich@isu.edu

thanks

Nate Whipple

Re: hp 27s operating manual

*Message #2 Posted by **bill platt** on 23 Sept 2005, 10:30 a.m.,*
in response to message #1 by Nate Whipple

The 17bii has the same fundamental operating system and most of the menus are the same though labelled differently on the keys.

You can download the 17bii+ manual from HP and I think I have the 17bii manual as PDF somewhere. If I find it I can send it to you. Just send me an email.

Regards,

Bill

Re: hp 27s operating manual

*Message #3 Posted by **Chris Dean** on 23 Sept 2005, 11:38 a.m.,*
in response to message #2 by bill platt

Press the SOLVE button and then NEW. Now enter your code. Press CALC. Enter the required values etc....

Re: hp 27s operating manual

*Message #4 Posted by **bill platt** on 23 Sept 2005, 1:45 p.m.,*
in response to message #2 by bill platt

I have the spanish version of the 17bii manual, the english version of the 17bii+ manual, and the description of Let and Get functions from the 19b manual, all on PDF.

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48-series question about downloads from PC

*Message #1 Posted by **Stephen Easterling** on 22 Sept 2005, 8:59 p.m.*

I am jumping the gun asking this because I have not seriously sat down to program my recently-acquired 48GX (having too much fun with some older HPs now), but my question is this:

I would like to dump tables of data into my 48GX from PC. Can this be done using something like WordPad, Word, Excel if I properly delimit that data. Ideally, two - four columns of numbers available to the user at the touch of a button.

Thanks in advance for any advice or direction on this. I originally bought a 49G+ thinking it would be better suited for this, but I hated the keypad and sold it. That's when I went for a 48GX and bought a memory card (and other goodies for it).

Re: 48-series question about downloads from PC

*Message #2 Posted by **James M. Prange (Michigan)** on 23 Sept 2005, 3:23 a.m.,*
in response to message #1 by Stephen Easterling

The files are best written on a "text editor", but a "word processor" will work as long as you save the file as plain text, to avoid having word processor control codes and sequences added to the file. I don't know about Excel.

I suggest first uploading a variable from the calculator to the PC, to see how the transfer header should look.

"ASCII" mode transfers to/from the 48GX can be done with Kermit, but assuming a recent version of MS Windows, the Kermit-based HPComm ("HP PC Connectivity Kit") may be easier.

By installing the Xmodem Server library that's included with the Xmodem-based Conn4x ("hp48gII and hp49g+ PC Connectivity Kit"), you can use Conn4x for "text" transfers, which are very similar to Kermit "ASCII" transfers, and should be faster.

Try some searches of the newsgroup http://groups.google.com/group/comp.sys.hp48?; useful search strings may be "transfer header", "ASCII transfer" and "translation".

Regards,
James

Re: 48-series question about downloads from PC

*Message #3 Posted by **Karl-Ludwig Butte** on 23 Sept 2005, 3:36 a.m.,*
in response to message #1 by Stephen Easterling

Hello,

perhaps an appropiet Excel Add-In is what would serve your needs best. Have a look at http://www.hpcalc.org/hp48/pc/misc/hp48xla.zip. I've tried it myself with a 49G and it worked great.

Have fun

Karl

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My Battery Sucking HP-71 Memory

*Message #1 Posted by **Howard Owen** on 22 Sept 2005, 6:20 p.m.*

I related elsewhere that I'd purchased an HP-71B that turned out to have a 96KB memory add-on. I told how the calculator would go through batteries at a very rapid clip with the module installed in the card reader bay. I also had verified that this behavior followed the module into a second 71B. At the time, Don W. suggested I post photos of the beast. So here they are. They were all taken through an illuminated magnifying lamp, so please forgive the image quality.

It's an interesting little monster. You can see that one of the screws is missing, because there's a corner of a chip filling the left-hand gap!

http://retrocalculator.com/images/hp71_mem/one.jpg

The right hand screw hole has a torx head screw too small for any of my tools. I still haven't gotten around to buying an approptiate sized one. But ...

http://retrocalculator.com/images/hp71_mem/two.jpg

You can do this to the module without unduly straining anything. Here we can see that PCBs have been stacked together, with chips soldered on both sides. The chips at the top in this photo are soldered in the same orientation as the chips on the other side of the board. The other assembly moving down and to the right has a single large chip on one side, mated to two smaller ones below.You can't see it in this photo, but there is another PCB with another five chips underneath the two boards visible here. There was some question in my mind if 96K was really the par RAM amount for this module. Seeing three CBs leads me to think that it is. So assuming it's 32K per board, we must have 4 4K chips and one 16K? How else could it break down? People used to dealing with RAM at the chip level in the same vintage can perhaps enlighten me on that.

Another feature you can sort of see in the above photo is the not-so-great soldering job. The following photo, taken with an additional magnifying glass inline with the first, shows this in more detail:

http://retrocalculator.com/images/hp71_mem/three.jpg

It is probable that one or more of these joints, or worse ones hidden from view, are responsible for the excessive current drain.

More when I get the right tool to remove the other screw.

Edited: 22 Sept 2005, 6:46 p.m.

Re: My Battery Sucking HP-71 Memory

*Message #2 Posted by **Gordon Dyer** on 22 Sept 2005, 7:15 p.m.,*
in response to message #1 by Howard Owen

In the early '80s I used to test memory chips for quality and reliability.
If the memory module is fully functional then it is likely that the solder joints are ok, even though they do look

messy, but high battery drain could be caused by leakage between joints, or by a damaged chip, possibly from electrostatic discharge causing internal oxide breakdown and high internal leakage currents. Some chips from the early 80s were very sensitive to static damage as the internal protection circuits were not good.
If you can remove the lid of the module try inspecting between all the joints with a 3x or 4x eye magnifier and look for slivers of solder and flux between the pins. Carefully remove any debris from between any joints with the point of a sewing pin. If any of the chips has been damaged by ESD it would need to be replaced. It may be difficult to find the right chip to replace it and it will be a very tricky soldering job, but I am sure one or two people in this forum could help!
Before you handle the module sit at a conductive, or non-static generating bench, wear only cotton clothes and if possible use a special anti-static wrist strap connected to ground.
Tell me the part codes on the chips and I may be able to tell you what memory size and configuration they are.
Good luck!

Re: My Battery Sucking HP-71 Memory

*Message #3 Posted by **Howard Owen** on 22 Sept 2005, 9:16 p.m.,*
in response to message #2 by Gordon Dyer

Thanks for the advice, Gordon!

I guess I could peer at the labelling on some of the chips now, but I prefer to wait until I have the whole thing open. Got it regarding the static precautions. Good ol' CMOS!

Re: My Battery Sucking HP-71 Memory

*Message #4 Posted by **Eric Smith** on 23 Sept 2005, 3:20 a.m.,*
in response to message #1 by Howard Owen

Each board has four industry-standard 8K*8 SRAMs, and an HP chip that acts as a Saturn-bus-to-bytewide-memory interface. I don't recall the part number of the HP chip, but rumor has it that a datasheet on that part was distributed by some of the user groups.

IIRC, there was some bug in the chip that prevented it from being used for more than 32Kbytes, hence the need for three of them to make a 96K module.

If the module is drawing too much current, yet seems to function correctly, there are several possible problems:

1. dirty PCB - gunk on PCB can be slightly conductive, causing leakage current. This is a big problem with solder with water-soluble fluxes, but I doubt that they were used on these boards. Still, cleaning the boards could help.
2. ESD damage to a RAM chip - fortunately they are common chips that can easily be replaced
3. ESD damage to one of the HP memory interface chips - there is no source of replacements other than cannibalizing them from other similar memory modules, but if you can identify which of the three PCBs is causing the problem, you can remove it and have a better 64K memory module. Be careful to document the interboard connections so that you can rewire it properly; most signals should just be in parallel, but there is a daisy-chained signal used by the soft configuration process.

Re: My Battery Sucking HP-71 Memory

*Message #5 Posted by **Howard Owen** on 23 Sept 2005, 11:17 a.m.,*
in response to message #4 by Eric Smith

Thanks for those details, Eric.

I'm not sure if this should be my first attempt at chip-level electronic repair or not. I might just confine myself to dropping boards out one at a time to see if the problem is associated with one of them, as you suggest. That would probably involve some soldering, but at least not whole chips.

Thanks again!

Re: My Battery Sucking HP-71 Memory

*Message #6 Posted by **David Smith** on 23 Sept 2005, 12:07 p.m.,*
in response to message #4 by Eric Smith

The most infamous way for a CMOS chip to suck huge amounts of power is for an input pin to be left unconnected. This causes both complementary transistors to turn on and effectively short power to ground. Check all solder joints, etc. Clean all solder flux. Repent all sins.

Re: My Battery Sucking HP-71 Memory

*Message #7 Posted by **Howard Owen** on 23 Sept 2005, 12:15 p.m.,*
in response to message #6 by David Smith

All of them??

Sorry, but there are one or two I'm quite happy with. 8)

Inspecting the joints is something I planned to do. I'm just not sure what I'll do if I do find a problem.

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Programming the 48GX

*Message #1 Posted by **John Rogers** on 22 Sept 2005, 2:32 p.m.*

I've my 48GX programmed for several years, but never have figured out how to perform a display of the CST menu...you know, like it does when you press the CST key. Is there no programmable equivalent?

Here's what I want to do:

I have a key assigned to << HOME >> which returns to the Home directory. what I'd like it to do is return home & display the CST menu...something like << HOME CST >> (except that doesn't work; it returns home, then recalls the CST to the stack.

Any ideas?

Re: Programming the 48GX

*Message #2 Posted by **Jonathan Purvis (New Zealand)** on 22 Sept 2005, 4:17 p.m.,*
in response to message #1 by John Rogers

<< 1.01 MENU >>

You can get the current menu with the RCLMENU command. 1.01 (or 1) is the first page of the custom menu, 1.02 is the second, etc.

Re: Programming the 48GX

*Message #3 Posted by **John Rogers** on 22 Sept 2005, 6:30 p.m.,*
in response to message #2 by Jonathan Purvis (New Zealand)

Thanks...that's exactly what I was looking for.

It's hard to believe I couldn't find it in the great manual that came with the calculator

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HP 49G+ Button Fix?

*Message #1 Posted by **Shaun** on 22 Sept 2005, 8:13 a.m.*

Hi,

Does anyone know what the current situation is regarding the keyboard button issue on the 49G+? Is it worth buying yet? What serial numbers are good to buy - if any? etc.....

Regards Shaun

Edited: 22 Sept 2005, 8:16 a.m.

Re: HP 49G+ Button Fix?

*Message #2 Posted by **Stephen** on 22 Sept 2005, 1:24 p.m.,*
in response to message #1 by Shaun

Supposedly ROM upgrades available via internet are supposed to remedy the problem, but some folk are not experiencing much bennefit from that upgrade. However, some are. It may depend on whether or not your are accustomed to using HP in the past and are used to the better buttons, or if you are new to HP and don't know the quality keypad you are missing from the older ones.

I sold my recently purchased 49G+ for that reason (without installing the new ROM, though). Two weeks ago I also bought a new 12C Platinum and 17BII+ and had the SAME PROBLEM! I returned those without hesitation and plan to never buy another Kinpo / HP calculator until most HP users say the problems have been ironed out. I really want a new 49G+, but I want it to work properly and NOT be a liability to me at home or at work.

Re: HP 49G+ Button Fix?

*Message #3 Posted by **Shaun** on 22 Sept 2005, 6:52 p.m.,*
in response to message #2 by Stephen

Thanks for your insight Stephen.

I have been a HP user for the last 30 years - my first HP calculator was the HP25. Since then I have had a HP15C : HP42S : HP48GX. I quite fancied moving to a HP49G+ but when I purchased one I couln't believe how poor the construction was. It was immediately returned only to be replaced by a similar quality item. I got a refund and now I await a decent calculator to be released. It is very frustrating to be in possession of a burning desire to buy the latest HP calculator and at the same time, to be confronted with an extremely "poor quality" product.

Hp keypad buttons used to be so good touch - what went wrong?

Re: HP 49G+ Button Fix?

*Message #4 Posted by **Stephen Easterling** on 22 Sept 2005, 8:51 p.m.,*

in response to message #3 by Shaun

Because of a recent revival I have gone through with the HPs, I really wanted to buy a 33S (which I have been quite happy with, BTW) and a 49G+ and be done with it. A month ago I had purchased the latest build of the 49G+ and really loved it. It was fun to "play with" but a nightmare to use seriously. (Just sit down and do the bills with it sometime and you'll end up throwing it against a wall!) I found the same to be true of the 17BII+ and even a Dec04-build HP 12C Platinum. This prompted me to start looking for sibling calculators for my beloved 28S (which is what I cut my teeth on 15 yrs ago and it's still going strong). I've acquired a decent collection now and love finding the strengths of the older calculators. So if only HP would have given us a decent 49G+, I would not have been so tempted to buy used HPs.

If you do buy 49g+, get a 2005 build.

*Message #5 Posted by **Eddie Shore** on 23 Sept 2005, 1:32 a.m.,*
in response to message #1 by Shaun

[knock on wood] The keyboard problems have been fixed, I had this one since June and so far so good. I use the 49g+ quite often.

Re: If you do buy 49g+, get a 2005 build.

*Message #6 Posted by **Shaun** on 23 Sept 2005, 8:23 a.m.,*
in response to message #5 by Eddie Shore

Eddie,

Thanks for your response - I have a question:- What is the serial number of your HP49G+ ?

Best regards Shaun

Re: If you do buy 49g+, get a 2005 build.

*Message #7 Posted by **I, Claudius** on 23 Sept 2005, 9:12 a.m.,*
in response to message #6 by Shaun

Just look for Serial Numbers greater or equal to CNA515... and use the new ROM 2.0

Re: If you do buy 49g+, get a 2005 build.

*Message #8 Posted by **Shaun** on 25 Sept 2005, 10:57 a.m.,*
in response to message #7 by I, Claudius

Many thanks for the info. - I will give it a try.

Regards Shaun

Re: If you do buy 49g+, get a 2005 build.

*Message #9 Posted by **Marcus von Cube, Germany** on 26 Sept 2005, 1:28 p.m.,*
in response to message #7 by I, Claudius

Mine is CNA 50201686. It just arrived from hpcalculators.com.

The keyboard isn't too bad, is this the recent release? How can I check the ROM revision? (I'm still looking for an "about" screen.)

VER returns 4.20031005.

Re: If you do buy 49g+, get a 2005 build.

*Message #10 Posted by **Gene Wright** on 26 Sept 2005, 2:08 p.m.,*
in response to message #9 by Marcus von Cube, Germany

Type VERSION.

VER returns the CAS "version". VERSION tells the ROM version.

Re: If you do buy 49g+, get a 2005 build.

*Message #11 Posted by **Matt Kernal (US)** on 26 Sept 2005, 2:23 p.m.,*
in response to message #9 by Marcus von Cube, Germany

The ROM revision number can be displayed by entering: VERSION. My 49G+ returns "#2.00" (among other things).

VER provides the CAS revision number. Mine displays "4.20050219"

Regards, Matt

p.s. The serial number on the back of mine is: CN40204986

Re: If you do buy 49g+, get a 2005 build.

*Message #12 Posted by **Marcus von Cube, Germany** on 26 Sept 2005, 4:48 p.m.,*
in response to message #11 by Matt Kernal (US)

Thank you both!

My calc is Revision #1.23; I'm going to upgrade the ROM.

Any info about the keyboard mechanics of my CNA 50... system? Is this the new hardware?

Re: If you do buy 49g+, get a 2005 build.

*Message #13 Posted by **Eddie Shore** on 24 Sept 2005, 1:15 a.m.,*
in response to message #6 by Shaun

CNA 51506199

Re: If you do buy 49g+, get a 2005 build.

*Message #14 Posted by **Shaun** on 25 Sept 2005, 10:58 a.m.,*
in response to message #13 by Eddie Shore

Thanks Eddie.

Regards Shaun

Re: HP 49G+ Button Fix?

*Message #15 Posted by **Stephen Easterling** on 29 Sept 2005, 12:44 p.m.,*

in response to message #1 by Shaun

Yesterday I received my second 49G+.

The first one I bought about six weeks ago from HPShopping which had ROM 1.23 and was prone to mis-entries with the keyboard. I would feel the click, hear the click, but not get the entry on the display. I could dance all day on the keyboard with my fingers (just like on any USA / Singapore model) and still not record the entry. I was always looking at the screen to see if the number was displayed (sometimes not), and it was just miserable to use. It was fun to play around with, was fast, overall cool to own, but downright miserable to actually use. Not being a rookie to HP, I hated this! Test yourself: cover the screen, type in 1-9 (enter), 1-9 (enter). After doing this seven times, look at the stack and see how many times you didn't record all the numbers and you'll be amazed. Of course, if you're aware of what you're doing, you hit the keys harder and not have mistakes. But if you do it like you're not aware and you let the feel of the key and the sound of the click be your judge, then you'll see the difference. I hocked this 2-month-old 49G+ to a doctor that enjoys it a toy.

Okay, so now I really want a 49G+ and I want it to work properly. I call up HPShopping and they said that they have the very latest issue of these versions. The man I spoke to was very much aware of the problems I outline above, and assured that HP segregated all of the defective lots, and that if I purchased a new one from him (about five days ago), that it would have no more keypad problems AND have the ROM version 2.00. Yesterday I was excited to receive my new 49G+, but depressed to have the same keypad problems. When I checked the ROM it was still 1.23. I called back today and the lady was surprised the other guy could ensure I would receive ROM 2.00 and have no keypad problems. She said the best HP could do would be to just keep exchanging them for a model that didn't have problems. She had no way of knowing if their distributer could segregate older lots and newer lots, and didn't seem to care about the problem.

My question: What should I do? Should I believe HP when they the current product has been debugged / updated and take my chances, or just forget about the 49G+ and use my 48GX for everything? My serial number is CNA 52302843. I will go ahead and download the ROM 2.00, but according to many out there, this does not correct the keypad problem (although a few report some improvement).

Re: HP 49G+ Button Fix?

*Message #16 Posted by **Howard Owen** on 29 Sept 2005, 1:02 p.m.,*
in response to message #15 by Stephen Easterling

I must just be lucky. Or perhaps my touch on the keyboard is unusually heavy. I loaded the 2.00 ROM on my 49G+, serial #51000586 right after I got it, and I've never had a problem, either with repeated entries or non-responsive entries. My keyboard feels snappy, and operates perfectly. I'd prefer a bigger ENTER key, but other than that, I can't complain. (The printed vs molded keys may or may not ever be an issue with this machine for me.)

Re: HP 49G+ Button Fix?

*Message #17 Posted by **John Nguyen** on 2 Oct 2005, 1:15 a.m.,*
in response to message #15 by Stephen Easterling

> Quote:
>
> My question: What should I do? Should I believe HP when they the current product has been debugged / updated and take my chances, or just forget about the 49G+ and use my 48GX for everything? My serial number is CNA 52302843. I will go ahead and download the ROM 2.00, but according to many out there, this does not correct the keypad problem (although a few report some improvement).

This problem is still hit and miss. Some people swear that the ROM 2.0 with a CNA5xxxxxxx is the holy grail, some still experience the problem you mentioned even with the latest S/N model. HP's got some serious issue with the keypad on this calculator which I don't think they even know how to deal with. After trading in 3 HP-49G+, my problem has settled somewhat (though not completely disappeared). My round arrow keys still have issues.

I have a CNA45201473 and ROM 2.0. I use ->KEYTIME (that's the right arrow not the red right-shift key) to set the delay value where if the software senses two key presses within this time interval it will not register, so you won't get the double entry. It won't solve the missing key problem. Use KEYTIME-> to see what your current value is. The unit is in 1/8192 of a second, so I set my delay to something like 1639 (1639/8192 = roughly 200 ms) and this has worked for me. For details, check out the HP web site and search for "49G KEYTIME".

Hope this helps.

John

Re: HP 49G+ Button Fix?

*Message #18 Posted by **James M. Prange (Michigan)** on 2 Oct 2005, 1:39 a.m.,*
in response to message #17 by John Nguyen

But note that ->KEYTIME no longer has any affect on the keypresses starting with ROM revision #2.00.

Regards,
James

Re: HP 49G+ Button Fix?

*Message #19 Posted by **John Nguyen** on 2 Oct 2005, 8:28 p.m.,*
in response to message #18 by James M. Prange (Michigan)

I did not know that. Sorry if I'm wrong. It didn't seem to hurt; maybe I was just experiencing the placebo effect.

John

Re: HP 49G+ Button Fix?

*Message #20 Posted by **Stephen Easterling** on 5 Oct 2005, 5:04 p.m.,*
in response to message #15 by Stephen Easterling

To bring closure to a thread I started regarding the 49G+, I am happy to report that the ROM 2.00 upgrade significantly improved my keypad. My problem has officially been solved, and I honestly didn't think I was going to be happy with it. I am. I also helped a friend out with his new 49G+ and he is also very impressed with how it fixed his keypad problems. Thanks, HP Support, and those of you on this forum that recommended the ROM upgrade as a possible solution. I'm excited to learn and use my new 49G+!

Re: HP 49G+ Button Fix?

*Message #21 Posted by **Stephen Easterling** on 2 Oct 2005, 7:50 a.m.,*
in response to message #1 by Shaun

Shaun,

A week ago I bought a new 49G+ and was very unhappy with the keypad and missed entries. I was ready to throw it against a wall! I contact HP support and they were VERY helpful, even sending me an email and calling me to see how I was doing. (That alone will keep me a customer for life!) At any rate, it was highly recommended that I just install the ROM ver 2.00, so last night I did that. To my surprise, my keypad has improved dramatically. It now passes my own test with flying colors and I am now very happy with this calculator.

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New hp12c platinum game developed

*Message #1 Posted by **Gene** on 22 Sept 2005, 7:51 a.m.*

I have now developed an hp12c platinum version of an old game which I hope to type up and post here soon.

It plays 4-digit bagels on the 12c platinum. Program is 258 or so lines long, so it won't run on the black/gold 12c.

Is anyone going to care if I post it to the group or not? :-)

Might as well have a game in the 12cp...after all, who would ever believe someone was playing games on that financial calculator. ;-)

Gene

Re: New hp12c platinum game developed

*Message #2 Posted by **Tim Wessman** on 22 Sept 2005, 8:00 a.m.,*
in response to message #1 by Gene

But does it GRAPH?!?!?!?!

;-)

TW

Re: New hp12c platinum game developed

*Message #3 Posted by **Valentin Albillo** on 22 Sept 2005, 10:01 a.m.,*
in response to message #1 by Gene

Hi, Gene:

Gene posted:

"I have now developed an hp12c platinum version of an old game which [...] after all, who would ever believe someone was playing games on that financial calculator. ;-)"

Do post it, please. I don't have an HP-12CP but it's always nice to have a look at HP-12C program code because of its serious limitations as a programming environment.

As for HP-12C games, here's another one I wrote specifically for the HP-12C a while ago.

Best regards from V.

Re: New hp12c platinum game developed

*Message #4 Posted by **Gene Wright** on 22 Sept 2005, 10:05 a.m.,*
in response to message #3 by Valentin Albillo

I'll get it typed up shortly.

And, Valentin, your game is what made me want to write this one. I certainly don't claim that it is elegantly written :-) but I did try a trick or two. Mostly, it's just brute force. Each digit of the secret number is computed separately (no subroutines) and each possible combination of a digit in the guess showing up in the secret number is checked individually. Ugh!

But, with 400 steps and only two conditionals, that's the approach I saw.

What I really would like is a tic-tac-toe game for the 12cp and a lunar lander. Anyone want to try those?

Re: New hp12c platinum game developed

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 22 Sept 2005, 1:16 p.m.,*
in response to message #4 by Gene Wright

Gene:

I'm very busy, so I have not time to put in practice any Lunar Lander migration to the HP12c/cp. I have no 12c either. But a simple lunar lander as featured on the HP25 Applications Handbook, or even a slightly more sophisticated one like the one that came in the HP67 manuals should not be very difficult to port.

The question may be if 12c users will found it interesting/enjoyable; since the combination of a bare numeric display like [-50.0500 00] and Newtonian physics may not suit those users' taste.

Now, for my HP41/42 Space Shuttle Landing Simulator... well, I don't think the HP12c/cp may cut it!

Regards

PS: In real life and business, you can often consider TVM as a "game" (not always for fun, indeed!).

Re: New hp12c platinum game developed

*Message #6 Posted by **Gene Wright** on 22 Sept 2005, 2:45 p.m.,*
in response to message #5 by Andrés C. Rodríguez (Argentina)

Regarding the lunar lander...the version I'd be happy to have would just be the one with a display of -50.0500 as you start your fall to the surface.

The 12cp gives a challenge with only 2 conditionals and no subroutines. :-) That's what makes putting games on it fun.

I hope to post the 4 digit bagels game shortly.

Re: New hp12c platinum game developed

*Message #7 Posted by **Andrés C. Rodríguez (Argentina)** on 24 Sept 2005, 11:00 a.m.,*
in response to message #6 by Gene Wright

The HP25 Lunar Lander version uses some 45 steps, just four registers, and no trigs or logs. It uses conditionals just three times: x<0 for display formatting, x<y for checking if fuel is enough, and x<0 to see if altitude is still positive. With some recoding and eventual use of extra registers and steps, it should be almost line-by-line portable to the 12C. Further, the Applications Handbook gives comments at various steps to clarify things.

The next sophistication level comes with spaceship mass correction as the fuel is used; and you can also use a random number to cause minor variations in altitude or thrust (say 1%), just to make the game not as deterministic. After all, the moon surface is rough, so a little randomness may well be due.

Re: New hp12c platinum game developed

*Message #8 Posted by **bill platt** on 22 Sept 2005, 12:19 p.m.,*
in response to message #1 by Gene

> Quote:
>
> after all, who would ever believe someone was playing games on that financial calculator. ;-)

That's the best part ;-)

12c platinum Bagels game listing

*Message #9 Posted by **Gene Wright** on 22 Sept 2005, 4:00 p.m.,*
in response to message #1 by Gene

Here it is...all 258 lines of it. PLEASE feel free to help correct any mistakes or suggest improvements. My goal is not to have any programming pride left :-) but to have a good workable Bagels game for the 12cp.

Couple of notes: 1) the g prefix is not included for the comparison tests, the x^2 and SQRT (square root) functions, and not for the FRAC and INT functions. ROLL DOWN is pretty self explanatory. Line 62 is "gold shift 1" to set the display to 1 decimal point.

The steps which compare each digit of the secret and guessed number work like this: I subtract the digits which will either give me a 0, or -3 through -1 or a 3 through 1. I then take the absolute value by squaring and then square rooting the result. That means I have a 0 (indicating a matched number) or a positive 1, 2, or 3. I then put a 1 on the stack and test this 1 to the previous result (which is either a 0, 1, 2, or 3 in the Y-register). If this 1 is <= the number in Y, I do not have a match and I replace the 1 with a 0. Otherwise, the 1 stays. I then add the number in X (which is a 1 if it was a match or a 0 if it was not a match) to the appropriate counter for guesses (Memory 0 is for correct guesses and 1 is for incorrect).

Memory usage: 0 is the correct digit counter, 1 is the wrong place but in the secret number counter, 2 through 5 hold one digit of the secret number (don't peek!), 6 through 9 hold one digit of the entered guess number, memory .0 holds the seed, memory .1 holds the input guess number as a 4 digit value (which is destroyed as the digits are separated), and memory .2 holds the guess count.

How to use: 1) Key in a decimal seed for each game and press GTO 000 then R/S. The calculator will generate the secret number and stop displaying 0.0. 2) Enter a 4 digit guess and press R/S. 3) The calculator will return a number of the form X.Y, where X is the count of digits in your guess that are in right place in the secret number and Y is the count of digits in your guess that occur in the secret number, but are in the wrong location. 4) Continue entering 4 digit guesses and pressing R/S until you have guessed the secret number. 5) When you guess the number correctly, the display will show 4.0. The number of guesses you took is in the Y-register and can be viewed by pressing X<>Y.

Example game: 1) Seed 0.123456789 GTO 000 R/S --- calculator shows 0.0 in about 3-4 seconds. 2) Guess 1234 R/S --- calculator shows 2.1 in about 5-6 seconds. We have 2 digits correctly guessed and 1 digit right but in the wrong spot. 3) Guess 9134 R/S --- calculator shows 0.3, so we have 3 numbers right but in the wrong spot. 4) Guess 1263 R/S --- calculator shows 3.0, so we have 3 numbers in the right spots. 5) Guess

1293 R/S --- calculator shows 4.0 -- only took 4 guesses. That's good!

For a new game, enter a new seed, press GTO 000 and then R/S.

Note: The game will generate a secret number that may have duplicate digits.

Known issues: Of course, as I typed up the instructions, I noticed a couple of things. 1) If the secret number is 2222 and you guess 2222, the display does not show 4.0, but 5.2 of all things. Why? I'm thinking through that one. 2) If the secret number is 1292 and you guess 1294, you'll get 3.1 shown, since the "2" you guess will be correct for digit 2 and in the wrong place for digit 4 of the secret number. I'm sure this could be fixed (if desired), but at what step expense?

So, there you have it. I'd like for this to be viewed as the start of a few more games for the 12cp. Improvements are welcomed! :-)

```
1       STO . 0         55      STO 7           109     RCL 6           163     RCL 7
217     RCL 9
2       9               56      STO 8           110     RCL 3           164     RCL 5
218     RCL 3
3       9               57      STO 9           111     -               165     -
219     -
4       7               58      STO . 1         112     X^2             166     X^2
220     X^2
5       X               59      STO . 2         113     SQRT            167     SQRT
221     SQRT
6       FRAC            60      STO 0           114     1               168     1
222     1
7       STO . 0         61      STO 1           115     X<=Y            169     X<=Y
223     X<=Y
8       9               62      f 1             116     0               170     0
224     0
9       X               63      R/S             117     STO + 1         171     STO + 1
225     STO + 1
10      1               64      STO . 1         118     RCL 6           172     RCL 8
226     RCL 9
11      +               65      1               119     RCL 4           173     RCL 2
227     RCL 4
12      INT             66      0               120     -               174     -
228     -
13      STO 2           67      /               121     X^2             175     X^2
229     X^2
14      RCL . 0         68      ENTER           122     SQRT            176     SQRT
230     SQRT
15      9               69      INT             123     1               177     1
231     1
16      9               70      STO . 1         124     X<=Y            178     X<=Y
232     X<=Y
17      7               71      -               125     0               179     0
233     0
18      X               72      1               126     STO + 1         180     STO + 1
234     STO + 1
19      FRAC            73      0               127     RCL 6           181     RCL 8
235     RCL 9
20      STO . 0         74      X               128     RCL 5           182     RCL 3
236     RCL 5
21      9               75      STO 9           129     -               183     -
237     -
22      X               76      RCL . 1         130     X^2             184     X^2
238     X^2
23      1               77      1               131     SQRT            185     SQRT
239     SQRT
24      +               78      0               132     1               186     1
240     1
25      INT             79      /               133     X<=Y            187     X<=Y
241     X<=Y
26      STO 3           80      ENTER           134     0               188     0
242     0
27      RCL . 0         81      INT             135     STO + 1         189     STO + 1
243     STO + 0
28      9               82      STO . 1         136     RCL 7           190     RCL 8
244     RCL . 2
29      9               83      -               137     RCL 2           191     RCL 4
245     1
30      7               84      1               138     -               192     -
```

```
246     +
31      X               85      0               139     X^2             193     X^2
247     STO . 2
32      FRAC            86      X               140     SQRT            194     SQRT
248     RCL 1
33      STO . 0         87      STO 8           141     1               195     1
249     1
34      9               88      RCL . 1         142     X<=Y            196     X<=Y
250     0
35      X               89      1               143     0               197     0
251     /
36      1               90      0               144     STO + 1         198     STO + 0
252     RCL 0
37      +               91      /               145     RCL 7           199     RCL 8
253     +
38      INT             92      ENTER           146     RCL 3           200     RCL 5
254     0
39      STO 4           93      INT             147     -               201     -
255     STO 1
40      RCL . 0         94      STO 6           148     X^2             202     X^2
256     STO 0
41      9               95      -               149     SQRT            203     SQRT
257     ROLL DOWN
42      9               96      1               150     1               204     1
258     GTO 063
43      7               97      0               151     X<=Y            205     X<=Y
44      X               98      X               152     0               206     0
45      FRAC            99      STO 7           153     STO + 0         207     STO + 1
46      STO . 0         100     RCL 6           154     RCL 7           208     RCL 9
47      9               101     RCL 2           155     RCL 4           209     RCL 2
48      X               102     -               156     -               210     -
49      1               103     X^2             157     X^2             211     X^2
50      +               104     SQRT            158     SQRT            212     SQRT
51      INT             105     1               159     1               213     1
52      STO 5           106     X<=Y            160     X<=Y            214     X<=Y
53      0               107     0               161     0               215     0
54      STO 6           108     STO + 0         162     STO + 1         216     STO + 1
```

Re: 12c platinum Bagels game listing

*Message #10 Posted by **Gene Wright** on 22 Sept 2005, 5:08 p.m.,*
in response to message #9 by Gene Wright

Ok, the 5.2 result is finding all 4 digits correct but also counting the other 3 locations as correct number but wrong location. 3 x 4 = 12 (which is 1.2 since it is shown as the tenths place). 4 + 1.2 = 5.2, which is shown if you guess 2222 for a secret number of 2222.

So, how should the program go about that stuff?

Re: 12c platinum Bagels game listing

*Message #11 Posted by **Gerson W. Barbosa** on 22 Sept 2005, 6:37 p.m.,*
in response to message #9 by Gene Wright

Hello Gene,

I remember there was a game like this in the TI-59 owner's manual. However, repeated numbers were not allowed, as well "0". This makes the game easier to play. This game was one of the things I missed when my 59C was stolen, so as soon as I finished reading the manual of the 15C I had bought as a replacement, I ported the game to the new calculator. Actually, this was my first RPN program, so the TI influence may show a little. Of course, the 15C made things quite easier. Even today I wouldn't try it on the 12CP. Congratulations!

Now, just one question: I heard the old Platinum had a bug which didn't allow more than 255 programming lines. I see your program has 258 lines. Is this issue resolved?

Regards,

Gerson.

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=68346

Edited: 22 Sept 2005, 6:47 p.m.

Re: 12c platinum Bagels game listing

*Message #12 Posted by **Gene** on 22 Sept 2005, 6:59 p.m.,*
in response to message #11 by Gerson W. Barbosa

I have a fix for the 5.2 problem programmed. I'll test it for obvious problems and post an update shortly.

And, the step count is now well above 255 and it works perfectly. :-)

Re: 12c platinum (&12C) Bagels game listing

*Message #13 Posted by **tony (nz)** on 24 Sept 2005, 7:57 a.m.,*
in response to message #12 by Gene

Bilbo Baggins of Bag End burgled not only his precious ring but also a 12C which made him invisible while he programmed it. His BEG key was of course marked BAG, being next to END. While blowing smoke rings he used to think of bagels. After many years he came up with a program for 1 to 6 bagels, with the number being stored in [FV] (Food Value). Then along came Gandalf and showed him how to make room for 7 bagels...but one mustn't input anything past line 92!

4 [FV] sets us up for 4 bagels.

[FV] is preserved, until changed by the user.

Before running the first time a seed should be stored in [i]. For example:

.123456789 [i]

The seed is modified by the program but the latest seed remains in [i], so for subsequent games it is not necessary to re-seed.

All guesses are fractions, which of course appear with an initial bagel before the decimal point.

The source is below. All digits from 0-9 are allowed and digits can be repeated in the hidden target.

To run with [i] and [FV] as above:

```
[f][PRGM][R/S] -> 4.0 (your target)
.123 (read as .1230) R/S -> 1.1 so 2 digits are correct but
one is misplaced.
.4567 R/S -> 0.1
.5813 R/S -> 3.0
.5810 R/S -> 4.0
```

Now try the next random game like this:

```
[f][PRGM][R/S] -> 4.0 (your target)
.0123 R/S -> 0.2
.4567 R/S -> 0.2
.1653 R/S -> 2.2  Yeah we have all digits! 2 need swapping.
.3651 R/S -> 4.0
```

All available 12C resources are used when FV=7.

Keystrokes	Display	Comments
[f][P/R]		
[f]CLEAR[PRGM]	00-	
0	01- 0	generate hidden#
[n]	02- 11	
1	03- 1	
0	04- 0	
[RCL][i]	05- 45 12	
9	06- 9	
9	07- 9	
7	08- 7	
[x]	09- 20	
[g][FRAC]	10- 43 24	
[i]	11- 12	
[x]	12- 20	
[g][INTG]	13- 43 25	
[g][CFj]	14- 43 14	N.B. pre-increments n *and*
0	15- 0	automatically stores 1 in Nj
[g][Nj]	16- 43 15	We want 0 in the Nj.
[RCL][n]	17- 45 11	
[RCL][FV]	18- 45 15	
[g][x<=y]	19- 43 34	
[g][GTO]23	20- 43,33 23	
[g][GTO]03	21- 43,33 03	
[RDN]	22- 33	
[R/S]	23- 31	
[PV]	24- 13	Guess entry
[RCL][FV]	25- 45 15	
[STO]0	26- 44 0	outer loop counter
1	27- 1	
0	28- 0	get next digit from guess
[RCL][PV]	29- 45 13	
[x]	30- 20	
[g][INTG]	31- 43 25	
[PMT]	32- 14	store it in PMT
[g][LSTx]	33- 43 36	
[g][FRAC]	34- 43 24	
[PV]	35- 13	save rest of digits in PV
[RCL]0	36- 45 0	test the big damage first
[n]	37- 11	N.B.:RCL Cfj post-decrements n
[RCL][g][CFj]	38- 45,43 14	
[RCL][PMT]	39- 45 14	
[-]	40- 30	
[g][x=0]	41- 43 35	
[g][GTO]65	42- 43,33 65	ahha, a big hit.
[RCL][FV]	43- 45 15	Now go after misplaced chappies
[n]	44- 11	
[RCL][n]	45- 45 11	save old n
[RCL][g][CFj]	46- 45,43 14	post-decrements n
[RCL][PMT]	47- 45 14	
[-]	48- 30	
[g][x=0]	49- 43 35	
[g][GTO]55	50- 43,33 55	found one!
[RCL][n]	51- 45 11	already decremented
[g][x=0]	52- 43 35	
[g][GTO]69	53- 43,33 69	get next guess digit
[g][GTO]45	54- 43,33 45	keep sweeping
[RDN]	55- 33	
[n]	56- 11	re-store old n
[RCL][g][Nj]	57- 45,43 15	
[g][x=0]	58- 43 35	
[g][GTO]62	59- 43,33 62	OK we can count this one
[RCL][g][CFj]	60- 45,43 14	otherwise, keep on truckin
[g][GTO]51	61- 43,33 51	
1	62- 1	
0	63- 0	
[g][GTO]68	64- 43,33 68	
[RCL]0	65- 45 0	re-store old n
[n]	66- 11	
1	67- 1	
[g][Nj]	68- 43 15	
1	69- 1	exit test
[STO][-]0	70- 44 30 0	
[RCL]0	71- 45 0	
[g][x=0]	72- 43 35	
[g][GTO]75	73- 43,33 75	
[g][GTO]27	74- 43,33 27	
[RCL][FV]	75- 45 15	create result

```
[n]              |76-         11 | by backward sweep
0                |77-          0 |
[RCL][g][Nj]     |78- 45,43   15 |
[g][x=0]         |79-     43  35 |
[g][GTO]82       |80- 43,33   82 |
[1/x]            |81-         22 |
[+]              |82-         40 |
0                |83-          0 |
[g][Nj]          |84-     43  15 | re-initialize the Nj
[RDN]            |85-         33 |
[RCL][g][CFj]    |86- 45,43   14 |
[RDN]            |87-         33 |
[RCL][n]         |88-     45  11 |
[g][x=0]         |89-     43  35 |
[g][GTO]22       |90- 43,33   22 | finished!
[RDN]            |91-         33 |
[g][GTO]78       |92- 43,33   78 |
[f][P/R]         |                |
```

Long live FERMI.PICO & BAGELS!!!

Edited: 26 Sept 2005, 6:24 a.m. after one or more responses were posted

Re: 12c platinum (&12C) Bagels game listing

*Message #14 Posted by **Gene** on 24 Sept 2005, 10:25 a.m.,*
in response to message #13 by tony (nz)

Show off. :-)

Seriously, this is great. I'd much rather have a smaller program than a bigger one. Good to see use of the cash flow registers to store things.

Now, how about a lunar lander game?

Re: 12c platinum (&12C) Bagels(now Lunar Lander) game listing

*Message #15 Posted by **tony (nz)** on 24 Sept 2005, 3:16 p.m.,*
in response to message #14 by Gene

> Quote:
>
> Show off. :-)

LOL! It was a lot of fun.

> Quote:
>
> Seriously, this is great. I'd much rather have a smaller program than a bigger one. Good to see use of the cash flow registers to store things.

I'd never tried using/abusing both the CFj and the Nj before. It's easier to keep things constant in the CFj - as soon as one does a [g][CFj] the associated Nj gets set to 1 - it can be preserved of course but takes a few lines more in this case. Maybe someone can knock 10 lines off it though - it's pretty ugly in parts - most of it seems to be housekeeping.

> Quote:
>
> Now, how about a lunar lander game?

Well here is something that may be OK. It's early morning here and I've only been awake for an hour but this does seem to work. If I do nothing I crash like a lunatic<G> going at 90 feet/sec, after about 8-9 sequences!

Follows 29moonld.htm here on www.hpmuseum.org - 92 lines that become 94 on the 12C. The instructions are the same except that [f][PRGM][R/S] restarts instead of GSB 1. Here Regs 1-4 are used instead of 6-9. It's indeed a pretty good little model. I never played it before but I can see how it became so popular, as google attests :-) To burn fuel I press "f" at the end of the countdown :-) Very very tricky to land with zeros flashing.

Keystrokes	Display	Comments
[f][P/R]		
[f]CLEAR[PRGM]	00-	
5	01- 5	
0	02- 0	
0	03- 0	
[STO]1	04- 44 1	
5	05- 5	
0	06- 0	
[CHS]	07- 16	
[STO]2	08- 44 2	
6	09- 6	
0	10- 0	
[STO]3	11- 44 3	
[RCL]1	12- 45 1	
[f]4	13- 42 4	
[EEX]	14- 26	
4	15- 4	
[/]	16- 10	
[RCL]2	17- 45 2	
[g][x=0]	18- 43 35	
[g][GTO]27	19- 43,33 27	
[ENTER]	20- 36	
[ENTER]	21- 36	
[x]	22- 20	
[g][SQRT]	23- 43 21	
[/]	24- 10	
[x]	25- 20	
[RCL]2	26- 45 2	
[+]	27- 40	
[g][PSE]	28- 43 31	display VV.0hhh
[g][PSE]	29- 43 31	
[f]0	30- 42 0	
[RCL]3	31- 45 3	
[g][PSE]	32- 43 31	
3	33- 3	
[g][PSE]	34- 43 31	
2	35- 2	
[g][PSE]	36- 43 31	
1	37- 1	
[g][PSE]	38- 43 31	
0	39- 0	
[g][PSE]	40- 43 31	accept input
[ENTER]	41- 36	
[ENTER]	42- 36	
[RCL]3	43- 45 3	
[-]	44- 30	
[g][x=0]	45- 43 35	
[g][GTO]51	46- 43,33 51	ok burn the lot
[RDN]	47- 33	
[g][LSTx]	48- 43 36	
[g][x<=y]	49- 43 34	
[g][GTO]75	50- 43,33 75	don't have that much fuel ->crash
[x<>y]	51- 34	
[STO][-]3	52- 44 30 3	
2	53- 2	
[x]	54- 20	
5	55- 5	
[-]	56- 30	
[STO]4	57- 44 4	
2	58- 2	
[/]	59- 10	
[RCL]1	60- 45 1	
[+]	61- 40	

```
[RCL]2          |62-    45   2 |
[+]             |63-         40 |
[RCL]4          |64-    45   4 |
[STO][+]2       |65- 44 40   2 | new V
[RDN]           |66-         33 |
[STO]1          |67-    44   1 | new h
[g][INTG]       |68-    43  25 | if more than 1 foot away
1               |69-         1 | we are
[g][x<=y]       |70-    43  34 | allowed to go
[g][GTO]12      |71- 43,33  12 | off for another burn
[RCL]2          |72-    45   2 | otherwise crash
[g][PSE]        |73-    43  31 | velocity flashes
[g][GTO]73      |74- 43,33  73 |
[RCL]3          |75-    45   3 | free-fall
2               |76-         2 |
[.]             |77-        48 |
5               |78-         5 |
[-]             |79-        30 |
[STO][+]1       |80- 44 40   1 | adjust h
2               |81-         2 |
[x]             |82-        20 |
[STO][+]2       |83- 44 40   2 | adjust V
[RCL]1          |84-    45   1 |
1               |85-         1 |
0               |86-         0 |
[x]             |87-        20 |
[RCL]2          |88-    45   2 |
[ENTER]         |89-        36 |
[x]             |90-        20 |
[+]             |91-        40 |
[g][SQRT]       |92-    43  21 |
[CHS]           |93-        16 | final V
[g][GTO]73      |94- 43,33  73 |
[f][P/R]        |              |
```

On the platinums we could use the x^2 on lines 21&22 and 89&90.

Cheers, Tony

Edited: 24 Sept 2005, 3:22 p.m.

Re: 12c platinum (&12C) Bagels(now Lunar Lander) game listing

*Message #16 Posted by **Gene** on 24 Sept 2005, 3:27 p.m.,*
in response to message #15 by tony (nz)

Tony, you are the master! :-) I bet you get your name in an hp12c platinum owners manual some day. ;-)

Ok...folks...which OTHER games do we want for the 12cp?

How about:

a) a tic-tac-toe program that uses the keyboard as the playing area?

b) a jive-turkey game (a variation on the high/low game where the calculator "lies" at times).

c) or a basic craps game.

Some samples of these (for the HP25 and HP65) can be found (of course) at:

http://www.rskey.org/gene/hpgene/index.html

Personally, I've always wondered what a full TVM program would look like written on the hp12cp. Why do that? To learn better how to program the 12cp!

Without subroutines, with only 2 comparisons, I think it would be a challenge to fit it all in.

Thanks again Tony!

Perhaps these two are good candidates for a future Datafile article? Gene

Re: 12c platinum (&12C) Jive Turkey game listing

*Message #17 Posted by **tony (nz)** on 25 Sept 2005, 3:05 a.m.,*
in response to message #16 by Gene

> Quote:
>
> Tony, you are the master! :-) I bet you get your name in an hp12c platinum owners manual some day. ;-)

hehe. I do cheat quite a lot - I do the programming on a palmtop and run it through a formatter and usually type it in just once.

> Quote:
>
> How about:
>
> a) a tic-tac-toe program that uses the keyboard as the playing area?
>
> b) a jive-turkey game (a variation on the high/low game where the calculator "lies" at times).

There are some really nice touches in that one. I couldn't resist it. Listing below.

> Quote:
>
> c) or a basic craps game.
>
> Some samples of these (for the HP25 and HP65) can be found (of course) at:
>
> http://www.rskey.org/gene/hpgene/index.html

Thanks for this great resource Gene! hehe your Jive Turkey really jives - it has a GSB 4 in line 7 but there is no target for that. GSB 1 fits.

> Quote:
>
> Personally, I've always wondered what a full TVM program would look like written on the hp12cp. Why do that? To learn better how to program the 12cp!
>
> Without subroutines, with only 2 comparisons, I think it would be a challenge to fit it all in.

Yup the challenge is what makes it worthwhile really. I don't know why they put TWO tests on the 12C - one would have been enough<G>

> Quote:
>
> Thanks again Tony!

My pleasure.

> Quote:
>
> Perhaps these two are good candidates for a future Datafile article? Gene

Your idea about doing the games is great. I found an old "Super bagels" for the 67 today - quite impressive.

Jive Turkey for the 12C

Originally by Maurice E.T.Swinnen founder and Editor of TI PPC Notes (1980-1982). Transcribed for HP-67 in PPC Journal Jan 1978 by Terry Mickelson(PPC #1926). The HP-67 has flags and subroutines. Here we use FV as a flag and replicate the 63 line HP-67 version in 66 lines.

'Jive Turkey' was famous. Nowadays Maurice dedicates his free time to ballroom dancing. Still jivin' :-)

```
Setup (no need to clear registers)
-----
1. Seed  (0-199,017) [n]
2. %Truth (0-100)    [i]
3. [R/S]->0 (ready for first guess)
4. Input guess(0-99) [R/S]
5. See +-1 (plus/minus indicates high/low)
```

6. Repeat 4 till you see not +-1 but your total number of guesses. This means you won't know what a +1 means after your first guess. Just re-run with the same guess and if you were right you'll see a 2 :-)

7. To play a second game: [f][PRGM][R/S]

It is not necessary to input a new [n] or [i], unless you want to. [n] automatically has a new seed for each game. They can be changed at any time. Lower [i] if you are getting j[i]ved too much. i=0 is nice and simple :-)

Keystrokes	Display	Comments
[f][P/R]		
[f]CLEAR[PRGM]	00-	
0	01- 0	
[STO]0	02- 44 0	
[FV]	03- 15	special flag
[g][GTO]13	04- 43,33 13	
[RDN]	05- 33	
[STO]1	06- 44 1	initialization finished.
[RCL]0	07- 45 0	will show 0 as no guesses yet
[R/S]	08- 31	
[STO]2	09- 44 2	guess entry
1	10- 1	
[STO][+]0	11- 44 40 0	increment guess count
[FV]	12- 15	set hi/lo flag
2	13- 2	
4	14- 4	

```
2                |15-          2 |
9                |16-          9 |
8                |17-          8 |
[RCL][n]         |18-     45  11 |
[x]              |19-         20 |
[EEX]            |20-         26 |
5                |21-          5 |
[ENTER]          |22-         36 |
9                |23-          9 |
[-]              |24-         30 | 100,000 - 9
[+]              |25-         40 |
1                |26-          1 |
9                |27-          9 |
9                |28-          9 |
0                |29-          0 |
1                |30-          1 |
7                |31-          7 |
[/]              |32-         10 |
[g][LSTx]        |33-     43  36 |
[x<>y]           |34-         34 |
[g][FRAC]        |35-     43  24 |
[x]              |36-         20 |
[n]              |37-         11 | new seed
[g][LSTx]        |38-     43  36 |
[EEX]            |39-         26 |
2                |40-          2 |
[x]              |41-         20 |
[g][INTG]        |42-     43  25 | first time=target, then truth test.
[RCL][FV]        |43-     45  15 |
[g][x=0]         |44-     43  35 |
[g][GTO]05       |45- 43,33  05 |
[RDN]            |46-         33 |
[RCL][i]         |47-     45  12 |
[g][x<=y]        |48-     43  34 | exceedingly true?
[g][GTO]53       |49- 43,33  53 | leave flag
1                |50-          1 | clear flag
[CHS]            |51-         16 |
[FV]             |52-         15 |
[RCL]1           |53-     45   1 |
[RCL]2           |54-     45   2 |
[-]              |55-         30 |
[g][x=0]         |56-     43  35 |
[g][GTO]07       |57- 43,33  07 |
[RCL]2           |58-     45   2 |
[RCL]1           |59-     45   1 |
[g][x<=y]        |60-     43  34 | high?
[g][GTO]65       |61- 43,33  65 |
[RCL][FV]        |62-     45  15 |
[CHS]            |63-         16 | toggled flag
[g][GTO]08       |64- 43,33  08 |
[RCL][FV]        |65-     45  15 |
[g][GTO]08       |66- 43,33  08 |
[f][P/R]         |              |
```

Hats off to Maurice and all originators of these old games!

Edited: 26 Sept 2005, 6:20 a.m.

Re: 12c platinum (&12C) Bagels(now Lunar Lander) game listing

*Message #18 Posted by **Kalevipoeg** on 28 Sept 2005, 6:13 a.m.,*
in response to message #15 by tony (nz)

I think there has been a formula error in calculation of crash velocity since 1976 (HP-67 Moon Rocket Lander) and it's here again.

Background:

In this game acceleration a = 2*burn-5

From Physics book:

x = x0 + v0*t + 0.5*a*t^2 and when t = 1 => x = x0 + v0 + 0.5*a
=> x = x0 + v0 + burn - 2.5

v = v0 + a*t and when t =1 => v = v0 + a => v = v0 + 2*burn - 5

But see lines 75-83:

```
75  RCL 3
76  2
77  .
78  5
79  -
80  STO+1
81  2
82  *
83  ST0+2
```

As you see in lines 75-80 a new height x is calculated as x = x0 + burn - 2.5. What happened to v0? This should be x = x0 + v0 + burn - 2.5
Therefore I would like to add two lines 75 and 76:

```
75  RCL 2
76  STO+1
77  RCL 3
78  2
79  .
80  5
81  -
82  STO+1
83  2
84  *
85  STO+2
etc.
```

Do you agree? I'm not a physicist.

Re: 12c platinum (&12C) Bagels(now Lunar Lander) game listing

*Message #19 Posted by **tony (nz)** on 29 Sept 2005, 4:17 a.m.,*
in response to message #18 by Kalevipoeg

I agree :-) The final crash involves 2 steps - the rest of the fuel is burned, and then we have another cycle under the 5 ft/sec/sec acceleration. You're right - the distance has to be fully updated after the burn.

Cheers, Tony

Different results, Tony? :-) Bagels game listing

*Message #20 Posted by **Gene Wright** on 26 Sept 2005, 3:52 p.m.,*
in response to message #13 by tony (nz)

When I run it with the input seed of 0.123456789 i and 4 in FV, I get these results:

0.123 -> 1.2 0.4567 -> 0.0 0.5813 -> 2.0 0.5810 -> 3.0

I've checked my listing and it all appears ok. Typo in the instructions? :-)

Re: Different results, Tony? :-) Bagels game listing

*Message #21 Posted by **tony(nz)** on 26 Sept 2005, 6:20 p.m.,*

in response to message #20 by Gene Wright

Thanks for testing on the new 12c platinum Gene! It converts the .123456789 seed into a guess with one digit different to that produced by the 12C. The platinum has a "2" instead of the 12C "5". The platinum has 2 extra digits - and this has an effect when we are using the 997 * FRAC 10 *.

I see the answer now. The Solutions Handbook "Random Number Generator" uses a 7 digit seed on purpose - the .5284163. If we use .1234567 instead of .123456789 then the 12C and new 12c platinum agree 100% :-)

It only takes a couple of lines to make it run like yours - with no zeros chosen, and with integral input. But then the .123456789 seed it gives 1286 - not the 1293 you got on the new platinum - same issue with the extra 2 digits held in the new one.

Oh I see a great 223 line "Super bagels" in an old 67-97 Games Pac book here. It's like mine (variable secret number length from 1-8 digits, mine is now only 1-6 again) uses integral input and you can specify a maximum digit - yup we can do that too - 99 lines. That is my final version :-) I see other great progs in the book - many suitable for the platinum - the craps game has a .528461 in - we know where that comes from :-)

Cheers, Tony

Edited: 27 Sept 2005, 6:40 a.m.

Re: 12c platinum (&12C) Bagels game listing

*Message #22 Posted by **Eamonn** on 28 Sept 2005, 8:22 p.m.,*
in response to message #13 by tony (nz)

Hi Tony,

I had a look at your program. Nice use of the financial registers - I've learned a lot about how they work from your program. I have a HP-12C, but I had only ever learned how to use the TVM formula, and do some simple programming on it.

Unfortunately, there seems to be a error in your logic for generating the response to the user input for certain secret numbers and corresponding guesses. This can be seen with the number of bagels set to 4 (in FV) and an initial seed of 0.14 (in i). This results in a secret number of .3225. If you enter a guess of .2235, the calculator responds with 2.1 and not the expected 2.2. A guess of .3522 does return 2.2, and a guess of .3225 returns 4.0, as expected. I see where the error in the logic is, but I don't have a fix.

After looking at your program, I have a few of questions about the HP-12C that you or someone else may be able to answer.

- Are the n, i, PV, PMT and FV registers permanently allocated in addition to the other registers?

- Where are the values for the Nj registers stored? I see that they can only be in the range 0 to 99, but I don't see where they are stored. Does the calculator borrow a couple of BCD digits from the corresponding CFj regitser?

Best Regards,

Eamonn.

Re: 12c platinum (&12C) Bagels game listing

*Message #23 Posted by **tony (nz)** on 29 Sept 2005, 4:10 a.m.,*
in response to message #22 by Eamonn

Eamonn - thanks you are of course 100% correct. I always suspected my logic :-) Am sketching a fix as I write. All the big hits need to be completed first. You came up with a brilliant example to show the flaw - many thanks!

later ... lucky the extra little loop was there for accessing ... 7 more lines. Fits but can probably be shrunk. I want to preserve new features making it like the HP-67 "Super Bagels" - variable max digit and plain integer entry instead of the decimal. Interesting logical flaw - almost worth leaving in ;-)

Re your other questions - yes the TVM registers are permanently allocated. FV does double as the very top Cfj though. All I know about the Nj is that every available Cfj has one. Sure looks like they borrow "part of" the corresponding storage register.

Cheers, Tony

Edited: 29 Sept 2005, 6:41 a.m.

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HP12c Speedup project

*Message #1 Posted by **Pierre Brial** on 22 Sept 2005, 2:20 a.m.*

Hello,

I've got a 1996 HP12C. The only flaw I find for this calculator is its slowness, so I have been very interested by the recent thread of Karl Schneider about the possibility to increase the speed of these kind of calcs.

The 1996 HP12C is a calculator-on-a-chip. Here is a picture of the CPU :

http://80calcs.web.ool.fr/Images/CPU12c.jpg

There is 2 CMS component linked in parralel with the CPU :

- a dark one with 181J marking
- a smaller grey one with KG2 marking

I supose that the 181J is either the 180 uH inductor or the 180pF capacitor, but I don't know wich one. Any idea ? And what could be the KG2 component ? Is it a resistor ?

Regards

Pierre

Re: HP12c Speedup project

*Message #2 Posted by **Etienne Victoria** on 22 Sept 2005, 6:52 a.m.,*
in response to message #1 by Pierre Brial

Bonjour Pierre,

The 181J is a 180uH INDUCTOR manufactured by TDK (entre autres).

Unfortunately, I have no idea about the KG2 origin.

Cordialement/Best regards.

Etienne

Re: HP12c Speedup project

*Message #3 Posted by **don wallace** on 22 Sept 2005, 7:06 a.m.,*
in response to message #1 by Pierre Brial

The kg2 part is the cap.

DW

First Experiment

*Message #4 Posted by **Pierre Brial** on 22 Sept 2005, 9:32 a.m.,*
in response to message #3 by don wallace

Thanks, Don & Etienne, for these informations.
As it is easier for me to find capacitors than inductors, I first removed the KG2 capacitor, and try to run the calculator without it. What a surprise ! the calculator works perfectly, but now at warp speed. The ON-X test is completed in 3 seconds instead of 13.5 seconds usually, so a speedup factor of 4.5. I run the ON+ test during 10 mn without trouble, and the ON/ test is OK.
Programs run nearly instantaneously, and financial calculations are very fast (time is money, you know that).
Well, I recognise that it is suspicious that such an easy improvement have not already been made by HP. There will be probably drawback, so I keep watching my calculator during the next weeks.

Regards

Pierre

Re: First Experiment

*Message #5 Posted by **David Smith** on 22 Sept 2005, 5:04 p.m.,*
in response to message #4 by Pierre Brial

You may need some sort of inductance in order to stabilize the oscillator and/or keep the clock waveform decent. Without it the clock could be very susceptible to noise and tiny changes in the environment.

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Who moved my cheese?

*Message #1 Posted by **Namir** on 22 Sept 2005, 1:22 a.m.*

A few years ago I read the book "Who Moved My Cheese?" The book contains a simple story that illustrates how some folks react realisticly to change while others adopt denial, insisting that things MUST and SHOULD BE AS THEY WERE!! These latetr folks become indignant at changes.

The book's metaphor hints at ALL kinds of changes .. in jobs, relationships, beleif systems and so on.

"Who Moved My Cheese?" seems to eloquently apply to HP calculators. All of us have enjoyed HP's calculators in the past -- quality, robustness, workmanship, documentation, support, and so on. In terms of the book, we had our cheese (HP calculators in this case) available in a certain way. In the past few years, the source, quality, and type of cheese HAS CHANGED. We can either see the reality of this change and adapt to it ... or BECOME bitter about the absence of the OLD CHEESE, refusing to adapt to the new cheese.

So which kind of cheese consumer are you? Does you attitude extend to other areas of your life?

Something to ponder about!

Re: Who moved my cheese?

*Message #2 Posted by **Howard Owen** on 22 Sept 2005, 1:41 a.m.,*
in response to message #1 by Namir

Good questions!

Ideally, I'd prefer to skip the bitterness. But I still like the way the old cheese tasted. So I'll keep collecting old pieces of cheese .. um, well, I guess the metaphor leads me into some rather unappetizing territory there.. Let's assume, for the sake of all our appetites, that HP had some magic cheese preservative that allows us to taste the cheese in almost the same way we did back then. The differences would mainly be in our taste buds, instead of in the cheese itself..

Oh, hell.

Here's the deal. I like to play with old HP calculators. And I *can*, because they made 'em really well, so they've aged gracefully. I don't expect HP or anyone else to bring back the 15C or the 41C or any other old model that wouldn't fit today's market. Nevertheless, I'll ask them to build a modern 15C when I get the chance, on the 1E7:1 shot that they might do it.

But what I'd *love* to see would be recent advances in embedded systems applied to a machine with a calculator keyboard. I want color! I want speed! I want math on the Internet! I want stuff I haven't thought of! But I would also *love* it if the same spirit that embued the old machines could also inhabit the new ones. That thoroughgoing love of engineering a marvelous example of cutting edge technology, in order to effectively apply it to real human problems.

So, what sort of cheese lover am I? 8)

(deleted post)

*Message #3 Posted by **deleted** on 22 Sept 2005, 3:44 a.m.,*
in response to message #2 by Howard Owen

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Implementation, was : Re: Who moved my cheese?

*Message #4 Posted by **Holger Veit** on 22 Sept 2005, 6:01 a.m.,*
in response to message #3 by deleted

> Quote:
>
> Even the CLONIX has enormus potential, give very creative firmware. It draws 18 mA whehn the coconut is executing giving total system drain of 23 mA (as measured on my test rig).

Infact, the PIC is not the most optimal controller for the project. Not that I want to diminish Diego's and John's work; it was likely an opportunistic decision to use it for the project - the original author knew the PIc and had one. It has been discussed earlier in the forum whether an MSP430 or a Cygnal 8051 would give a more powersaving implementation. Given the NUT CPU runs at 300kHz (likely for power reasons) and the PIC at 12MHz, there has been progress in power consumption over the last 25 years. And, as you also write, consumption can be further reduced by powering-down the system during idle time.

Concerning a PIC for emulation, I think its instruction set is a bit too weak for compact and fast emulation of the NUT, mainly because it'd require too many single instructions to handle the 56bit BCD architecture.

Holger

Re: Who moved my cheese?

*Message #5 Posted by **Klaus** on 22 Sept 2005, 9:08 a.m.,*
in response to message #3 by deleted

I have ported Eric's nsim to a simpler C and compiled it for the pic16f877. I still have the sourcecode if anyone is interested. I have also built several HP-45 and HP-55 clones with the 16f877, runiing at 4MHz and the speed was like the original calcs. Taking a 18-series PIC, which has a 4 times faster instruction cycle (if I am not wrong?), speed should be no issue!

I like these Hardware projects, but the definitely eat too much time!!!!

(deleted post)

*Message #6 Posted by **deleted** on 22 Sept 2005, 5:08 p.m.,*
in response to message #5 by Klaus

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Re: Who moved my cheese?

*Message #7 Posted by **Klaus** on 24 Sept 2005, 5:33 a.m.,*
in response to message #6 by deleted

Hello Don,

you can send me an email to khi1981@web.de, and I will send you the files. I agree that you don't count time and money for a hobby, but if it becomes an obsession for you, you should stop.

Re: Who moved my cheese?

*Message #8 Posted by **Namir** on 22 Sept 2005, 9:30 a.m.,*
in response to message #2 by Howard Owen

Howard,

There is no question about our collective love/interest for the old HP calculators. After all, this web site is all about this interest.

In the 70s and early 80s, the HP calculators (and other advanced ones made by TI, Sharp, Casio, etc) were MORE significant pieces of technology. The advent of PCs with ever ncreasing power and versatility has REALLY made calculators as second-class citizens in the electronic-gadgets world. Using a PC with a math application (Matlab, Mathematica, MINTAB, SPSS, Maple, Excel, and so on) empowers you to do calculations that run circles around the old calculators.

We are not all to ready to toss our old calculators because we have invested a part of ourselves in them. I too "play" with calculators as a mental exercise, but never hope to do anything that my laptop can't do.

Namir

Math Software

*Message #9 Posted by **John Limpert** on 22 Sept 2005, 6:48 p.m.,*
in response to message #8 by Namir

The problem with math software is the cost. I nearly had a heart attack when I recently looked at the non-academic price list for Matlab, which is used in many EE courses and textbooks. Many other math software packages have similar pricing. A high-end programmable calculator like the HP-49G+ or TI-89 is affordable to a much larger group of people.

Re: Math Software

*Message #10 Posted by **Les Bell** on 22 Sept 2005, 11:50 p.m.,*
in response to message #9 by John Limpert

How about Octave? I think you'll find it hard to beat on price. . .

Best,

--- Les
[http://www.lesbell.com.au]

(deleted post)

*Message #11 Posted by **deleted** on 22 Sept 2005, 2:57 a.m.,*
in response to message #1 by Namir

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Re: Who moved my cheese?

*Message #12 Posted by **Namir** on 22 Sept 2005, 9:21 a.m.,*
in response to message #11 by deleted

Hi Don,

It is simple yet describes so well how we deal with forced change in our life.

Namir

(deleted post)

*Message #13 Posted by **deleted** on 22 Sept 2005, 5:11 p.m.,*
in response to message #12 by Namir

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Re: Who moved my cheese?

*Message #14 Posted by **Namir** on 22 Sept 2005, 6:23 p.m.,*
in response to message #13 by deleted

Oh wow! Sorry to hear about being the target of people with bad intentions. I AM glad you prevailed.

Namir

Re: Who moved my cheese?

*Message #15 Posted by **Mike T.** on 22 Sept 2005, 6:59 p.m.,*
in response to message #1 by Namir

I agree that this is a good read - and the unusual and rather qwerky line is easily, and usefully, remembered even in the middle of the most animated discussion!

However to get back to the question that was asked, I all too often find that my own 'cheese' hasn't so much moved as simply disappeared. As all too often the quality and design seem to be sacrificed in order to minimize cost or production times and increasingly I find that more and more effort is needed to get the product that I like as this trend affects everything and is, it would seem, inevitable.

Fortunately apart from a number of specialist products I find that is possible to find items of a similar type or quality to those I'm used to if I change suppliers. I don't like it, but this is by and large something I've learnt to accept (that is of course the general thrust of the book). Unfortunately the old HP calculators were one product that has to all intents an purposes vanished...

However, to get back to the book, I rather suspect that if you find yourself agreing then, depending on you

fashion sense, you may like me have three or even of four pairs of similar, even identical, pairs of trousers (pants for those American readers among you) and a collection of identical or similar shirts to go with them in you wardrobe. (I used to wear a similar tie most days too, but my wife has taken advantage of a more liberal dress code at work to banish them to some dark corner, and to my surprise my head hasn't fallen off yet...)

When calculators were rare and accuracy and reliability were more important than cost then HP could succeed by producing a limited number of expensive machines. Those of us fortunate enough to be able to afford the early HP calculators valued their quality and became used to their look and feel - it may have quickly become intuitive, but I expect we all had to learn RPN!

These days accuracy is taken for granted (actually a little too much for granted, but that is a different discussion). Calculators and computers have become commodity items where cost is more important than 'quality'. Though of course there have been amazing improvements in some areas like performance and capacity we seem take these for granted.

Modern calculators and computers may no longer be special but as far as I'm concerned it is more important that they have become so widespread and easily accessible.

We can see the same history in the development of just about every thing around us, the difference is that with anything to do with computers the rate of development is so much faster than anything else.

Mike T.

Now where did I leave my cheese...

Re: Who moved my cheese?

*Message #16 Posted by **Richard Zajac** on 22 Sept 2005, 9:19 p.m.,*
in response to message #1 by Namir

Occasionally I look at it this way.

Consider for the moment that the latest generation of "HP's" had not been put out by HP. Rather, let's say that HP had gone completely bankrupt several years ago. (Side topic: what's an appropriate cut-off point for the end of the HP of old? Right after the 48G?)

Let's say that the latest generation of calculators had instead been produced by an independent group striking out for the first time, trying to resurrect RPN after HP's demise. I think I would be more prone to see the merit in their valiant attempt, coming as it were, from a new startup. I would praise the noble effort, and encourage them to keep up the development.

[Back to reality] Instead, we look at the new offerings and feel offended because of what HP used to offer us. Can it be that HP's worst enemy is its own past: a tough standard to live up to?

So, what would you think of the new cheese, if it weren't being offered to you by the same party who had given you the previous cheese?

Re: Who moved my cheese?

*Message #17 Posted by **Les Bell** on 22 Sept 2005, 9:46 p.m.,*
in response to message #1 by Namir

Perhaps the problem is that there hasn't been a widely-hyped massive "improvement" in cheese over the last 35 years (or has there?). Although the "lucky" US consumer can get such high-tech delights as Cheez Whiz http://www.kraftfoods.com/cheezwhiz/, those of us who'd rather get something with a little less preservatives

and flavourings can still obtain classic, natural, flavoursome . . droool . . Brie, Camembert, Stilton - all the classics, in fact. If I invite friends over for dinner, I'm certainly not going to finish up a gourmet delight by passing around processed cheese slices with the crackers.

So it is with calculators and other technology. A facile focus on the word "more" by marketing people (more memory, more functions, more "power", more pixels) isn't necessarily the same thing as "better". I read in an article yesterday that Steve Jobs and the management at Apple have realised this with the iPod - they've looked at putting video playing capabilities into the iPod, but concluded that it couldn't be done without messing up the clean interface and design of the machine. Considering the marketing success of the iPod - it completely dominates the market - I'd say they're onto something. All our family have iPods, and the simple and elegant interface is a large part of the appeal.

From where I'm sitting, the same thing has happened with calculators. The 48/49 have *too much functionality*. They're cumbersome and awkward to use by comparison with the simple keystroke programming model of the 41/42.

I think it's time for high-tech industrial designers to get hold of the concept that just because you *can* do something, that doesn't mean it's a good idea. Sometimes, less is more. I think that the "sweet spot" for a hand-held personal *computational* device is somewhere around the 41CX; maybe a bit more RAM wouldn't hurt, but *no more functions and no more buttons!*.

In summary: I'm unimpressed by the latest high-performance, preservative-enhanced, flavour-enhanced, consumer-taste-tested, pre-sliced, conveniently-packaged cheeses. What's more, I suspect that Katrina and Rita might well affect production of those cheeses and drive prices up. ;)

Best,

--- Les
[http://www.lesbell.com.au]

Re: Who moved my cheese?

*Message #18 Posted by **Bernhard** on 23 Sept 2005, 12:45 p.m.,*
in response to message #1 by Namir

My standpoint is the third alternative: the first group mourns the old cheese and besides that does nothing to improve the misery, the second group adapts and starts to eat the modern sh*t (burps...) while the third group has some secret stash of conserved old cheese that will last for a lifetime. Unlike food, calculators of real old-day HP quality (read:Classics + HP67 + Topcats) can be preserved for many decades if not for centuries. What I do is to try understanding their technology to a point where I could replace each and every failing chip or mechanical component. I do now have > 25 HPs and most likely won't run out of spare parts anyway.

regards, Bernhard

Re: Who moved my cheese?

*Message #19 Posted by **Howard Owen** on 23 Sept 2005, 2:13 p.m.,*
in response to message #18 by Bernhard

Yeah, the cheese metaphor breaks down over the issue of shelf life. 8)

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HP Forum Archive 15

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New 12C Platinum and Poor HP Service

*Message #1 Posted by **Jeff** on 21 Sept 2005, 8:14 p.m.*

I have the "old" 12C Platinum, and just bought the newer version. It's funny, I called HP pre-sales and tech support several times. No one knew about the upgrade. One guy said that the manual was premature! HP doesn't even let their own support people know about their products.

The screen is a little sharper, it does have the contrast control, backspace, and undo key, of course. But it is MUCH faster. It seems like this was the Platinum that they should have released before.

Why don't they do a recall? Should I box up my 9-month old Platinum and return it to the store, pretending that it was the one that I just bought? I don't feel right about that.

When you call HP now, they have that hugely annoying voice recognition system. I make up words just to get to a live person. Of course you get India when you call now.

It seems that HP is on track to become worse and worse.... Sad.

Re: New 12C Platinum and Poor HP Service

*Message #2 Posted by **Gene** on 21 Sept 2005, 9:55 p.m.,*
in response to message #1 by Jeff

Let's see...

HP releases a new product, one that you find you like. Faster, things fixed, etc.

Yet, that gives you cause to say they are going down the tubes.

Odd.

Of course, if you realized just how small the calculator division is compared to the entire HP empire, you might understand how "support" is general HP support, not a dedicated calculator support group.

While support might should be more aware of things, don't go laying that at the calculator group's feet.

Re: New 12C Platinum and Poor HP Service

*Message #3 Posted by **Jeff** on 21 Sept 2005, 10:55 p.m.,*
in response to message #2 by Gene

Those were two separate, but related, comments. I realize that calculators are a tiny part of HP.

I don't care how HP sets up their support. All I know is when I called support, it was a lousy experience.

It's not big secret that HP is basically just another commodity company. The famed "HP Way," great support, quality products, etc., are long gone.

They're getting their asses kicked by Dell in PCs and servers. Printers are probably the only thing keeping them afloat.

I still think they make the best calculators, and I wish they'd get the company on track.

Re: New 12C Platinum and Poor HP Service

*Message #4 Posted by **don wallace** on 21 Sept 2005, 11:33 p.m.,*
in response to message #3 by Jeff

Amen!

DW

Re: New 12C Platinum and Poor HP Service

*Message #5 Posted by **Stephen Easterling** on 22 Sept 2005, 7:07 a.m.,*
in response to message #3 by Jeff

I agree with Jeff's assessment in Message #3, but HP has been losing market share with their calcs since TI got a foothold in the education department.

Since this thread is about the 12C Platinum, I called HP Service a few days ago complaining about the terrible missed entries with my "defective" keypad on my Dec'04 -built 12C Platinum. The HP Service guy said he'll send me a new one. I asked if he needed mine back so they could learn from its problem. He said that HP didn't need it back. I hope the replacement corrects this problem.

Re: New 12C Platinum and Poor HP Service

*Message #6 Posted by **Stephen Easterling** on 26 Sept 2005, 8:04 p.m.,*
in response to message #5 by Stephen Easterling

I got my replacement 12C Platinum today (built May 05) and its keyboard is even worse than my Dec 04-built Platinum. I don't see a backspace key anywhere on either keyboard. I can hit the keys all day long while my finger feels the click / register and my ears hear the click sound, but I don't get any numbers on the display unless I press even harder. This is not efficient and prone to misentry and errors. I'm giving up on the 12C Platinum and going back to an old 12C. Anyone want to buy a 12C Platinum,... cheap?!

Re: New 12C Platinum and Poor HP Service

*Message #7 Posted by **John** on 26 Sept 2005, 8:17 p.m.,*
in response to message #6 by Stephen Easterling

Since the replacement machine was built in May 2005, why would you expect to see a backspace on the keyboard, since only now in September 2005 are people reporting seeing just one or two with such features?

As to the keys, if it's bad, call HP again. How will they learn if you just sell it cheaply.

Re: New 12C Platinum and Poor HP Service

*Message #8 Posted by **Stephen Easterling** on 26 Sept 2005, 10:11 p.m.,*
in response to message #7 by John

I wasn't sure how much lag time there is between build time and purchase time. If a calculator is made in China in Sept 05, I would be surprised to see it in our stores in Sept 05. I guess, though, that is the case indeed. Since I reported a "bad" keyboard to HP a week ago on a Dec04-built Platinum, I would expect them to send me the latest they had (current). So when I got it today and learned that it was made in May 05, I assumed it was their latest build date. I guess not! They sent me something even worse than what I had. He asked me if I was new to HP calcs and I said I was using them for 15 yrs. He asked me which ones, so I said,.... 11C, 12C, 15C, 17B, 17BII, 20S, 21S, 22S, 27S, 28S, 32S, 32SII, 33S, 42S, 48SX, 48G, 48G+, 48GX, 49G+. Then he told me there was nothing he could do to help me and to just return the 12C Platinum to Office Depot (original purchase place) in exchange for a regular 12C made in Singapore. I went there tonight and they were out of stock, so I got some printer ink for my printer instead.

Re: New 12C Platinum and Poor HP Service

*Message #9 Posted by **Stephen Easterling** on 26 Sept 2005, 10:14 p.m.,*
in response to message #7 by John

PS: I comment about selling it cheaply was a joke. I asked the HP guy if he needed my "defective" units back and he said to keep them. I got the feeling that they didn't care about solving the problem if no one else is having it. I'll make the old original Voyagers my mainstay, I guess, and allow more time for the Kinpo / HP product line to mature a bit more.

Re: New 12C Platinum and Poor HP Service

*Message #10 Posted by **Gene** on 22 Sept 2005, 7:48 a.m.,*
in response to message #3 by Jeff

Hi Jeff. Not a problem. I think we would agree based on your additional explanation. It's just that I see people some times who seem to blame the calculator group for things that are fairly out of their control.

I've heard some people call HP support who talk to people who don't even seem AWARE that HP makes calculators!

And, I'd be curious what you think in depth about the new 12cp.

Gene

Re: New 12C Platinum and Poor HP Service

*Message #11 Posted by **don wallace** on 21 Sept 2005, 11:42 p.m.,*
in response to message #2 by Gene

Hi Gene. Agree (fwiw) onall that.

Hi Jeff. Can relate.

I think the drama is that in a changing (profit driven) world when a large corporation like hp has the founders die off and the internal culture then inevitably changes, the whole show is in danger of losing focus (on keeping "everything" nice and shiny). Internal communication is a real challenge and when the magic motivation factor is gone then you see the whole "animal" get a good deal less healthy. It's a real tough nut to crack, actually.

It's happening everywhere of course... c'est la vie... ;-(It's just that with hp, we all came to expect so much more because they used to be so good (for so long). When they are now less "perfect", everyone notices.

All that doesn't help the customer with dead product however.

DW

Re: New 12C Platinum and Poor HP Service

*Message #12 Posted by **.** on 22 Sept 2005, 2:58 a.m.,*
in response to message #1 by Jeff

Sheesh - did you complain to Intel when your PC became obsolete?

Re: New 12C Platinum and Poor HP Service

*Message #13 Posted by **Jeff** on 22 Sept 2005, 8:43 a.m.,*
in response to message #12 by .

To the guy who wrote the comment below, it sounds like you are off of your medication. I can see why you used a comma for your name. Your comment makes no sense. In addition, my PC doesn't use an Intel CPU. I went with AMD.

As for everyone else here, many thanks for your comments. The main point is that the 12C Platinum has been improved. I'll keep playing with it and let you know if I notice anything else besides the tremendous speed increase. I'd like to hear your thoughts, as well.

> Quote:
>
> Sheesh - did you complain to Intel when your PC became obsolete?

Re: New 12C Platinum and Poor HP Service

*Message #14 Posted by **.** on 22 Sept 2005, 6:22 p.m.,*
in response to message #13 by Jeff

Woosh!

Re: New 12C Platinum and Poor HP Service

*Message #15 Posted by **Don Shepherd** on 22 Sept 2005, 9:00 p.m.,*
in response to message #13 by Jeff

Jeff, did they fix the goto problem? When the 12-cp first came out, they boasted of 400 step programs, but we all found out that the goto's would not work beyond a certain step number. I was wondering if that particular problem is fixed with the new version.

Re: New 12C Platinum and Poor HP Service

*Message #16 Posted by **John** on 22 Sept 2005, 10:15 p.m.,*
in response to message #15 by Don Shepherd

Yes, the 400 steps are all good now.

Re: New 12C Platinum and Poor HP Service

*Message #17 Posted by **Jeff** on 23 Sept 2005, 9:05 a.m.,*

in response to message #15 by Don Shepherd

Sorry, Don, I'm not sure, but I bet they did. They fixed so many other problems. I don't do any programming, so I'd be the last to be able to confirm that.... Sorry.

> Quote:
>
> Jeff, did they fix the goto problem? When the 12-cp first came out, they boasted of 400 step programs, but we all found out that the goto's would not work beyond a certain step number. I was wondering if that particular problem is fixed with the new version.

Voice Systems Magic Word

*Message #18 Posted by **Howard Owen** on 22 Sept 2005, 11:14 a.m.,*
in response to message #1 by Jeff

"Agent" often works to shortcut to a real person in those systems.

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Anyone want hp 41 to 41 infra-red data transfer?

*Message #1 Posted by **don wallace** on 20 Sept 2005, 7:38 p.m.*

Hi all.

I am developing an infra-red module for the 41 for engineers. Many have expressed their desire for simple low cost data transfer to the PC.

But would anyone want, need or use a system where two 41 machines could transfer data, programs or key assignments from calculator to calculator?

It strikes me this could just be a useful add-on for firms with several machines used by a number of colleagues

DW

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #2 Posted by **Holger Veit** on 21 Sept 2005, 4:19 a.m.,*
in response to message #1 by don wallace

A more useful module might be a replacement of the HP-IL module that does not exchange data with IL devices, but has a direct RS/232 or USB or parallel interface. I do know that there are such gadgets for the IL bus, and I already use the 82166 converter to exchange data with the PC for quite some time, but HP-IL is nowadays exotic. When we are talking about adding hardware modules to the HP-41 - which I consider a great idea - then they should be universally usable and available, which is except occasional auctions at eBay, not really the case for the IL converter, for instance.

For bidirectional infra-red transfer (a sender-only module is available already, the IR-Printer module) with a PC you would need some standard like IRDA, which is strictly a serial protocol, so replacing the IR xmit/rcv diodes with RS232 drivers would be quite easy.

Holger

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #3 Posted by **Christoph Klug** on 21 Sept 2005, 4:52 a.m.,*
in response to message #2 by Holger Veit

Interfacing to PC is possible by using the IL-Module and the HP-IL/PC interface card. For this application some nice software solutions exist, the leading tool is EMU41. By using EMU41 it is also possible to transfer data and programms between two HP-41 handhelds.

Also directly data exchange between two HP41 is possible by using two HP82166 IL-Converters. The powerfully HP82166 IL-Converter (nice to use for any hardware interfacing application) is available from some sources without problems :-)

If I know correctly, there exist infared interfacing solutions from HP-41 to PC which uses the Inrared

Printer Module and an infared eye with special software. This application is undirectional, that means only data / programm upload to PC is possible.

People who like to use the HP-41 also prefer the belonging HP-IL system, because with this the fourty one mutates to an powerfully computer system...

With best regards from Germany - Christoph Klug

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #4 Posted by **Holger Veit** on 21 Sept 2005, 7:24 a.m.,*
in response to message #3 by Christoph Klug

You misunderstood me (probably intentionally). I do use IL converters for interfacing purposes already.

The problem with such solutions is that they add a lot of stuff dangling from the handy HP-41 box. This is similar to the problem of the MAC-mini which is by itself a nice and small system, but if you need any additional component, you'll end up with a desktop full of additional boxes and cables and wall warts to powerup the whole stuff. When the original poster came up with his idea of an IR module, I immediately thought about a bidirectional version of the IR printer module - namely same in size and selfpowered by the HP41 box. The IL converter needs an external supply, hence a wall wart (at least two converters fit onto the busprint and only need a single supply.

Besides, I still consider IL as a proprietary, outdated solution although it was at its time technically interesting. With the documentation from the Kane/Ushijima book, one could rebuild the HPIL state machines in a CPLD, I suppose, and recreate IL converters, but the serious question (besides hobbyism and nostalgia) is why? More interesting might be nowadays an entire replacement of the CPU board in a HP41 box with some powerful CPU that emulates the whole machine at much higher speed.

However, this might be considered as heresy in a collector's forum...

Holger

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #5 Posted by **Christoph Klug** on 21 Sept 2005, 8:52 a.m.,*
in response to message #4 by Holger Veit

Dear Holger,

from the hardware standpoint both, the HP-41 box and the HP-IL system are nostalgic solutions, today we have much better replacement systems. But most of us really like the fourty one system (including HP-IL) not only some exotic collectors :-)

From the technical standpoint your idea about replacing the internal HP-41 box hardware by a fast speed CPU solution (including RAM-Box features and some other advanced features) sounds really good. Than we use the identical operation mode with keyboard and display and handy size, but get much more calculating power...

Yes - the HP-41 is a vintage calculator or computer system - but also the device mixture of nostalgic HP-IL equipment plus modern add ons like I/O-Board, IL2000 or the MLDL2000 from Meindert or Clonix / NoVRAM from Diego make possible new and powerfully applications.

Therefor I think anything is welcome to HP-41 world : Using the old well known system parts same

as new any hardware extension and future system solution. Please design all this new parts hardware compatible to the existing system - only than we are able to create fantastic HP-41 applications :-)

With best regards from Germany - Christoph Klug

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #6 Posted by **don wallace** on 21 Sept 2005, 4:43 p.m.,*
in response to message #4 by Holger Veit

Hey Holger!

I agree with you totally, for what it's worth.

I would love a fast hp41! If possible, I'd settle for something which was 16 times faster. Monte D's project if it gets to be reality, will be really great. I think it's an amazing effort. He is aiming for 50 x normal speed.

I am even considering doing something down the track a bit, either at 16 or 64 x normal speed. But what bothers me is the ROM copyright situation, since there is not a lot of point in keeping the serial roms... so one would have to COPY the rom.

The other thing is, is that such a practical idea? We'll have to see what Monte comes up with. I am a little concernied about power consumption in these add-ons / replacements, in general.

DW

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #7 Posted by **don wallace** on 21 Sept 2005, 4:26 p.m.,*
in response to message #3 by Christoph Klug

Hi Chris,

HP-IL is a really nice old system. Howver, it is bulky and expensive. Surely now some of the mechanical stuff must be getting unreliable. And though this next factor is not usually a problem, it's also slow.

I am thinking of a fast compact, reliable two way system which is reasonably priced, although it won't be "cheap". Something that can be used in-field which "emulates" ;-) the quality level of the Hewlett Packard equipment itself. And which NEVER crashes the calculator.

If I was going to control instrumentation, I'd go for the modern equivalent of HP-IB. Why muck around with HP-IL at all, except for fun?

DW

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #8 Posted by **Garth Wilson** on 21 Sept 2005, 5:05 p.m.,*
in response to message #7 by don wallace

> Quote:
>
> And though this next factor is not usually a problem, it's also slow.

The HP-41 was only able to operate the HPIL at about one-thirtieth of HPIL's maximum speed; so the bottleneck was the 41, not HPIL.

> Quote:
>
> And which NEVER crashes the calculator.

HPIL never did. (I know you weren't saying it did-- I just wanted to clarify.) in 19 years of using my 41 daily, much of it with HPIL, the 41 only crashed a couple of times, and that was due to my own errors in synthetic programming. I have not had a MEMORY LOST condition either in over 15 years.

> Quote:
>
> If I was going to control instrumentation, I'd go for the modern equivalent of HP-IB.
> Why muck around with HP-IL at all, except for fun?

Although not as fast as HPIB (IEEE-488), HPIL had some advantages over IEEE-488. These include auto-addressing and no address conflicts, the ability for the controller to find various pieces of equipment regardless of their position in the loop, interfacing to more devices at a time, longer connections possible, less-expensive and lighter cables, and the pulse transformers that allowed the grounds of two consecutive devices in the loop to be up to 1000 volts apart. In the late 1980's when my 41cx was mostly used to control a rack of IEEE-488 equipment, it was nice that IEEE-488 (HPIB) and HPIL were so much alike, because the interface converter was in most ways completely transparent, making it look to the 41 like the IEEE-488 equipment was actually HPIL equipment on the loop. The 41 insisted on being the controller on the HPIL, and did not have HPIL interrupt support; but these were limitations of the HP-41, not HPIL. The HP-71 does not have these limitations. When I've connected the 41 and 71 together, the 41 had to be the controller. For those who have more than one 41, it would be nice to be able to connect them together to transfer files and programs directly.

IR has its place, just not in interfacing to multiple pieces of equipment at once. To add a comment to someone else's about RS-232, Maxim's MAX3100 UART has an IrDA mode.

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #9 Posted by **don wallace** on 21 Sept 2005, 5:34 p.m.,*
in response to message #8 by Garth Wilson

Hi Garth.

Thanks for the feedback, very pertinent and much appreciated.

I take your points on HP-IL. Yeah, they would be great features... I hadn't actually considered all those great "selling points"... ;-)

If there was a large market for HP-IL I would be stirred to do something. But I guess most of the non mechanical hardware is still running fine. As for HP-IL on the PC, who cares? Maybe I am a bit closed minded on that one.

I would have really liked to have HP-IL when it came out. I can think of a lot of situations where it would have been rather useful, even in my own limited hobbyist electronics work at

the time. Certainly I would never have used it at work, since my jobs were repairs, not testing and design. And far from high-tech. "We're not in Santa Clara (anymore) Toto!". My working life was mainly a basic drudge involving a multimeter, a soldering iron and a screwdriver (!), but "it's all good" as the young people say now.

I am seriously considering doing some development work towards an analogue voltage data logger in a plug-in ROMPACK. Any thoughts?

DW

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #10 Posted by **Howard Owen** on 21 Sept 2005, 7:14 p.m.,*
in response to message #9 by don wallace

I'm an HP-IL enthusiast, so I'd be using it whether I had a practical application or not. But as of now, HP-IL is the best way I have to move data back and forth between my HP-41s and the rest of the world, what I like to call "the 21st Century" in this context. I realize that you are planning to do a better solution for the 41, and that the MLDL2000 will enable USB for a similar, but not identical purpose. But neither of those solutions are here right now, or, more to the point, were six months ago when I started feeding my old HP equipment habit.

But there are several things I do with HP-IL that no HP-41 based solution will do. Those are a) all the stuff I do with an HP-71B, and b) all the stuff I do with an HP-75. Enthusiasm for the HP-41 doesn't often translate to an equal enthusiasm for the 70 series. That means there are fewer options for a 70 series user today. So HP-IL remains the best solution for transferring data to and from those systems. I may be interested in purchasing any soluion for two way HP-41 data transfer you come up with, but it won't replace my need for HP-IL, let alone my enthusiasm. 8)

But a discussion of HP-IL's merits and demerits is interesting. It obviously failed, or was killed in the marketplace. HP announced the death of HP-IL at the same time they withdrew the HP-71B. Some HP-IL peripherals remained on the price list until the HP-41C reached end-of-life. But HP-IL as a commercial solution for data collection died with the 71B. HP noted then that they had basically no replacement to serve the market niche HP-IL was aimed at. That was low cost, battery operated test equipment. I think that partly this reflected the lowered cost of other interfaces, RS-232 in particular, and the systems that hosted them, such as the IBM PC and its clones. But partly this may have reflected lessened importance of battery powered data collection generally. I don't know if such systems were actually needed less, or if they just didnt grow as fast as other segments. Either way it would have lead to less market share.

Surveying is one place where battery power remained important, and where the HP-41C therefore remained popular. But that soon enough transitioned to specialized systems, and also the combination RS-232 and the HP-48. Today we see the HP-48GX holding on to importance in the surveying world, partly because of excellent custom hardware and software systems to interface to "total stations." I'm not a surveyor, so I don't know for sure why they remain so popular. But I can guess that they are relatively low cost, and low power solutions. That's the niche that HP-IL was designed to fill, oddly enough.

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #11 Posted by **Garth Wilson** on 21 Sept 2005, 8:34 p.m.,*
in response to message #10 by Howard Owen

> Quote:
>
> But a discussion of HP-IL's merits and demerits is interesting. It obviously failed, or was killed in the marketplace. HP announced the death of HP-IL at the same time they withdrew the HP-71B.

I say the "failure" was that of HP's marketing and management, not the product. The 71 especially was made for technical professionals; yet not one in ten even knew it existed. Of those who did, not one in ten had any idea how much power was there (which was of course partly due to the user groups and third-party suppliers). I can't imagine that HP recovered their development cost on the 71, but that was not the fault of the 71 or its designers. It probably made Susan Wechsler, Nathan Meyers, James Dickie, Thomas Lindberg, Stanley Blascow, James Donnelly, Laurence Grodd, Charles Patton, Robert Miller, and the rest of the design team just sick to hear their creation was being canned!

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #12 Posted by **Howard Owen** on 21 Sept 2005, 9:07 p.m.,*
in response to message #11 by Garth Wilson

That must have been particularly tough when measured against the success of the HP-41C. HP really hit the "sweet spot" with that machine. I don't know if it's second in unit sales to the 12C (which surely must hold the top spot) or if some other machine holds that distinction. But if you combine longevity on the price list with enthusiasm for the machine then, and even more remarkably, now, you have got to hand the 4C the crown as HP's most successful calculator ever.

Still, I'm having more fun with the 70 series. The 71B is cool, but the 75C is more of a challenge, since there's less materual extant for it now.

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #13 Posted by **don wallace** on 22 Sept 2005, 12:13 a.m.,*
in response to message #11 by Garth Wilson

Couldn't agree more!

DW

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #14 Posted by **Howard Owen** on 22 Sept 2005, 6:38 p.m.,*
in response to message #10 by Howard Owen

I think I've gained a small insight into this topic over the last couple of days. The HP-IL card for the 80 series is rare. I finally obtained two in one lot. Plugging on in to my HP-87, I tried to get it to talk to my other machines and peripherals. It's probably a stretch to say that the HP-85 implementation of HP-IL is nearly as primitive as the 41C's, but I tend toward that point of view. I'll cover the technical details elsewhere, but lack of a full-function HP-IL implementation in the HP-85 series may have contributed to the failure of HP-IL as a product.

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #15 Posted by **Christoph Klug** on 22 Sept 2005, 3:28 a.m.,*
in response to message #9 by don wallace

Dear Don,

your idea about creating a analogue voltage data logger plug in rom pack sounds really nice. Helpfully for this system would be a resolution of 12bit or more, also a multiplexer for more than one measurement channel would be nice.

For HP-41 was the CMT-300 digital voltmeter box available, which was designed from Corvallis Micro Technologie. Furthermore exist the HP3468 digital voltmeter which includes the HP-IL interface.

From CMT also the additional CMT-200 digital I/O box was available for HP41. This includes a 8bit digital Input / output ports. In combination with the voltmeter box you get a compete data logger system for HP41. Furthermore from CMT was available the fantastic RAM-Disk (with HP-IL). This includes 128KByte memory up to 512KByte memory plus RS232 interface option.

May be you are able to add some of this features to your analogue voltage data logger plug in rom. That means : Additional digital I/O lines for realising control applications plus RAM memory for storing data.

My own battery powered I/O-Board and the IL2000 System includes some analogue voltage input and output channels (with 8bit and 12bit resolution) plus some digital 16bit input / output ports for control applications.

With best wishes from Germany - Christoph Klug

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #16 Posted by **don wallace** on 22 Sept 2005, 4:20 a.m.,*
in response to message #15 by Christoph Klug

Hi Chris.

Thanks (!) for the info...

You may want to check out my last post in the "Who moved my cheese?", thread Namir started...

DW

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #17 Posted by **Holger Veit** on 22 Sept 2005, 5:38 a.m.,*
in response to message #7 by don wallace

> Quote:
>
> If I was going to control instrumentation, I'd go for the modern equivalent of HP-IB. Why muck around with HP-IL at all, except for fun?

Interestingly, when you read Kane&Ushijima's book on HP-IL, there is very much in common between HP-IB and HP-IL, so one could in principle call HP-IL something like a serial version of

HP-IB (surely there are differences in topology, in electrical parameters and the device identfication mechanims, but the logic behind both is rather similar).

Concerning control instrumenation, it should be also asked what the benefit of a 8 bit bus technology is nowadays. Serial communication is not slow by itself - see the PCI-Express connection lines in a modern PC. HP-IL took into consideration that the controller itself, i.e. here the HP-41, is not fast enough to feed large amounts of data to the ring. A CPU with a 300kHz clock, and effectively a 1/6kHz cycle time it power-saving, but definitely not fast (for normal calculations, you wouldn't need more anyway, BTW).

When the question were to design a new communication system to replace HP-IB, I'd rather think about some multi-master serial USB type than the conventional parallel HP-IB handshaking. Powerful, ad also fault-tolerant protocols are now easily written in software; HP-IB is a child of the 80s; it could be rather easily "coded" in TTL.

Holger

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #18 Posted by **don wallace** on 22 Sept 2005, 7:03 a.m.,*
in response to message #17 by Holger Veit

Multi-drop (RS485?) might be really nice.

The can bus is similar (I think...).

DW

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #19 Posted by **Meindert Kuipers** on 22 Sept 2005, 7:27 a.m.,*
in response to message #18 by don wallace

RS-485 multidrop might be nice, but it is not really multi-master. CAN is a totally different bus and requires a specific controller (some PIC's have it nuilt inside), and software may be somewhat complicated.

For easy interfacing with peripherals SPI or I2C could be useful, since there are ADCs, DAC, memories and many other interface IC's that can immediately connect to it. This is also realtively easy to implement in a microcontroller by bitbanging a port (if the controller does not already have I2C or SPI.

On your remarks about current consumption (further down in this thread): any microcontroller will consumer more power than the HP41 if you let it run at several MHz. I considered a microcontroller in my MLDL2000, but decided against it due to the high power consumption. When running, the MLDL2000 consumes about 6-7 mA, on top of the 5 mA that the '41 uses, and it used no extra power if the NUT is not running, apart from some uA's to keep the SRAM alive.

I would strongly advise a (small) CPLD to create an external interface, which could be powered from something outside when it is connected. My MLDL2000 uses USB power when that is connected.

Meindert

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #20 Posted by **don wallace** on 22 Sept 2005, 7:41 a.m.,*
in response to message #19 by Meindert Kuipers

Hi Meindert!

Yes, I have been thinking SPI or I2C. As you say there is some nice hardware which uses it.

My memory is not too good about RS485...

I agree completely about your comments on USB. I think I will get into CPLD, it's very nice. I did some tinkering with Lattice stuff about ten years ago.

DW

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #21 Posted by **Christoph Klug** on 22 Sept 2005, 9:00 a.m.,*
in response to message #20 by don wallace

Dear Don,

supporting I2C-Bus would be a nice idea. Much hardware boards and chip solutions exist, which are controlled by I2C.

Tony Duell from HPCC created a I2C Bus interface system for the HP48 :-)))

With best regards - Christoph Klug

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #22 Posted by **Holger Veit** on 22 Sept 2005, 2:14 p.m.,*
in response to message #19 by Meindert Kuipers

> Quote:
>
> On your remarks about current consumption (further down in this thread): any microcontroller will consumer more power than the HP41 if you let it run at several MHz.

The mentioned MSP430 is listed with typically 500uA/MHz in active mode, and about 17-22uA in (32kHz) power-down mode (datasheet of msp430f1611, 48K Flash + 10K RAM, SPI, I2C, ADC).

Holger

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #23 Posted by **don wallace** on 22 Sept 2005, 3:33 p.m.,*
in response to message #22 by Holger Veit

Thanks for the info Holger! I may try to get a sample and port the clonix firmware to the different chip. A one chip soluion to all my different projects would very nice.

DW

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #24 Posted by **Holger Veit** on 23 Sept 2005, 3:27 a.m.,*
in response to message #23 by don wallace

It is probably a two-chip solution; you'd better have level shifters to interface to the HP bus, and maybe a tiny voltage regulator (Z diodes already consume to many mAmps). The MSP is 3.3V, however TTL tolerant at its I/O pins, but the HP41 is not even TTL compatible.

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #25 Posted by **Meindert Kuipers** on 23 Sept 2005, 4:37 a.m.,*
in response to message #24 by Holger Veit

The MSP looks promising, but you will need to buffer the inputs (HP41 I/O is about 6.5V) and drive the outputs (HP41 is CMOS so you will need to reach the full 6.5V to keep power consumption low).

This is in general a problem to connect state-of-the art technology with good old TTL or CMOS hardware.

Meindert

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #26 Posted by **don wallace** on 23 Sept 2005, 5:07 a.m.,*
in response to message #25 by Meindert Kuipers

Hi Meindert. Thanks for your thoughts. I agree completely...

Can't be bothered with trying to pack in even more electronics...(!)

What a shame...

(Hand soldering one chip one resistor and a crystal was trying enough ;-)

However, I will try to find a nice CMOS microcontroller which will cope with 6 volts. I think that's why Diego had a 47 ohm resistor in the Vcc rail, to drop a little voltage. Never got around to asking him. Diego? Are you there? (Hi!) The thing is, when the coconut is sleeping (display on) the 41 internal psu is generating 6.2 volts on the rail AND the PIC chip is not drawing any current so it is seeing the full 6.2 volts on it's VCC pin, so I do wonder a bit about the long term reliability of the basic Clonix circuit. I considered using a diode to drop 0.6 volts...

DW

Edited: 23 Sept 2005, 8:28 a.m.

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #27 Posted by **don wallace** on 23 Sept 2005, 5:01 a.m.,*
in response to message #24 by Holger Veit

I didn't look at ANY specs at all on the chip...

I am not interested, as there is no space in a rompack for level shifters at all (!)

What a shame though...

Thanks guys!

DW

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #28 Posted by **Meindert Kuipers** on 21 Sept 2005, 5:03 a.m.,*
in response to message #2 by Holger Veit

This is all possible with the MLDL2000, it has USB. By replacing the USB print it can be used to build an interface to almost everything, that would be a simple hardware expansion by implementing the UART in the CPLD and add the RS232 level shifters in a very simple piece of hardware. The design is completely open and when I have finished the current production run all design files and sources will be published. In addition, the MLDL2000 will hold ALL currently known ROM images.

Meindert

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #29 Posted by **Holger Veit** on 21 Sept 2005, 7:06 a.m.,*
in response to message #28 by Meindert Kuipers

True, but for me MLDL2000 has the wrong form factor - it blocks the cardreader :-) In a cardreader case, you could even put a replacement for the entire HP41 CPU. This is why I talked about a replacement of the IL module.

Holger

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #30 Posted by **Chan Tran (USA)** on 21 Sept 2005, 8:37 a.m.,*
in response to message #29 by Holger Veit

I don't feel the need to transfer data or program between 2 41's. It's much more useful to have something that can transfer data and program between a 41 and a PC.

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #31 Posted by **don wallace** on 21 Sept 2005, 4:57 p.m.,*
in response to message #30 by Chan Tran (USA)

Hi Chan. Thank you for your feedback. I appreciate it.

What do you feel is the best? USB or universal RS232? What operating system would you be running on the PC side? What would you want the PC program to look like? e.g. is text only okay or do you a Windows or X graphical environment?

What functions do you need in the system? Just program and data upload and download, or a

complete machine memory dump? Would you be interested in a program execution TRACE? And are you interested in using it help write MCODE or just in the daily ("normal") use of the calculator, e.g. data backup?

DW

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #32 Posted by **Garth Wilson** on 21 Sept 2005, 5:25 p.m.,*
in response to message #31 by don wallace

> Quote:
>
> What do you feel is the best? USB or universal RS232?

USB is becoming far more common in consumer electronics that get operated as appliances by people who have absolutely no concern for what goes on inside the boxes, but RS-232 is much more friendly to anyone who would want to make their own equipment. I think the maker of MLDL2000 said that making a USB controller gets a lot more complicated and is impractical for the 41.

RS-232 requires a lot more power, but there have been some hand-held terminals made that had no batteries and operated entirely on power scavanged from the RS-232 lines coming from the equipment the terminal was connected to. Of course the power has to come from at least one end, so you couldn't connect two 41's together to transfer data if both ends were expecting the other to supply the power.

I myself do have the FSI164A HPIL-to-dual-RS232 interface converter; but I don't think there's any way to transfer a program over it unless you "print" it to the interface converter. Added funcions like this would be welcome.

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #33 Posted by **Geir Isene** on 22 Sept 2005, 1:17 a.m.,*
in response to message #31 by don wallace

> Quote:
>
> What operating system would you be running on the PC side?

Linux or OpenBSD

> Quote:
>
> What would you want the PC program to look like? e.g. is text only okay or do you a Windows or X graphical environment?

Text only is not only okay, it is prefered since it is scriptable.

> Quote:
>
> What functions do you need in the system? Just program and data upload and download, or a complete machine memory dump? Would you be interested in a

> program execution TRACE? And are you interested in using it help write MCODE or just in the daily ("normal") use of the calculator, e.g. data backup?

All of the above :)

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #34 Posted by **don wallace** on 22 Sept 2005, 2:58 a.m.,*
in response to message #33 by Geir Isene

I had you in mind, Geir... ;-)

DW

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #35 Posted by **Meindert Kuipers** on 21 Sept 2005, 8:46 a.m.,*
in response to message #29 by Holger Veit

It does block the cardreader, but who needs a cardreader when you have the MLDL2000 ;) You are right, even better would be the complete replacement of the NUT's guts, then there is need for a communication device the size of a module.

Meindert

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #36 Posted by **don wallace** on 21 Sept 2005, 5:01 p.m.,*
in response to message #35 by Meindert Kuipers

Hi Meindert.

Wouldn't the process of backing up your mag cards to your mldl system be very laborious and maybe even wear out the 41 connectors (plugging and unplugging...)?

What if you have a power failure or corruption of the memory in your mldl2000? All that work doing the transfer down the drain...

DW

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #37 Posted by **Meindert Kuipers** on 22 Sept 2005, 3:00 a.m.,*
in response to message #36 by don wallace

Backing up your mag cards is a one-time exercise. Just load as much as possible cards in the '41 or in Extended Memory and then transfer to a ROM image (in the MLDL2000) with existing utilities. This can then be saved on the PC as a main backup. When programmed in Flash the programs will be safe for a long long time, and can be reloaded form the PC backup whenever you want. Some software could be written to make the process much easier and that should not be a very difficult task.

Meindert

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #38 Posted by **don wallace** on 21 Sept 2005, 4:45 p.m.,*
in response to message #28 by Meindert Kuipers

Hi Meindert. That project of yours is very nice. You certainly put a lot of work into it.

I am considering doing a stand-alone USB port for the 41.

DW

Re: Anyone want hp 41 to 41 infra-red data transfer?

*Message #39 Posted by **don wallace** on 21 Sept 2005, 4:17 p.m.,*
in response to message #2 by Holger Veit

Hi Holger.

I am also planning some sort of wired connection to a PC for the 41. But that is a rather different project. I am hoping that will be a straight RS232C cable which you can simply plug in to the 41 to upload and download either the complete machines memory, or just the user data and / or user program area. That is actually pretty involved, as is anything which connects to the 41.

The difference I see with the projects I am doing is that they must be 100% reliable. That is, they MUST NOT crash the calculator and make it lose it's memory. In other words, full commercial grade peripherals, noy hobbyist experimental equipment. It's a whole different kettle of fish...

Thanks very much for your feedback. It's appreciated.

DW

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Anyone want custom hp41 rompacks?

*Message #1 Posted by **don wallace** on 20 Sept 2005, 7:33 p.m.*

Hi all.

If anyone wants some software for the 41 put in a plug-in module, all you need to do is contact me and send me a module with a list of the software you want in it. I gut the modules and build in a chip, program and test it. Subject to copyright restrictions I am happy to supply reprogrammable, pre-programmed appliation packs for the 41. I am also able to write user code for the machine.

donwallace63@yahoo.com.au

For prices you will need to write to me.

DW

Re: Anyone want custom hp41 rompacks?

*Message #2 Posted by **Howard Owen** on 21 Sept 2005, 12:11 a.m.,*
in response to message #1 by don wallace

I might be interested in a service ROM. Don't know what the copyright status is, but the bits are widely available.

Re: Anyone want custom hp41 rompacks?

*Message #3 Posted by **Christoph Klug** on 21 Sept 2005, 4:57 a.m.,*
in response to message #2 by Howard Owen

Do you use your own plug in module hardware solution, or the existing module designs Clonix or NoVRAM from Diego Diaz or the nice Zeprom ?

With best wishes from Germany - Christoph Klug

Re: Anyone want custom hp41 rompacks?

*Message #4 Posted by **don wallace** on 21 Sept 2005, 6:15 p.m.,*
in response to message #3 by Christoph Klug

Hi Chris.

At present the hardrware is a copy of Diego D.'s (actually almost identical to John I.'s) system.

At present the firmware is Diego's (John's?) old code.

I expect now I have it running reliably, I will alter the PIC code a bit. Although that code is really great, I can see the possibility for some enhancements. Certainly to take the development work foward

into other territory the code and hardware will change quite a bit. This is near the top of my list of prioroties.

I am going to do some audio and digital electronics engineering work too, though, so the projects will run concurrently.

DW

Edited: 21 Sept 2005, 6:18 p.m.

Re: Anyone want custom hp41 rompacks?

*Message #5 Posted by **don wallace** on 21 Sept 2005, 6:23 p.m.,*
in response to message #2 by Howard Owen

Hi Howard.

(Tongue firmly planted in cheek...) What?! Is that all? You can put a lot of other code in there too.

The other thing Howard, is that given there are no 41 (spare) parts, I can't see a service module being all that useful to you. Also, if the service module works then there's not that much wrong with the calc.

You can test the RAM very easily with a user mode program. Finally, the service module isn't just software. There's some unusual hardware in there too, which code can't emulate.

Still, if you want one, can do! Would be a lot of fun to play with. How about some synthetics? Advantage? Assembler? Get my drift...?

Thanks for your feedback. Always nice to hear from you.

Cheers,

DW

HP41 service rom

*Message #6 Posted by **Randy** on 21 Sept 2005, 7:07 p.m.,*
in response to message #5 by don wallace

Don said:

> Quote:
>
> Finally, the service module isn't just software. There's some unusual hardware in there too, which code can't emulate.

And just what might that hardware be? Or at least, whats-it-do?

Re: HP41 service rom

*Message #7 Posted by **don wallace** on 21 Sept 2005, 7:20 p.m.,*
in response to message #6 by Randy

Hi Randy.

I'm not really sure!

DW

Re: HP41 service rom

*Message #8 Posted by **Randy** on 21 Sept 2005, 8:06 p.m.,*
in response to message #7 by don wallace

Thanks Don,

Saves me the trouble of opening my Clonix to look for extra bits - since it works fine with the service rom loaded (-:

Re: Anyone want custom hp41 rompacks?

*Message #9 Posted by **Howard Owen** on 21 Sept 2005, 8:18 p.m.,*
in response to message #5 by don wallace

> Quote:
>
> The other thing Howard, is that given there are no 41 (spare) parts,

That's odd.. I seem to have lots on hand. 8)

> Quote:
>
> Finally, the service module isn't just software. There's some unusual hardware in there too, which code can't emulate.

I believe that the last time this came up, (in connection with emulating the service module on the MLDL2000,) Eric Smith stated this wasn't actually the case. Subsequent reading (In William Wickes "Synthetic Programming" book, I think) states that the service module takes over the 41 OS by virtue of living at a particular ROM address and implementing specific hooks. In other words, apart from the addressing, there's nothing but software involved. Perhaps Eric can set me straight if I have that wrong.

> Quote:
>
> Still, if you want one, can do! Would be a lot of fun to play with. How about some synthetics? Advantage? Assembler? Get my drift...?

Welll, I *am* on the list to get an assembled MLDL2000. I think I'll wait to see how I do with that before I go hog-wild on copies of already existing modules. I might make an exception for the service module, assuming I remeber Eric's comments correctly.

As far as custom code, that sounds interesting. I need to think about that a bit more.

> Quote:
>
> Thanks for your feedback. Always nice to hear from you.

Cheers,

DW

And to you!

Re: Anyone want custom hp41 rompacks?

*Message #10 Posted by **don wallace** on 21 Sept 2005, 8:59 p.m.,*
in response to message #9 by Howard Owen

Hi Howard,

Oh yes, I forgot you "got spare parts"... ;-)

The thing is, my clonix clone does not latch up or crash. That's gotta be a positive factor vis-a-vis other stuff.

To check up on things w.r.t a service module I suggest a careful read of the original hp documents. You guys can probably prove me wrong; that's cool. I haven't had time to read all of the documentation thoroughly enough to recite it chapter and verse. There's a fair volume of material. (Show me the money...)

With regard to the service module just being software, how then would it be able to calculate processor clock speed? (Think carefully before you answer..., where's the timebase?)

I am not talking about it being at page 4 in the system. That's got nothing to do with anything... And besides, Forth sits at page 4 and 5 and it does not run the cpu all the time, nor is it a program which can't exit back to the original rom os on command ("bye").

I'm not hp, but if I had designed the service rom (maybe I am getting confused with the diagnostics rom?) at that time, I CERTAINLY would have used some logic which was not rom circuitry. Logic is just too useful (to have in a hardware diagnostic package)...

Contrary to what programmers think (and I am not having a go at anyone here, just being frank, honest and speaking from some experience), there is a lot of stuff you can do very differently with hardware or which requires hardware to implement. Turing might not agree, but then he was a mathematician and not an engineer. Babbage was way ahead of his time sadly for him, but his hardware solution to computation is interesting in that it actually works... I'd hate to have to actually compute (anything) on the original Turing machine. Do you see my point? Not all computers are digital machines, either, btw...

Software is great, but it's not the be all and end all. You still need hardware to "run it on".

And most software of the type we are discussing here (as opposed to more specialized stuff) assumes the existence (intact) of all required hardware to run. That's not the case in a defective system under test. Intermittent faults make the situation worse again...

On a different, related subject this quiz might be interesting:

Q. The most complex software in the world is found:

a: In UNIX (/LINUX)

b: In Micro$oft Windows XP / NT4 etc...

c: In the space shuttle take-off / landing Computer

d: In AT&T's 4ESS telephone switching system (or whatever it's called nowadays)

You might just be surprised at the answer...

Q. In the correct answer above the largest proportion of the code is devoted to:

a. Kernel operations (including task switching)

b. mathematical computations (including memory addressing)

c. User interface and human factors (e.g. drawing graphics)

d. Error detection and correction (include software and hardware malfunction detection and recovery in this category)

Again, maybe the answer will surprize you.

DW

P.S. happy coding, guys!

Edited: 21 Sept 2005, 9:41 p.m.

Re: Anyone want custom hp41 rompacks?

*Message #11 Posted by **Howard Owen** on 21 Sept 2005, 10:13 p.m.,*
in response to message #10 by don wallace

Hmm. *Lots* of grist for the mill in this one! 8)

> Quote:
>
> The thing is, my clonix clone does not latch up or crash. That's gotta be a positive factor.

All other things being equal, I'd say that one could be definitive. 8)

> Quote:
>
> ...
>
> With regard to the service module just being software, how then would it be able to calculate processor clock speed? (Think carefully before you answer...)

Good question. Seems like you'd need an external reference.

> Quote:
>
> I'm not hp, but if I had designed the service rom (maybe I am getting confused with the diagnostics rom?)

Maybe. Or maybe I'm the one who is confused. I wasn't aware there was a diagnostics ROM as distinct from the service ROM.

> Quote:
>
> Contrary to what programmers think (and I am not having a go at anyone here, just being honest and speaking from some experience),

Oh, yeah. And it's "to-may-toe" I tell ya! 8)

> Quote:
>
> there is a lot of stuff you can do very differently with hardware or which requires hardware to implement. Turing might not agree, but then he was a mathematician and not an engineer.

It's two levels in the abstraction layers we wrap around the mapping of the motion of electrons and photons into informationi processing. There is therefore no necessary disagreement. Alan Turing invented the field of Computer Science in one fell swoop in 1936. His work was pure Mathematics. And while it was revolutionary in scope and impact, it bore no relation to any physical machine doing real computational work. (This was *before* Bletchley Park, remember.)

Real computers have to deal with real electrons traveling through real circuits. Considerations of timing, temperature, conductivity, permissivity, crankiness, colic and gout are paramount. 8) There is plenty of theoretical work underpinning Electrical Engineering too, but the impact of the real physical world makes EE a whole different art form than CS. I say this as one who is untrained in the former and self-taught in the latter. (I have had frequently to make software work for EEs, MEs and Physicists in the past, so I am familiar to some degree with how they think. I've also formed some conclusions about why they think the way they do, which I'm saving for my Magnum Opus: "Everything I Need to Know I Learned by Cleaning Up After Computer Users Too Clever By Half To Clean Up After Themselves". The title is tentative. I may need to flesh it out a little more.)

So it's all well and good to conceive of an abstract machine, and to investigate its properties, thereby founding a new branch of Mathematics. (It's actually damned good, far exceeding anything most of us, or me at least, could even aspire to acheiving.) But it's another trick entirely to go and implement a physical system that embodies the abstract machine. And to expect that physical system (or multi-layerd systems of systems) to behave purely according to the abstract machine model is silly.

> Quote:
>
> Babbage was way ahead of his time sadly for him, but his hardware solution to computation is interesting in that it actually works... I'd hate to have to actually compute on the original Turing machine. Do you see my point?

I think so. 8)

I've heard it said, by the way, that Babbage was too much the Mathematician to design systems

that could realistically be implemented with the available technology. I'm aware that a group in England created an Analytical Engine using machining techniques of the time. But "realistically" includes not only the mechanical engineering, but the financial wherewithall. That's another whole level of abstraction, God help us.

Somewherre I saw a modified ISO model of networks that illustrates this:

```
Religious <-- You are here
Financial
Application
Presentation
Session
Transport
Network
Data Link
Physical
```

> Quote:
>
> On a different related subject this quiz might be interesting:
>
> Q. The most complex software in the world is found:
>
> a: In UNIX (/LINUX) b: In Micro$oft Windows XP / NT4 etc... c: In the space Shuttle take-off / landing Computer d: In AT&T's 4ESS telephone switching system (or whatever it's called nowadays)
>
> You might just be surprised at the answer...

I think it's the phone switching system. It's an enormous, distributed computer. Linux is less complex than the NT code base, to judge by number of lines and tendency to crash. So I'd place Windows and Linux at 2 and 3. The software for landing the space shuttle has to run on some pretty old machines, so I'll put that as the least complex.

I answered that off the top of my head, and will not change it if I got it wrong.

> Quote:
>
> Q. In the correct answer above the largest proportion of the code is devoted to:
>
> a. Kernel operations b. mathematical computations (including memory addressing) c. User interface and human factors (e.g. drawing graphics) d. Error detection and correction (include software and hardware malfunction detection and recovery)
>
> Again, maybe the answer will surprize you.

D. The uptime and fault tolerance of the phone system, in the US at least, is unrivaled.

> Quote:
>
> DW
>
> P.S. happy coding, guys!

Yeah, and happy, umm, *soldering* there, Don. 8)

Re: Anyone want custom hp41 rompacks?

*Message #12 Posted by **don wallace** on 21 Sept 2005, 11:29 p.m.,*
in response to message #11 by Howard Owen

Hey, Howard! Interesting post!

I really enjoy raving on this forum (I just hope I don't bug too many people...) Only bettered by the great replies I get from you and the other knowledgeable people here (*everybody* here in their own way).

So many good points in your post Howard!

The thing is, when you look at it, Maths, CS and EE are just amazing endeavours. The whole idea of developing systems which do symbolic processing at the speed and precision at which the cutting edge operates is amazing to me. A systems approach, with that line between the hardware and software being somewhat arbitrary and certainly movable, really fascinates me.

You wrote:

Religious <-- You are here Financial Application Presentation Session Transport Network Data Link Physical

well, I guess that would also apply to me some of the time...

Congrats on the quiz, you scored 100%

There's a great book which some people here might find interesting called "Fatal Defect" by Ivars Petersen. Although it is not actually 100% correct in every single detail, it covers software glitches in a way I have never read before. It's well written too. Examples are a software glitch in a therapeutic x-ray / electron beam machine which killed a few people in Texas 20 years ago, a bad GUI in the A300 aircraft which has led (it's been argued) to a number of (real aviation) crashes, the famous AT&T phone system crash of 1991 and the aborted launch of the first space shuttle flight in 1981 (when I was "doing time" in the Aussie Air Force as a cadet comms engineer and mucking around with my then-new 41CV doing math for third year students...).

But I am getting into another (+ve) rave again...

I suppose that is what I like about the "old" hp, the engineering involved in the whole package, whether it was an oscilloscope, RF spectrum analyzer or a humble scientific calculator, were simply not bettered. Equalled, maybe, by other firms in particular fields, but not bettered. So hp had a real "class act", back then...

Now they are making bubble jet printers, competing with Canon (whom I once worked for doing repairs on calculators and desktop computers... for $A306 a week before tax).

You also wrote:

Oh, yeah. And it's "to-may-toe" I tell ya! 8)

Absolutely...

DW

Edited: 21 Sept 2005, 11:31 p.m.

Re: Anyone want custom hp41 rompacks?

*Message #13 Posted by **Howard Owen** on 22 Sept 2005, 1:21 a.m.,*
in response to message #12 by don wallace

> Quote:
>
> The thing is, when you look at it, Maths, CS and EE are just amazing endeavours. The whole idea of developing systems which do symbolic processing at the speed and precision at which the cutting edge operates is amazing to me. A systems approach, with that line between the hardware and software being somewhat arbitrary and certainly movable, really fascinates me.

Yes, and it's miracle it all works, sometimes. Or maybe all the time. 8)

> Quote:
>
> You wrote:
>
> ```
> Religious <-- You are here
> Financial
> Application
> Presentation
> Session
> Transport
> Network
> Data Link
> Physical
>
> well, I guess that would also apply to me some of the time...
> ```

I remember now that this was on a t-shirt I bought around 1987, I think. At any rate, it was then when I first got sime insight into how networks were being managed at the large scale. The big fights then were between TCP/IP, the protocol of the Internet or "arpanet" as it was still sometimes called) and other protocols like X.25 and DECNet. The latter was important where I worked, in the Physics department at UCSB. We ran Vaxen with connections to various DECNET based "internets." SPAN, the Space Physics Analysis Network from NASA and HEPnet, the High Energy Physics network were two of those. (Digression: one of our links to the latter was over a 56K line to the Stanford Linear Accellerator. When the Loma Prieta earthquake struck the Bay area in 1989, that line stayed up. That was an early indication for me of just how robust the telephone network really was.) Anyhow, the "Religion" in the diagram was just so appropriate, given how the various groups sniped at each other. The thing about computer networks, then as now, is that they cross organizational lines. But back then that was kind of novel. So there was a lot of groping around for how to deal with groups needing to cooperate in ways they hadn't had to up to then. And the usual outrageous academic politics would flare up in ways that could be amusing - from a distance.

So the "religious" layer could just as well be labeled "political" is the point of all that.

> Quote:
>
> There's a great book which some people here might find interesting called "Fatal Defect" by Ivars Petersen. Although it is not actually 100% correct in every single detail, it covers software glitches in a way I have never read before. It's well written too. Examples are a software glitch in a therapeutic x-ray / electron beam machine which killed a few people in Texas 20 years ago, a bad GUI in the A300 aircraft which has led (it's been argued) to a number of (real aviation) crashes, the famous AT&T phone system crash of 1991 and the aborted launch of the first space shuttle flight in 1981 (when I was "doing time" in the Aussie Air Force as a cadet comms engineer and mucking around with my then-new 41CV doing math for third year students...).

Sounds like some of the topics that were and are kicked around on the RISKS list. How organizations succeed and fail is very interesting to me. I'm a geek, not a manager, but I just get a kick out of exploring how human beings act in packs.

Possibly apropos of that, I read a very dry sociological work called "The Challenger Launch Decision" several years ago. This was an analysis of that famous disaster undertaken several years after the fact. The author was an academic who was puzzled by the conclusions of the official investigations, the independent commission and two congressional inquiries, insofar as it ascribed basically evil motives to the managers at Morton Thiokol and NASA. The idea was called the "immoral calculator hypothesis," and it asserted that those managers deliberately hid evidence of problems with the SRB seals, in order to keep to the flight schedule. This didn't make sense to the author, so she looked more closely at the actions of the people that were involved, starting from the beginning of the shuttle program forward to the disaster. So there's lots of detail about how the different groups that contributed to the space shuttle's development and management worked over a fairly long period. She concluded that what really happened was that each time something unexpected occurred, like the seals showing more erosion, as they did flight after flight, they would re-baseline their expectations of what was "normal" for the next flight. So they would see 20% burn through of the inner seal, for example, which they would go off and exhustively analyze. They would conclude that it wasn't actually a danger to the mission, since there were two seals in a redundant arrangement. The next time, there would be 40% burn through, and they would go through the same procedure. So they incrementally accepted more and more risk, never taking too big a jump into the unknown. She called this process "normalization of deviance," and made a persuasive case that that was the real reason the fatal decision was eventually taken.

Something similar may have happened with the Columbia and debris from the external tank. They had plenty of evidence that the foam was a problem, but no truly mission threatening damage until the final flight.

> Quote:
>
> I suppose that is what I like about the "old" hp, the engineering involved in the whole package, whether it was an oscilloscope, RF spectrum analyzer or a humble scientific calculator, were simply not bettered. Equalled, maybe, by other firms in particular fields, but not bettered. So hp had a real "class act", back then...

There's a whole other topic we have beat to death in other threads, about how the rate of change has tended to flush that sort of attention to quality out of commercial electronics and software. I always feel middle aged when I consider it. "Why, when I was a boy, we had REAL computers, not these new-fangled low-quality, fancy-schmancy quantum entaglement thingamajigs.." 8)

> Quote:
>
> Now they are making bubble jet printers, competing with Canon (whom I once worked for doing repairs on calculators and desktop computers... for $A306 a week before tax).

And they continue to beat the pants off Canon and everyone else in that market. Cold comfort, I say.

Re: Anyone want custom hp41 rompacks?

*Message #14 Posted by **Eric Smith** on 23 Sept 2005, 3:25 a.m.,*
in response to message #9 by Howard Owen

> Quote:
>
> Subsequent reading [...] states that the service module takes over the 41 OS by virtue of living at a particular ROM address and implementing specific hooks.

Just one hook. The mainframe ROM does a CALL 4000 (hex) early on. If there is any ROM there, that gets control. Otherwise, the fetch from 4000 will return an all-zeros word (due to bus precharge). Normally that would be a NOP, but the Nut processor will treat a zero word at the target of a CALL instruction as a RETURN.

The service ROM never returns control to the normal 41 OS; it might call some subroutines in the 41 OS, though I somewhat doubt it. I have not taken the time to disassemble the code.

Re: Anyone want custom hp41 rompacks?

*Message #15 Posted by **don wallace** on 23 Sept 2005, 7:22 a.m.,*
in response to message #14 by Eric Smith

Hi Eric.

Thanks for the info; useful...

DW

Re: Anyone want custom hp41 rompacks?

*Message #16 Posted by **Doug Wilder** on 23 Sept 2005, 10:24 p.m.,*
in response to message #14 by Eric Smith

Hi Eric,

Yes, the call is @ 0180H, early in the sleep wakeup. Interesting that you should call it a RTN

when there is no rom there (or more correctly: a null word at 4000H). What surprized me about your post is that you say it is a RTN instead of a NOP.

This implies that a stack level is used, something i hadn't realised. Other references i have indicates it is a two word NOP, so i never bothered to test the stack contents.

Thanks!

Re: Anyone want custom hp41 rompacks?

*Message #17 Posted by **don wallace** on 23 Sept 2005, 10:33 p.m.,*
in response to message #16 by Doug Wilder

Hi Eric, Doug.

Does the 41 os do a real CALL or does it first test the data returned from ADDR:4000?

I have not bothered to look at the VASM listing, but if I was designing, I'd test the word first, then do the CALL if the ROM existed... That makes much more sense in a system which is designed to have optional ROM in different locations.

I read something vague in the hp literature whcih said if a null was read then the processor doesn't do a CALL. I imagine the data is tested first... Your thoughts, guys?

DW

Re: Anyone want custom hp41 rompacks?

*Message #18 Posted by **Monte Dalrymple** on 23 Sept 2005, 11:55 p.m.,*
in response to message #17 by don wallace

The JSB (otherwsie known as a CALL) is executed normally. If the first instruction fetched after a JSB is a NOP (all zeros) it is automatically interpreted as a RTN by the CPU. There is a trace of what this looks like on http://www.systemyde.com/hp41. The CPU contains special logic to do this.

Monte

Re: Anyone want custom hp41 rompacks?

*Message #19 Posted by **don wallace** on 24 Sept 2005, 12:06 a.m.,*
in response to message #18 by Monte Dalrymple

Thanks Monte.

I couldn't remember the way it was implemented.

DW

Re: Anyone want custom hp41 rompacks?

*Message #20 Posted by **Meindert Kuipers** on 24 Sept 2005, 8:44 a.m.,*
in response to message #18 by Monte Dalrymple

This is a very powerfull feature of the NUT processor. Any attempt to execute a

subroutine in a non-existing part of memory would result in an immediate return and saves bytes when coding. This is also used when executing the entry points at the end of a module. I do not recall if the status of the carry is influenced by the result of the jump.

Meindert

Re: Anyone want custom hp41 rompacks?

*Message #21 Posted by **Meindert Kuipers** on 23 Sept 2005, 8:33 a.m.,*
in response to message #9 by Howard Owen

The (image of the) Service Module runs quite well on the MLDL2000, I have verified this about one month ago. There is no strange hardware in the module, but depending on the test you just need the modules being tested and in some cases (see the Service Manual) you could measure voltages of verify signals with a scope.

There is no recovering from the Service Module, apart from removing it from the HP41 or, in case of the MLDL2000, disabling page $4000.

Meindert

Re: Anyone want custom hp41 rompacks?

*Message #22 Posted by **don wallace** on 23 Sept 2005, 7:36 p.m.,*
in response to message #21 by Meindert Kuipers

Hi Meindert.

How do you know the service module is only a ROM?

Any unusual hardware will not be visible to you because all you have is the bits in the ROM image.

How does the module measure processor frequency?

DW

Re: Anyone want custom hp41 rompacks?

*Message #23 Posted by **Meindert Kuipers** on 24 Sept 2005, 8:38 a.m.,*
in response to message #22 by don wallace

Have a look at the HP41CX Service Manual, page 4-8: a Time Module is required for the clock frequency test on the '41C and '41CV (built inside the CX). I have been able to runs almost all tests, and those I did not run was because I did not bother to plug the hardware in (Cardreader etc).

I have even done a more spectacular test. I have bought a Wand through Ebay, but it did not work (could not see anything in the CAT 2 listing), but the LED would light up. I plugged this Wand in a port, loaded the WAND ROM image in the MLDL2000 and voila (excuse my French) : I have a perfectly working WAND again!

Meindert

Re: Anyone want custom hp41 rompacks?

*Message #24 Posted by **don wallace** on 24 Sept 2005, 11:19 p.m.,*
in response to message #23 by Meindert Kuipers

Ah!

Thanks for the info, Meindert.

Now that all DOES make sense...

DW

Re: Anyone want custom hp41 rompacks?

*Message #25 Posted by **don wallace** on 23 Sept 2005, 7:38 p.m.,*
in response to message #2 by Howard Owen

Hi Howard. If you want one write to me:

donwallace63@yahoo.com.au

Don W

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82490A HP-41 Translator Pack - Need Help

*Message #1 Posted by **Howard Owen** on 20 Sept 2005, 4:57 p.m.*

I've just become the lucky winner of a 71B auction on eBay that included the 82490A HP-41 Translator Pack. I've been playing with this pack before now with EMU71 and an image of the ROMs I obtained from JF (Thanks!) In the course of that, I discovered I was missing two critical pieces of BASIC software required for translating and loading HP-41 programs into the HP-41 FORTH environment. These are referred to in the manual as "READ41" and "TRANS41". (The latter not to be confused with the PC software of the same name. I've asked the eBay seller if he has these, and he said no, though he does have the manual.

Does anyone have access to these BASIC programs? Could you make them available to me? I can handle any format you care to use, including cards, 9114 floppy, cassette, LIF image, raw bits or text listing.

Thanks!

Re: 82490A HP-41 Translator Pack - Need Help

*Message #2 Posted by **Etienne Victoria** on 21 Sept 2005, 3:27 a.m.,*
in response to message #1 by Howard Owen

Good morning Howard,

TRANS41 & READ41 Basic programs are INCLUDED in your Hp-41 Translator ROM.

Just type RUN TRANS41 or RUN READ41 on your beloved TITAN.

More detailed explanations in the 82490A HP-41 Translator Pack user manual on the Hpmuseum DVD.

Or if you don't have them just ask more questions.

Friendly regards from France!

Etienne

Re: 82490A HP-41 Translator Pack - Need Help

*Message #3 Posted by **Howard Owen** on 21 Sept 2005, 10:34 a.m.,*
in response to message #2 by Etienne Victoria

SMACK! (Sound of hand slapping forehead.)

Thanks Etienne!

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VIM: HP-41 syntax and file type plugin

*Message #1 Posted by **Geir Isene** on 20 Sept 2005, 2:59 p.m.*

For those who use VIM to write HP-41 programs.

The syntax highlighting file:
http://www.vim.org/scripts/script.php?script_id=1360

The file type plugin:
http://www.vim.org/scripts/script.php?script_id=1361

Re: VIM: HP-41 syntax and file type plugin

*Message #2 Posted by **Howard Owen** on 20 Sept 2005, 4:12 p.m.,*
in response to message #1 by Geir Isene

Great! A Linux geek in love with the 41. I identify! 8)

Now, how about an emacs minor mode? 8)

Re: VIM: HP-41 syntax and file type plugin

*Message #3 Posted by **Geir Isene** on 21 Sept 2005, 3:59 a.m.,*
in response to message #2 by Howard Owen

emacs? Are you trying to start a flame war here?

>:-)

Re: VIM: HP-41 syntax and file type plugin

*Message #4 Posted by **Howard Owen** on 21 Sept 2005, 11:08 p.m.,*
in response to message #3 by Geir Isene

Perish the thought!

No one could seriously argue that the One True Editor could be compared to something as trite as vi.

8)

Edited: 21 Sept 2005, 11:09 p.m.

Re: VIM: HP-41 syntax and file type plugin

*Message #5 Posted by **Geir Isene** on 22 Sept 2005, 3:25 a.m.,*
in response to message #4 by Howard Owen

VIM is the power of simplicity compared to the bloated mammoth Escape-Meta-Alt-Control-Space ;)

Re: VIM: HP-41 syntax and file type plugin

*Message #6 Posted by **Howard Owen** on 22 Sept 2005, 10:22 a.m.,*
in response to message #5 by Geir Isene

I'm going to stop now. 8)

My background is as a systems administrator. In that role I've had to become proficient at both vi and emacs. I may be somewhat unusual in that I will use one or the other editor depending on what I want to do. So, for example, when I need a quick edit of a text file or script, I use vi. (VIM, elvis, nvi, "real" vi, depending on OS.) If I'm writing a larger Perl or C application, I use xemacs for the perldb and gdb integration. So I actually don't participate in the editor flame wars.

Re: VIM: HP-41 syntax and file type plugin

*Message #7 Posted by **Mike T.** on 22 Sept 2005, 7:09 p.m.,*
in response to message #4 by Howard Owen

The 'one true editor' was of course TECO...

Mike T. (Ducking quickly!)

Re: VIM: HP-41 syntax and file type plugin

*Message #8 Posted by **Howard Owen** on 22 Sept 2005, 9:08 p.m.,*
in response to message #7 by Mike T.

Yes, and Gosling wrote an EMACS version in TECO. I used TECO briefly on a VAX at school. I think you are right about the One True Editor appelation being applied to it first. But EMACS is at least the spiritual heir of TECO, since it's an editor you can write as you use it. Nowadays I don't spend my entire online life in EMACS like I used to. USENET, mail, shell, c compiler. debugger, what more could you ask for? But, like I say, I was a sysadmin, so I had to use vi in order to support vi users. And I needed to know ex and ed also, in case I ended up in single user mode on a Sun 3 or BSD|Ultrix VAX. So I got into the habit of using vi for quick edits. It did start up a lot faster than EMACS. I also found the regex implementation more to my taste. But I didn't start to seriously dig into it until it wasn't really vi anymore, but one of several vi clones. Mainly, that was vim. Vim has lots of interesting stuff hidden inside. I like their syntax highlighting in Perl better than the standard emacs scheme. But highlighting the searched for text in obnoxious brown everywhere it appears on the screen is bogus. ":nohl" does away with it, but I haven't discovered how to turn it off entirely, or preferably modify it to be less intrusive.

Oh, gosh, that's a long ramble on Unix editors on an HP calculator site! But there is a calculator angle, besides Geir's worthy vim mode for the HP41. That has to do with another vi clone - elvis. This is the defult vi on Slackware, which I have installed on my old Compaq Pentium 75 box. That's where I have my HP-IL card and where I run EMU41 and EMU71 to interface my various HP-IL capable machines. Elvis has a great hex/ascii mode it turns out, that it invokes by default whenever there is 8-bit content in the file you edit. So I've been using it to study the HP-

75 BASIC file format.

There, the OB calculator reference is accomplished! 8)

Re: VIM: HP-41 syntax and file type plugin

*Message #9 Posted by **Geir Isene** on 25 Sept 2005, 3:30 p.m.,*
in response to message #8 by Howard Owen

The VIM syntax and ftplugin are now a tad more worthy (version 0.2 adds support for alpha labels).

Re: VIM: HP-41 syntax and file type plugin

*Message #10 Posted by **don wallace** on 20 Sept 2005, 5:40 p.m.,*
in response to message #1 by Geir Isene

Hi Geir. Why not use "Forth in a can"? (check my website).

DW

Re: VIM: HP-41 syntax and file type plugin

*Message #11 Posted by **Geir Isene** on 21 Sept 2005, 3:58 a.m.,*
in response to message #10 by don wallace

We've had "Starting Forth" and "Thinking Forth". Now we have "Canning Forth". I'm running to the post office...

Re: VIM: HP-41 syntax and file type plugin

*Message #12 Posted by **Howard Owen** on 21 Sept 2005, 11:11 p.m.,*
in response to message #11 by Geir Isene

Coming Forth,
Back and Forth
Excessive Forth (LISP required for that one.)

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HP broken : help!

*Message #1 Posted by **Claudio** on 20 Sept 2005, 12:09 p.m.*

Hello, I need your help because my HP100LX is broken (I know, it isn't a true calculator but please, I really need some help....).
While it was connected to the external power supply it was overheat near the power connector and then it was off. Now with the batteries all it's ok, but with only the external power supply it's all off.

I have opened it and I have found a smd component with a melted plastic case. It's the first component on the line from the power supply connector.
I can read that this component is a "15DM" in a SO23 case, but I don't know what kind of semiconductor it's, and how substitute it (possibly with an original replacement). I suppose that it's a diode to protect the HP by reverse polarity of the supply, but I am not sure.
Is there anyone who knows this component and where I can find it?

I can send you a picture of the pcb of the HP with the broken component.

Thank's very much for any help.
Best wishes,
Claudio

(remove the double _nospam_ from my e-mail address)

1234

Re: HP broken : help!

*Message #2 Posted by **don wallace** on 20 Sept 2005, 5:36 p.m.,*
in response to message #1 by Claudio

Hi Claudio. By all means send me your photo.

donwallace63@yahoo.com.au

It's a diode I guess. Nothing special about it, probably but it could be a Schottky diode. Knowing hp they may have used one. Schottky diodes just turn on better (lower voltage drop and more quick turn-on) than regular rectifier diodes.

You can replace it with a IN 4001 rectifier diode or a UF4001 which is the high speed schottky version.

BUT, I'd get a circuit diagram or some help doing all this first. After all your calc is still working, so far. What happened?

Don

Re: HP broken : help!

*Message #3 Posted by **Claudio** on 20 Sept 2005, 6:06 p.m.,*
in response to message #2 by don wallace

Hi Don and thanks for your reply.
I have sent the photo.

Claudio

1234

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Upgrading HP48G

*Message #1 Posted by **H.D.** on 19 Sept 2005, 11:54 p.m.*

It's me again... I've found a few ram chips which have almost all the right specs I need. The problem is that they (all the 128kB x 8 types) come in 1 Mbit modules and that's the smallest I can find from non-minimum-order companies (e.g. futurlec.com or digikey.com -- digikey has a $5.00 charge for orders below $25 which I can handle)

So my question is, would there be problems if I were to use a 1Mb sram module for the initial 128kB upgrade? I wish I could post to comp.sys.hp48 but I currently do not have a news server. Anyway, any help would be truly appreciated.

Re: Upgrading HP48G

*Message #2 Posted by **don wallace** on 20 Sept 2005, 12:59 a.m.,*
in response to message #1 by H.D.

Hi H.D. Can yu tell me what the par number is for the chips you have?

By typing a few (address buss) pins low on the chips you can get the ran to operate happily as a 128 kB device.

BTW, whats the part number for the original chips, too?

DW

Re: Upgrading HP48G

*Message #3 Posted by **H.D.** on 20 Sept 2005, 1:36 a.m.,*
in response to message #2 by don wallace

I ended up buying (from Digi-key):

```
M5M51008DFP70HIA0-ND    IC SRAM 1MBIT 70NS 32SOP
PT100KXCT-ND    RES 100K OHM 1W 5% 2512 SMD
PT47KXCT-ND     RES 47K OHM 1W 5% 2512 SMD
568-1379-1-ND   IC GATE NAND QUAD 2INPUT 14SOIC
296-1195-1-ND   IC HEX D-TYPE FLIP-FLOP 16-SOIC
```

What I was failing to realize was that when these companies list the modules as 1 M or 1 Mb, it stands for a mega-bit, which is equivalant to 1,000,000 bits / 8 ~ 128kB. I, for an incredibly and stupidly long time, kept thinking these were 1MB (as in mega-byte) modules. Anyway, the memory was "LL" but the datasheet did say low active and low idle power; the currents were comparable to one by Sony, listed as CXK581000AM-70LL

I picked up an extra 104 SMD resistor (the 100k ohm one) to upgrade the IR receiver.

As for the original 32kB memory chip on my HP48G, it's Winbond W242575-70LL.

Also, it appears that my PCB board has a number printed on it: NI9803 (printed slightly near the center of

the board). I also see another number: I34 slightly below the CPU. I am hoping someone knows something about how to place the 104 and 143 SMD resistors as according to an upgrade doc I read, their alignments vary depending upon PCB versions.

I've upgraded an HP48G before (only to 128kB user ram) but it was stolen when I was studying abroad in Hungary. I finally bought a new 48G (for $15.00!) and decided to go for port 1 and port 2. This time around, I managed to open the case without any damage whatsoever (e.g. no cutting or removing the keyboard overlay) by popping the rivets (they're not damaged and are reusable) and slowly applying pressure to the latch points. I'll document the process and have plenty of photos in case people are interested.

Re: Upgrading HP48G

*Message #4 Posted by **don wallace** on 20 Sept 2005, 5:38 a.m.,*
in response to message #3 by H.D.

Hi HD.

I can't seem to find data on the ram you bought.

Also, please note that RAM can be electrically organized in a variety of ways, the most common ones being: 1 bit wide, 8 bits wide, 16 bits wide. I have worked with 4 bit wide and 32 bit wide ram as well as the above.

Your safest bet is to get something which is pin for pin compatible and timing compatible. Don't forget voltage too, but this is pretty standard...

DW

Edited: 20 Sept 2005, 5:39 a.m.

Re: Upgrading HP48G

*Message #5 Posted by **H.D.** on 20 Sept 2005, 11:19 a.m.,*
in response to message #4 by don wallace

The ram is actually M5M51008DFP-70HIA0 (manufacturer's number). You can read the PDF here:

http://rocky.digikey.com/scripts/ProductInfo.dll?Site=US&V=559&M=M5M51008DFP-70HIA0

Re: Upgrading HP48G

*Message #6 Posted by **Howard Owen** on 20 Sept 2005, 1:21 a.m.,*
in response to message #1 by H.D.

Just a software guy here, but 1 Mbit = 128 Kbytes, right? Is it a matter of how they are arranged behind the address decoding logic?

Also, you can post to Usenet through Google Groups. It just takes a free account.

Edited: 20 Sept 2005, 1:25 a.m.

Re: Upgrading HP48G

*Message #7 Posted by **don wallace** on 20 Sept 2005, 1:32 a.m.,*
in response to message #6 by Howard Owen

Yes, Howard, of course. I must have been asleep. maybe HD has the right parts already...

DW

Re: Upgrading HP48G

*Message #8 Posted by **James M. Prange (Michigan)** on 20 Sept 2005, 5:27 a.m.,*
in response to message #1 by H.D.

You could always use http://groups.google.com/group/comp.sys.hp48/ for the newsgroup. You can also use Google to search the archive of the newsgroup.

Regards,
James

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HP-67 Card reader woes

*Message #1 Posted by **Jim Creybohm** on 19 Sept 2005, 9:09 p.m.*

Greetings all.

I have a 67 that appears to have some modest issues with the card reader. I spent the weekend trying to get the old girl (fella? seems like a sociology study) working again, and only met with limited success, and so I am hopeful that someone can help me further it along or help me decide if I need to send it off to fixthatcalc to do his magic on.

The problem is that the card is only pulled 1/2 way through, and then "error" is flashed on the display. By pressing Clx, the error message is cleared, and the card is then pulled through the rest of the way - indicating to me at least that the power is adequate for card performance. Thus far, I have examined a couple of other culprits:

1) The golden fingers may be bent too far. This is possible, however I am not sure; i) what they do and, ii) what the amount of bend is that they need.

2) I did not replace the sticky wheel, and I am not sure if this is the problem or not. I thought that the previous owner had done so, and this is why I did not pursue it with greater vigor. This will be the next step.

3) I noted also that the card reader head is very worn. It may be that the large number of cards it has seen may have had some negative impact upon it. Is there a way to tell if the card reader is within specs?

Re: HP-67 Card reader woes

*Message #2 Posted by **Tony Duell** on 20 Sept 2005, 6:14 a.m.,*
in response to message #1 by Jim Creybohm

The symptom of 'Error' after starting to move the card is very often due to problems with that finger contact.

To answer your questions :

1) The finger contact is lifted by plastic (nylon?) balls as the card moves through the reader. The ends of the fingers touch contacts on the back of the keyboard PCB.

There are 3 balls and thus 3 contact fingers. One lifts as the card is inserted to turn on the motor. The next lifts when the card is over the read/write head, and starts read/write. The last detects the cut-off corner of the card (it lifts later if the corner is cut) and is used for write protection.

I believe that if there's bad contact on these 'switches' then you get the 'Error'. In other words if one opens too early, or makes and breaks again due to too little contact pressure or dirt, you get thise problem.

2) You could try disconnecting the motor from the card reader PCB (note the polarity!) and run it from a 3V battery or similar. If that will pull the card through, the roller is probably OK.

3) There are ways of detecting wear in a magnetic head (often you notice the drop in self-inductance of the head winding as the gap gets worn larger), but I have no idea what the 'right' value for a 67 head would be, or how far worn it can be before you have problems.

Over-use of the cleaning card will wear the head (to the extent that I never use this card, I take the machine apart and clean the head by hand). I've never found a head too worn to work, though.

I would start by cleaning (propan-2-ol, and if that doesn't work, a careful rub with an ink eraser) the contacts on the keyboard PCB and the ends of the finger contact. If that doesn't help, look at the fixing screws for the finger contact. The 2 at the end are for fixing it and should be tight. The other 3 are adjustments for each 'switch'. Try screwing them in _slightly_.

Re: HP-67 Card reader woes

*Message #3 Posted by **Klaus** on 20 Sept 2005, 8:32 a.m.,*
in response to message #1 by Jim Creybohm

Forgive me this simple quesion, but do you use a fully charged battery? I have similar problems when using the cardreader with AC adaptor and empty battery pack.

Re: HP-67 Card reader woes

*Message #4 Posted by **David Smith** on 20 Sept 2005, 11:48 a.m.,*
in response to message #1 by Jim Creybohm

If your drive roller has not been replaced, this could easily be your problem. While you have the mechanism apart, clean the head (and any other gunk in the reader) with isopropyl alcohol.

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I have old Aussie hp41 PPC literature

*Message #1 Posted by **don wallace** on 19 Sept 2005, 6:21 p.m.*

Hi all.

Found some old (Feb - March 1981) PPC literaure.

Anyone interested in it? If so I will scan it and submit it to the museum.

DW

Re: I have old Aussie hp41 PPC literature

*Message #2 Posted by **Howard Owen** on 19 Sept 2005, 6:59 p.m.,*
in response to message #1 by don wallace

I'm always interested in old user group stuff.

Do you have Jake Schwartz's CDs? He has a lot of old Aussie material on them.

(deleted post)

*Message #3 Posted by **deleted** on 19 Sept 2005, 9:23 p.m.,*
in response to message #2 by Howard Owen

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

Re: Aussie hp41 PPC literature (& clonix module done)

*Message #4 Posted by **Howard Owen** on 19 Sept 2005, 9:25 p.m.,*
in response to message #3 by deleted

Hey, congrats on the milestone there, Don!

I got it that the emulator thing was a joke. But I still want to know if ducks and geese pronounce "tomato" the same way. 8)

Re: I have old Aussie hp41 PPC literature

*Message #5 Posted by **Karl-Ludwig Butte** on 20 Sept 2005, 3:57 a.m.,*
in response to message #1 by don wallace

Hi Don,

that would be great - I'm always interested in these kinds of documents, too.

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Replacement Voyager Rubber Feet

*Message #1 Posted by **Brian M** on 19 Sept 2005, 5:28 p.m.*

I recently spotted someone selling replacement rubber feet on ebay called Vintage Voyager Rubber Pads (TM). They are advertised as being slightly thicker than the original equipment, thus adding increased clearance and reduced probablilty of scratches on the bottom.

Personally, I have no desire to participate in buying or selling through the world of ebay however, I am interested in aquiring some through more normal channels.

Any information out there good, bad or alternatives? Also, how to contact the manufacturer for further information.

Brian

Re: Replacement Voyager Rubber Feet

*Message #2 Posted by **Stephen Easterling** on 19 Sept 2005, 9:47 p.m.,*
in response to message #1 by Brian M

I don't know about the manufacturer of those Voyager feet (pads), but I have ordered some through that same Ebay seller. I should receive them any day now, and I'll let you know what I think. The seller was very easy to commuvicate with and seemed like an honest person. It is NOT easy finding some of these older calculators anywhere except on Ebay, and many of the sellers are engineers, scientists, or teachers and enjoy the HPs as much as any diehard collector, but feel it's just time to sell. Ebay is the best way for that. Besides, everytime I look on this website for a calc, the seller usually just refers the potential buyer to a link where he/she has already posted it on Ebay. But getting back to the point of your inquiry, I believe the replacement rubber feet should be well worth the money considering what they do for an old Voyager, their accessibility, and esp. their low cost.

Re: Replacement Voyager Rubber Feet

*Message #3 Posted by **Tomas Fischer** on 20 Sept 2005, 12:32 a.m.,*
in response to message #2 by Stephen Easterling

I purchased those pads from the same seller on eBay and they are perfect. Perfect fit and I didn't noticed the thickness. Very nice eBay guy btw. I would recommand buying from this guy. Hope this helps. Tomas

Re: Replacement Voyager Rubber Feet

*Message #4 Posted by **tony (nz)** on 27 Sept 2005, 4:31 a.m.,*
in response to message #2 by Stephen Easterling

I just received some here. Absolutely perfect!

Re: Replacement Voyager Rubber Feet

*Message #5 Posted by **David Smith** on 20 Sept 2005, 11:51 a.m.,*

in response to message #1 by Brian M

The Voyager slip cases are well known for being a very tight fit. Thicker feet may cause problems getting the machine in and out of the case. Many voyagers have lost their logos off the front due to the slip case.

Re: Replacement Voyager Rubber Feet

*Message #6 Posted by **Brian M** on 20 Sept 2005, 12:03 p.m.,*
in response to message #5 by David Smith

Good point on the case fit!

Re: Replacement Voyager Rubber Feet

*Message #7 Posted by **Curtis** on 22 Sept 2005, 5:51 a.m.,*
in response to message #6 by Brian M

Just to allay some of your fears/reservations, please review the feedback from satisfied customers: http://feedback.ebay.com/ws/eBayISAPI.dll?ViewFeedback&userid=pimpmyhp

Personally, I'm a computer scientist who was introduced to the HP Voyager calculators during my college days at Columbia University. Recently, I noticed my 16C had the feet missing and I thought about replacing the calculator until I saw the prices they were being sold for on eBay. That's how I came upon the idea of selling the pads. As the saying goes, although I've never really found out who said this but, "Necessity is the mother of invention."

Cheers,

Curtis

pimpmyhp@gmail.com

Re: Replacement Voyager Rubber Feet

*Message #8 Posted by **Curtis** on 22 Sept 2005, 6:09 a.m.,*
in response to message #5 by David Smith

The tight fit of the slip case was taken into consideration before the rubber feet were fabricated. Consequently, I can guarantee that they will not make your case fit any tighter than it already does. As a matter of fact, the difference in thickness is so slight, that you really have to pay very close attention before you'll notice.

By the way, I do accept checks or money orders directly. So if the concept of doing business through eBay is a deterrent to purchasing the rubber feet, then you can just contact me directly at pimpmyhp@gmail.com, and I'll supply you with a mailing address and "payable to" information.

Best regards,

Curtis

pimpmyhp@gmail.com

Re: Replacement Voyager Rubber Feet

*Message #9 Posted by **Chas** on 2 Oct 2005, 1:04 a.m.,*
in response to message #8 by Curtis

David and Brian,

I just found this string.

I bought 4 sets of feet from Chris last spring. just before he had his ad down pat on eBay and one set was the quantity he offered on an eBay sale. Mailed him a check, and they arrived after he wrote me when he received check and then when he mailed the feet.

Can't ask for a better fit, working great with the HP slip case.

Chris is quite communicative and does what he says that he will. I've never met him, and have no economic interest in his business. I'll buy from him again in the future when I run out.

His Replacement Feet just work well.

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static memory chips for HP48 upgrade

*Message #1 Posted by **H.D.** on 19 Sept 2005, 5:28 p.m.*

I can't seem to find these chips: static ram, 128kB (128kB x 8), SO32, low power on idle, 70ns-85ns access time.

Does anyone know how I can buy, say, 3 of them without having to make a minimum order of $100.00 as is required by many distributors who actually have them?

Re: static memory chips for HP48 upgrade

*Message #2 Posted by **Randy** on 19 Sept 2005, 5:59 p.m.,*
in response to message #1 by H.D.

Try M5M51008DFP70HIA0-ND from http://digikey.com $4.50 each, in stock.

I have some older Toshiba TC551001CF's that you may have if you don't mind desoldering them from a board...

Re: static memory chips for HP48 upgrade

*Message #3 Posted by **Paul Brogger** on 19 Sept 2005, 6:09 p.m.,*
in response to message #1 by H.D.

I got mine from **www.futurlec.com** .

(I don't know if I got parts that conform exactly to your specs, but they work.)

At the time I purchased (several years ago!) Futurlec would take a no-minimum order. I'll leave it to interested parties to discover whether that's still true.

I do remember being pleased with their prompt service. (Again, this was several years ago.)

Good luck!

Re: static memory chips for HP48 upgrade

*Message #4 Posted by **don wallace** on 19 Sept 2005, 6:15 p.m.,*
in response to message #1 by H.D.

Hi H.D.

Let me know in a day or two if you still can't source the parts you need.

donwallace63@yahoo.com.au

Best wishes!

Don Wallace

Re: static memory chips for HP48 upgrade

*Message #5 Posted by **H.D.** on 19 Sept 2005, 8:15 p.m.,*
in response to message #1 by H.D.

Oh, I forgot to mention that I need a 128kB chip (the one posted above is a 1MB chip) since I'm upgrading my 48G (starts with 32kB ram). I was hoping to upgrade to 384kB (128kB main ram, 128kB port 1, and 128kB port 2).

So far, futurlec.com has all the _other_ parts I need (74HC00, 74HC174, 104 and 143 SMD thin film resistors) but nothing resembling 128kB (8-bit) static ram chips.

Sadly, no distributor has a search feature that allows descriptive words as opposed to knowing part numbers. Mouser electronics is an exception, but they too do not carry the 128kB sized ram chips.

Re: static memory chips for HP48 upgrade

*Message #6 Posted by **Paul Brogger** on 20 Sept 2005, 9:10 p.m.,*
in response to message #5 by H.D.

www.futurlec.com -- Components -- Integrated Circuits -- Memory -- RAMs

(I couldn't resist.)

Two parts are listed: a "628128" and a "681000", each 128Kx8 CMOS static RAM for $5.90 and $2.90/piece (respectively), in stock. (With a Hitachi data sheet available online for the former.) They're referred to as 1 mega*bit* (not mega*byte*) chips because 128K words x 8 bits ~= 1 million bits. They seem to come in several packages, so make sure they have available (and that you order) the *surface mount, dual inline package*.

I *think* that one of those parts is the same type of which I bought several way back when, and they're working today.

Good luck!

[. . . and I've finally got 'round to reading the other thread, so you already know most of the above. Sorry!]

Edited: 20 Sept 2005, 10:22 p.m.

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Successful HP-11C speedup

*Message #1 Posted by **Karl Schneider** on 18 Sept 2005, 10:25 p.m.*

Fans of the HP-1*C "Voyager" models --

I followed the instructions posted in the article "HP Voyager Calculator Speedup" by Ken Sumrall and (later) Eric Smith to accelerate an 11C that I recently bought. The article is available at

http://www.brouhaha.com/~eric/hpcalc/voyager_speedup/

The calculator is a 1985 model (S/N 2508Annnnn) with the older 1LF5 CPU. I soldered a small 33 uH (microhenry) inductor to the same two terminals on the circuit board just below the battery compartment, where the calculator's 180 uF inductor underneath the board is soldered. The additional inductor fits between the case and the circuit board, and is electrically paralleled with the 180 uH inductor.

The modification reduces the inductance of the parallel LC circuit, increasing its resonant frequency and the effective clock speed, as described in the article.

Acceleration of processing is as described in the article -- about 2.5 times as fast as an unmodified 1986 11C (S/N 2624Annnnn), corresponding to the higher clock frequency. I have yet to see any malfunction or incorrect calculation result.

I bought the small 33 uH and 22 uH inductors at Norvac Electronics in Beaverton, Oregon for $0.60 each. (The 47 uH and 28 uH inductors recommended by Ken were not available.) The one Radio Shack store I asked carried only a rather large 100 uH inductor, but not these compact ones of lower inductance.

Speedup would be particularly useful on the 15C (for Solve and Integrate), but is a welcome enhancement for any Voyager. I just hope that there aren't any unwelcome side effects, besides the tolerable ones listed in the article.

The 11C I modified has a piece of the metal backing plate and one of the chassis-grounding springs missing, but the calc exhibits no apparent malfunction. Just curious: Is the second spring needed to connect one part of the board to another, or are two springs used only for redundancy?

-- KS

Edited: 23 Sept 2005, 12:28 a.m. after one or more responses were posted

Re: Successful HP-11C speedup

*Message #2 Posted by **Matthias Wehrli** on 19 Sept 2005, 1:00 a.m.,*
in response to message #1 by Karl Schneider

Hi Karl Did you take some pictures of your modification? Can you let us see them?

Matthias

Re: Successful HP-11C speedup

*Message #3 Posted by **marais** on 19 Sept 2005, 2:43 a.m.,*
in response to message #2 by Matthias Wehrli

Well, one unwelcome side effect will be an increased power consumption, approx. by a factor of 2.5

Andreas

Re: Successful HP-11C speedup

*Message #4 Posted by **Eric Smith** on 20 Sept 2005, 7:27 p.m.,*
in response to message #3 by marais

Only while it's actually computing. When it's not running or processing a keystroke, the CPU goes into a very low power sleep mode, and the oscillator doesn't run.

So with the mod, you get 2.5x the performance for 2.5x the power, thus using the same amount of power for your calculations.

Re: Successful HP-11C speedup

*Message #5 Posted by **Gerson W. Barbosa** on 19 Sept 2005, 9:31 a.m.,*
in response to message #1 by Karl Schneider

Hi Karl,

Congratulations for your success! My newer (or should I say less old?) 15C has the 1LM2 CPU. In theory, it can be speeded up up to 5.3 times. I'll try a 2 or 2.5 speedup. The drawback is that batteries may last only 3 years rather than 6 or 8, under the way I use it. The article says something about a narrower operating temperature range. No problem! According to the manual, the operating range is 0°C to 55°. Here I estimate we have indoor temperatures ranging from 10° to 30° all the year round. There is only one visible capacitor next to the battery compartment. Is this as simple as soldering the inductor in parallel with it?

Thanks,

Gerson.

Re: Successful HP-11C speedup

*Message #6 Posted by **don wallace** on 19 Sept 2005, 9:43 a.m.,*
in response to message #5 by Gerson W. Barbosa

Congrats Karl on your successful mod.

I imagine you will not have any problems at all. At extremes of temperature or at low battery volatge you may possibly have problems with the faster clocking, but these will, if they occur, result in either the calc not turning on, not turning off, or very strange and dramatic malfunctions as the memory or display does not respond to the faster logic operations on the buss. I beleive if this were to ever occur the worst that might happen is that the machine memory will get scrambled and the processor will do the 11C equivalent of a "memory lost" (I only have a 41c and cv). In that case, just increasing the inductor value a bit will slow it down a bit and get you reliable operation again. As you probably know, The 11c uses the same processor as the 41c. If you want any advice on how the processor works, feel free to ask me. I have been doing a bit of tinkering with the coconut... (and a lot of reading... ;-)

Don W

Answers: Successful HP-11C speedup

*Message #7 Posted by **Karl Schneider** on 19 Sept 2005, 11:00 p.m.,*
in response to message #1 by Karl Schneider

> Quote:
>
> Did you take some pictures of your modification? Can you let us see them?
>
> There is only one visible capacitor next to the battery compartment. Is this as simple as soldering the inductor in parallel with it?

I decided against taking pictures because my "simple" digital camera is a hassle and it discharges its batteries. I wanted to make sure the calc worked properly before inconveniencing myself by taking photos.

Of course, I can always open it up again and take them.

I was hoping that the Voyager internal photos at this website would show clearly where the modification was made. Unfortunately, the photo of the 15C (http://www.hpmuseum.org/10cint.jpg) looks different from the 11C I modified. The prominent tubular object with colored bands looks like the 180 uH inductor that is under the circuit board in my 11C.

The article says that the stock 180 pF capacitor and 180 uH inductor form a parallel LC circuit. So, the additional inductor could be soldered in parallel with either one, presumably. I soldered the new inductor in parallel with the existing inductor, because that was straightforward.

I also have an HP-12C made in 1990 that I can try to "enhance".

-- KS

Edited: 23 Sept 2005, 12:28 a.m. after one or more responses were posted

Re: Answers: Successful HP-11C speedup

*Message #8 Posted by **don wallace** on 19 Sept 2005, 11:25 p.m.,*
in response to message #7 by Karl Schneider

Hi Karl.

I think you mean 180 pF capacitor.

For general info for thread readers, inductors in parallel drop the value (desired goal) and for capacitors it's in SERIES to drop the value.

In the 41C series the parts are: 82 uH and 150 pF. The resonant frequency of that is around 1440 kHz. Logic in the processor does a divide by four to get the two system clocks which run at about 360kHz. It interested me to read that the 11 and 12 use the same processor as the 41. But the 41 has a voltage regulator and a 6 volt buss so they (can reliably) clock it faster.

(pF = picofarad, one millionth of a uF, stating the obvious for the casual reader)

Pardon me for sticking my two cents worth in...

DW

Edited: 20 Sept 2005, 1:30 a.m.

Thank you, Don...

*Message #9 Posted by **Karl Schneider** on 21 Sept 2005, 12:52 a.m.,*
in response to message #8 by don wallace

Don Wallace stated,

> Quote:
>
> Hi Karl.
>
> I think you mean 180 pF capacitor.
>
> (pF = picofarad, one millionth of a uF.)
>
> Pardon me for sticking my two cents worth in...

Mea culpa! You are right -- no apologies necessary. I failed to notice in Ken's article what was actually there. With 180 uF, the resonant frequency on the 11C is 884.19 Hz, not 884.19 kHz.

Also thanks for posting the helpful precautions. Next time I'll follow them...

-- KS

Edited: 21 Sept 2005, 1:54 a.m.

Re: Answers: Successful HP-11C speedup

*Message #10 Posted by **Matthias Wehrli** on 20 Sept 2005, 10:29 a.m.,*
in response to message #7 by Karl Schneider

Hi Karl and others

I woul dbe glad to get a picture of the HP-11C speedup anyway. Not to verify your work, but to see, how to do. I´m not exactly shure, if I understood the instructions correctly and I do not want to kill a HP-11C... If yo do not want to send the picture to the public, you can also send it to me personaly...

Matthias

Re: Answers: Successful HP-11C speedup

*Message #11 Posted by **don wallace** on 20 Sept 2005, 5:30 p.m.,*
in response to message #10 by Matthias Wehrli

Hi Mathias.

The main thing to be wary of is causing damage due to static electricity (electrostatic damage or esd in trade terms).

The simplest way to avoid this is to touch the soldering iron (plugged into a grounded three pin wall outlet) briefly on an electrical ground point in the calculator electrical system. The copper of a piezoelectric buzzer is a good ground point. Do not apply heat, just make contact.

This brings the calculator electrically to ground in a safe way.

Having done that the next thing is to be sure of the timing capacitor and timing inductor identity and to be careful in not damaging the pcb.

I find it is better to put anther capacitor in series with the timing cap. as you can just cut one wire on the cap itself and put the extra capacitor where the cut was made. I choose capacitors as they are less bulky than inductors.

If you want to choose the inductor, it looks like a fairly large bluish power resistor with colour code bands. And using a multimeter it looks like a short circuit reading very low resistance of say one ohm.

There is a photo somwhere on my site (on the 41).

DW

Re: Answers: Successful HP-11C speedup

*Message #12 Posted by **Gerson W. Barbosa** on 21 Sept 2005, 3:28 p.m.,*
in response to message #11 by don wallace

What if just replacing the capacitor instead of adding another in series? That might be a better option for earlier boards. On newer boards, it may be easier just to solder another inductor in parallel with the existing one. In this case, the terminals should not be overheated as the existing weld may melt under the other side of the board. I have to open up the calculator to see if there's room for another inductor. In the table below (DECIMAL POINT IS COMMA) are listed both options (I am not sure if all capacitors are easily available). Notice that the mutual inductance between inductors have not been taken into account in the calculations. The table quite matches one of Ken's while the other is slightly different, which makes me wonder he may have soldered the new inductor below the existing one in the older board, thus minimizing the influence of the mutual inductance, and side by side on the newer board. Just a guess though. Please correct me if I am wrong.

Gerson.

	L (uH)	C (pF)	f (kHz)*	speedup factor
original LC circuit	180	180	884,19	1,00
inductor in parallel	180	180	1250,44	1,41
	100	180	1479,54	1,67
	82	180	1580,49	1,79
	47	180	1943,17	2,20
	33	180	2246,37	2,54
	22	180	2679,24	3,03
	15	180	3188,01	3,61
	12	180	3536,78	4,00
	10	180	3854,11	4,36
	8,2	180	4235,95	4,79
capacitor replacement	180	100	1186,27	1,34
	180	82	1310,02	1,48
	180	47	1730,35	1,96
	180	33	2065,03	2,34

```
                180      22     2529,14  2,86
                180      15     3062,94  3,46
                180      12     3424,47  3,87
                180      10     3751,32  4,24

* not actual clock frequencies
```

Edited: 21 Sept 2005, 3:35 p.m.

Re: Answers: Successful HP-11C speedup

*Message #13 Posted by **don wallace** on 21 Sept 2005, 5:16 p.m.,*
in response to message #12 by Gerson W. Barbosa

Hi Gerson.

Yes, just replacing the capacitor is fine.

Mutual inductance effect is not a significant factor. The coupling factor would be very low... But at least you are thinking about things, which is good.

There are other factors which limit the top speed of the clock. The active components in the chip itself start to limit things as you go up in speed. So top speed has to be found from experiment. And this figure will vary a bit from calc to calc because they are all individuals... ;-)

Process variations at the factory mean each chip will have slight differences in it's absolute maximum speed ratings.

DW

Successful HP-15C speedup!

*Message #14 Posted by **Gerson W. Barbosa** on 21 Sept 2005, 7:31 p.m.,*
in response to message #13 by don wallace

Hi Don,

I've just done a speedup in one of my 15C's. In this case, it was easier to add an inductor. Using a 33uH inductor I obtained a 2.49x speedup. It ran a benchmark routine in 9.75 s (mean of three measurements). Previously it had taken 24.3 s to run the same test. I will provide 'before' and 'after' pictures somewhere else in the thread later, in case other people are interested.

Cheers,

Gerson.

Re: Successful HP-15C speedup!

*Message #15 Posted by **don wallace** on 21 Sept 2005, 7:47 p.m.,*
in response to message #14 by Gerson W. Barbosa

Cool!

DW

Successful HP-15C speedup! (Pictures)

*Message #16 Posted by **Gerson W. Barbosa** on 21 Sept 2005, 9:06 p.m.,*
in response to message #1 by Karl Schneider

I have just sped up my 2547B2728 15C (2.49x, using a 33uH inductor - see my reply to Don for other options). Thanks Karl, for having guts to try, thanks Eric for keeping Ken's article and my curiosity (you may remember I noticed Tony's 2-speed 15C among his numerous calculators of his collection).

When I left work at 05:00 PM, instead of going home as usual, I decided to go for the inductors. Unfortunately the ones I could find here were just too large to fit inside the calculator. So, I removed its outer blue cap, as you can see in the picture below. When I opened up the calculator after taking the batteries out I looked for two low-impedance points close to the battery compartment. I measured 6.4 ohm between the first two points I tried, those circled in red. I had to presume it was the LC circuit, because I could not see underneath the board. As the soldering iron I have at home is not grounded, I removed it from the outlet when soldering as a precaution. The green wire in the second picture was soldered to one end of the inductor because it was too short.

Before one decides to try, I would suggest a careful checking in the board as printed circuit board layouts may vary a little. It is advisable to follow all safety recommendations listed throughout this thread. The risk of permanently damaging the calculator while doing this modification should not be overlooked.

Regards,

Gerson.

http://fotos.aol.com.br/adAlbumFotoThumbList.aspx?Album=27187

```
For access to the pictures enter 1234 in Senha (Password)
Then click on Enviar (Send)
Click on Salvar (Save) above pictures to save actual size photos
```

Edited: 30 Sept 2005, 9:29 p.m.

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HP-75 BASIC Tokens. - NOMAS Please!

*Message #1 Posted by **Howard Owen** on 18 Sept 2005, 8:23 p.m.*

I've finished the first draft of numeric constant assignment in my HP-75 BASIC program lister. I'm sure I'm missing some corner cases, but decoding of positive and negative mantissas and exponents, as well as integers works for the small set of test cases I've coded up. Reverse engineering this stuff by looking at the file dumps is interesting, but *slow*.

I'd like to renew my plea for the HP-75 NOMAS material. It contains the token table, among other stuff. The "other stuff" no doubt includes things like nibble or bit packed field decoding where appropriate. I can figure that stuff out by hand, but I'd like to finish this project in the current decade. 8) I'm willing to pay a reasonable amount, if that's necessary. But what I'd really like to do is scan the material and add it back into the public corpus of literature on the 75C, which is where it belongs.

The project? It's my SWAPDEX effort to catalogue all the existing "swap disk" images. I want to be able to describe all the software to the extent possible. For the 41 and the 71, there are emulators into which I can load the software plus any ROM images required. No such emultor exists that is public at this time for the 75C/D. But the first several BASIC programs I tried to load on to real 75 hardware resulted in errors trying to list them. It seems that won't work if a ROM the program relies on is missing. That got me off on decoding the BASIC file format, which led to the current effort.

Thanks for any help you can offer.

Re: HP-75 BASIC Tokens. - NOMAS Please!

*Message #2 Posted by **don wallace** on 19 Sept 2005, 6:19 p.m.,*
in response to message #1 by Howard Owen

Howard, don't you mean simulators? ;-P

DW

I thought I had cleared this up???

Edited: 19 Sept 2005, 6:22 p.m.

Re: HP-75 BASIC Tokens. - NOMAS Please!

*Message #3 Posted by **Howard Owen** on 19 Sept 2005, 6:53 p.m.,*
in response to message #2 by don wallace

8)

Was that To-maay-tow or To-maah-tow, Don?

Or, how would a goose pronounce t-o-m-a-t-o?

Edited: 19 Sept 2005, 7:03 p.m.

Re: HP-75 BASIC Tokens. - NOMAS Please!

*Message #4 Posted by **J-F Garnier** on 21 Sept 2005, 6:32 a.m.,*
in response to message #1 by Howard Owen

I join Howard, I also would like to have access to the HP-75C source files. If there is any possibility to share the cost or workload for scanning, I offer my help.

I have a new ***lator in mind...

Regards.

J-F

Re: HP-75 BASIC Tokens. - NOMAS Please!

*Message #5 Posted by **Olivier De Smet** on 21 Sept 2005, 8:13 a.m.,*
in response to message #4 by J-F Garnier

I already started to adapt my HP86 emulator to the kangaroo (same processor), I got some roms and started to dis-assemble them. But I don't have any documents on the I/O and rom swapping part.

So actually it doesn't work at all !!

(btw I thanks again André Koppel who gave me scanned NOMAS listing from HP86 rom)

Olivier

Re: HP-75 BASIC Tokens. - NOMAS Please!

*Message #6 Posted by **Eric Smith** on 23 Sept 2005, 3:38 a.m.,*
in response to message #5 by Olivier De Smet

> Quote:
>
> But I don't have any documents on the I/O and rom swapping part.

Documented in the HP-75 Service Manual on the MoHPC DVD (or CD set).

Re: HP-75 BASIC Tokens. - NOMAS Please!

*Message #7 Posted by **Howard Owen** on 23 Sept 2005, 8:41 a.m.,*
in response to message #6 by Eric Smith

I don't see that manual on my copy of the DVD, Eric. I'm pretty sure I have the latest version, too.

Re: HP-75 BASIC Tokens. - NOMAS Please!

*Message #8 Posted by **Eric Smith** on 23 Sept 2005, 6:03 p.m.,*
in response to message #7 by Howard Owen

Hmmm... I could have sworn that it was there, but now I see that neither the 75 nor the 71B service manuals are there. OK, I'll scan both and send them to Dave for the next edition. I think

I've also got the 82104A, 82143A, and 82161A service manuals.

Re: HP-75 BASIC Tokens. - NOMAS Please!

*Message #9 Posted by **Howard Owen** on 23 Sept 2005, 7:56 p.m.,*
in response to message #8 by Eric Smith

Cool! Perhaps you could send copies to JF and Olivier so they could get on with emulator writing before the next Museum CD comes out?

Edited: 23 Sept 2005, 7:56 p.m.

Re: HP-75 BASIC Tokens. - NOMAS Please!

*Message #10 Posted by **Howard Owen** on 21 Sept 2005, 11:16 p.m.,*
in response to message #4 by J-F Garnier

If either of you guys can scare up a copy of the 75C NOMAS, I'd be eternally grateful. Likewise, I'd also *love* to see one or more 75C emulators (including HP-IL, Don 8)

Tony Duell says he has a copy. But he dosn't have a scanner. I'd be willing to pay trans-Atlantic postage both ways, and to promise to be very, very careful with the material while handling it. But perhaps it would be more appealing to Tony if a European were able to make the same offer?

Edited: 21 Sept 2005, 11:17 p.m.

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HP 48GX EQ LIB ?

*Message #1 Posted by **HP USER** on 18 Sept 2005, 6:57 p.m.*

Can someone lead me to a hard copy (or website) of the 48GX EQ LIB. I need to know content and flexibilty. I don't have a 48GX .. Thanks in advance.

Re: HP 48GX EQ LIB ?

*Message #2 Posted by **Jim Creybohm** on 19 Sept 2005, 9:23 p.m.,*
in response to message #1 by HP USER

Try the following

http://www.hpcalc.org/details.php?id=6072 and download eqlibtree.zip

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OT: European trip

*Message #1 Posted by **Andrés C. Rodríguez (Argentina)** on 18 Sept 2005, 5:40 p.m.*

There is a chance I may visit Rome, London, and/or Paris in January 06. While stays will eventually be very short, HP calculator collectors and friends from this forum are encouraged to send suggestions about places to stay at or to visit, etc., or any other advise by email to andres dot c dot rodriguez at gmail dot com. Thanks in advance.

Please note: I´m not planning to have my HP calculator collection (very small, by the way) with me!

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Silly people in HP calculator market...

*Message #1 Posted by **will** on 18 Sept 2005, 11:16 a.m.*

look it at:

http://cgi.ebay.com/Brand-New-Sealed-Hewlett-Packard-HP12C-HP-12C-HP-12C_W0QQitemZ5806136358QQcategoryZ50575QQrdZ1QQcmdZViewItem

amazing...

Re: Silly people in HP calculator market...

*Message #2 Posted by **Stephen Easterling** on 18 Sept 2005, 11:59 a.m.,*
in response to message #1 by will

They give HP calculator guys a bad name! This gives new meaning to shipping and "handling."

Re: Silly people in HP calculator market...

*Message #3 Posted by **Howard Owen** on 18 Sept 2005, 1:39 p.m.,*
in response to message #1 by will

So $52.00 for a new HP-12C. That's pretty close to retail, isn't it?

It's quite possble the buyer knew exactly what was what.

Re: Silly people in HP calculator market...

*Message #4 Posted by **Don Shepherd** on 18 Sept 2005, 9:44 p.m.,*
in response to message #3 by Howard Owen

Since I assume that sellers pay a percentage of the final sales price to Ebay as a listing fee (and shipping charges would not be included in this), isn't this seller simply trying to pay less to Ebay and maximize his take? Ebay probably tries to discourage this, but unless someone reports these sellers, they (Ebay) will never know.

Re: Silly people in HP calculator market...

*Message #5 Posted by **Howard Owen** on 18 Sept 2005, 10:10 p.m.,*
in response to message #4 by Don Shepherd

And why would you, as a buyer, want to do that? As long as the fees aren't hidden up front and sprung on you after the auction closes, what's wrong with paying 12 bucks for a calculator and 40 bucks for shipping instead of the other way around? The total's the same, either way.

Unreasonable eBay shipping? Here's what's wrong:

*Message #6 Posted by **Karl Schneider** on 18 Sept 2005, 11:03 p.m.,*
in response to message #5 by Howard Owen

Howard Owen posted,

> Quote:
>
> what's wrong with paying 12 bucks for a calculator and 40 bucks for shipping instead of the other way around?

Depriving eBay of funds for the service it provides would ultimately kill said service.

That unethical seller is fond of saying, "If you don't like my FIXED and NON-NEGOTIABLE S&H fees, don't bid." I would say to him, "If you don't want to pay the agent his cut for the lucre he helps bring to you, don't use his services." There is no free lunch.

-- KS

Re: Unreasonable eBay shipping? Here's what's wrong:

*Message #7 Posted by **Howard Owen** on 19 Sept 2005, 12:07 a.m.,*
in response to message #6 by Karl Schneider

Chya, right. Have you sold much on eBay? They get you coming, going and hanging around. They are so not in financial trouble, they dropped five *billion-with-a-b* dollars on Skype last week.

But I guess you're right. Why don't you try reporting every seller you see on eBay who's shipping seems too high? How about turning in every mail order outfit that does the same? Impractical? *Yes.* Why? *It's accepted business practice.* Unethical? I don't think so. It's unethical to hide it from your customer. But if the terms of the deal are out in the open, the customer has the right not to enter into a contract to buy, and eBay has the right to slap the poor money grubbing slob of a seller down. They'll never do that because those sellers are their customers, and they already soak them for plenty.

Re: Unreasonable eBay shipping? Here's what's wrong:

*Message #8 Posted by **blurdybloop** on 19 Sept 2005, 11:01 p.m.,*
in response to message #7 by Howard Owen

It's accepted business practice. Unethical? I don't think so.

I can't agree. Regardless of what we may think about eBay, that does not make it acceptable to cheat them.

Another thing to consider: do you really want to do business with a cheat? How do you know that they won't cheat you? How do you know that you are not being sold stolen property? What if there is some other problem; do you think that you'll get a refund of that "shipping and handling"?

It's better to be honest in your own dealings, and only deal with honest people. I haven't sold anything on eBay yet, but cobubba and other dishonest eBay individuals are on my blocked bidder list because I will never do business with them.[italic]It's accepted business practice. Unethical? I don't think so.

Re: Unreasonable eBay shipping? No! Here's why.

*Message #9 Posted by **Howard Owen** on 20 Sept 2005, 2:56 a.m.,*
in response to message #8 by blurdybloop

I try to puzzle through ethical matters with a functional sense of right and wrong, instead of a strictly legalistic one. I try to figure out *why* something is unethical. I use other people's opinions of ethical matters as guideposts, not as holy writ. For me, it usually comes down to actual or potential harm coming to someone who is powerless to stop it from happening. So that's why sexual harrassment at work is immoral, for example. That's why "Thou Shalt Not Kill" as a practical matter is sensible ethics, and the "Shalt Not Covets" too. The latter lead to strain in unequal power arrangements. When those were read to me in my youth, (I'm using examples from my cultural tradition here, I hope it translates OK,) they left me cold, as did most of the proscriptions I was taught. It took some painful bumps and scrapes for me to realize that there was practical sense in all the shalts and shoulds.

For example, in this case, the customer would be harmed if the high shipping fee were imposed by surprise. The seller could reduce or eliminate that harm if adequate notice were given to the buyer. On the other hand, eBay could be harmed if the seller avoids the full auction ending fee. That seems simple, but there are complicating factors.

The balance of power between eBay and the seller is unequal. eBay has enormous power to shape the marketplace it provides. And that marketplace is hugely profitable, to judge by their quartely reports, stock valuation and the $3.5 Billion (plus possible $2 billion additional) they just laid on the barrelhead for Skype. The seller is a small retailer, or medium sized at best. He has limited choice for many of eBay's fees. eBay gets a cut coming, (insertion fees) going (auction closing price percentages and PayPal fees) and hanging around (various services like image hosting and listing aids.) The value proposition it offers in return is access to lots of buyers.

Fair enough, but in retail, margins are typically razor thin. Let's look at the fees a typical seller might pay to list and sell, what, a new HP-12C?

```
Wholesale price of calc       -25.00


Auction Fees
------------------------------------
Bold Listing Fee               -1.00
Buy It Now Listing Fee         -0.25
Gallery Fee                    -0.35
Insertion Fee                  -1.20
Listing Designer Fee           -0.10
Picture Fee                    -0.30
Scheduled Listing Fee          -0.10
Final Value Fee                -0.39
====================================
Total Auction Fees             -3.69


Income
------------------------------------
Final price:                   12.00  (FV fee is 3.9%)
Shipping & Handling            40.00
====================================
Total income                   52.00


Post sale and prep
------------------------------------
PayPal Fee                     -1.56 (.03 * 52.00)
Actual Shipping                -5.00
Labor to set up auction        -7.50 (1/2 hr @ $13/hr)
Actual handling                -3.25 (1/4/hr "" ""   )
```

```
Shipping Materials              -0.50 (Wrap and tape)
==================================
Total pre and post sale       -17.81


Total cost of goods sold      -46.50


Total profit                    5.50
==================================
```

Now, if we reverse the auction price and shipping above, the final value fee becomes $1.31, an increase of $0.98 in the seller's fees. That represents a whopping 17.8% hit to the seller's bottom line. From eBay's perspective, the lost fee is 15.7% of the revenue they should have received.

Now, none of this directly speaks to the ethical issue. What it does do is to supply context to that issue. The seller, like most retailers, is struggling to make a profit. A 17.8% hit to his margin might well be the pebble that sends him underwater. If that happens, eBay loses, because it can't extract fees on a continuing basis from the bankrupt seller. And we the buyers lose, because we don't get to exploit, in the form of prices cheaper than brick and mortar retail, that seller's willingess to work for next to nothing.

So in a functional sense, who is hurt by this guy, the "poor slob of a seller" I called him above, shaving a few more points at the apparent expense of eBay? Assuming, once again, that the charge isn't hidden, and assuming that eBay's reputation system works to protect both the buyer and the seller from fraud, **nobody!** eBay could, without a doubt, institute a policy like "shipping and handling charges will not exceed the actual cost of shipping, and 5% of the item's auction value for handling." Why don't they do that? Once again, because eBay loses if the poor slob, living on a razor thin margin, folds his business. It's a delicate balancing act for them. They need to charge enough to keep the billions flowing in, yet not enough to ruin the retailers. I'm sure this keeps smart folks at eBay on their toes, at least five days a week.

So, "no harm, no foul" in my book.

Re: Unreasonable eBay shipping? No! Here's why.

*Message #10 Posted by **Holger Veit** on 20 Sept 2005, 6:05 a.m.,*
in response to message #9 by Howard Owen

I think your calculation is highly biased in order to minimize the profit. Let us look at the figures for a realistic seller: - The price for a new calc may be infact 25$, no problem here. But why would this seller sell a new item with a starting price of 1$ - he should expect that potential buyers also know the price and won't go bid over the market price? A serious seller would probably offer a starting bid of 25$ with a buy-now option of 25$, to be sure to sell it for at least his costs. He might, for a modest profit, try to establish a price of 30$ - would be okay for me as well, if it is an uncommon item, or even try 50$ for a rare item. Or, if he really wants to sell it through an auction, set the starting bid to an amount that will grant a profit.

- You have artifically bumped up the auction fees with items I have never found useful for my auctions - if I have an interesting item, such as a rare HP calc, I can be sure it will be located by interested buyers, even without gallery, bold, and listing designer options. Besides, it is forbidden by eBay rules to shift these costs to the customer, so here is a first unethical part. It is solely the responsibility of the seller to

choose advertising options - doing so is not unethical per-se, but trying to get that money back from the customer against the official market rules surely is. This is a difference to the common market where a seller certainly imposes his costs (for advertising, shop rent, storage, personal, etc.) on the customer. There are other market rules.

- There is no requirement to allow PayPal for an auction - if you do, then add it to the S&H costs (which this seller obviously did multiple times).

- Also, a serious power seller will not spend half an hour for designing a single auction page. Either he users upload tools, or predefined page templates or other means to reduce the labor. Thus, reducing the potential profit in your calculation by 7,50$, and even 3,50$+0,50$ for handling and shipping material does not look like professional mail-order operations. I'd believe 5,00$ for shipping, and maybe insurance - the postal services are unfortunately high.

To summarize: other sellers, even power sellers, manage to keep their costs below 40$ by far for a simple calculator sent in a booksize case, so he is unbelievable to actually for normal shop costs. People commonly call such practice rip-off.

Finally, it is not unethical of eBay to request all the fees, and surely there is nothing unethical in an unequal balance of power between eBay and the seller. Everything here is an option for the seller: the seller may choose whether to enter the eBay marketplace at all, which option he chooses for advertising, which starting price he requests, etc. He is nowhere forced to go to eBay at all (given your cost calculation, this apparently stupid seller would be even less successful in the real market (or he isn't as stupid).

OTOH, a buyer also has the option of not buying from a seller who wants to rip off customers in such an obvious way. So probably, two idiots have found each other. No need at least for me to join such a circle. This is what is actually meant by "unethical" - it does not match my own opinion of correct trading behaviour.

Holger

Re: Unreasonable eBay shipping? No! Here's why.

*Message #11 Posted by **bill platt** on 20 Sept 2005, 10:01 a.m.,*
in response to message #10 by Holger Veit

It is perfectly ethical for the seller to do what he does. Ebay allows it.

Is it unethical for me to pay the absolute minimum federal income tax, by showing all my itemized decutions and such? What you are saying above would lead us to believe that it is "unethical" to minimize one's tax burden. It is a similar situation. The seller is minimizing his fee burden--and he is working within the system.

The point is, ebay has the discretion and the power to decide where to draw the line on "reasonable" shipping and handling charges. Since they allowed this auction, it is therefore legal.

That is That.

You-all that are trying to trump up the ethics issue are totally losing the point--

that ebay can and will clamp an auction if it fails their criteria.

They did not clamp it, therefore it is legal. Period!

Edited: 20 Sept 2005, 10:02 a.m.

Re: Unreasonable eBay shipping? No! Here's why.

*Message #12 Posted by **Howard Owen** on 20 Sept 2005, 12:55 p.m.,*
in response to message #11 by bill platt

Short and sweet.

Re: Unreasonable eBay shipping? No! Here's why.

*Message #13 Posted by **Howard Owen** on 20 Sept 2005, 1:08 p.m.,*
in response to message #10 by Holger Veit

The numbers I quoted aren't exact. I have no idea what the wholesale price of a 12C is, for example. The fee structure was taken from one of my own auctions, so I'm the "stupid seller." I did assume that the sale was fixed-price buy-it-now, which doesn't seem unreasonable. PayPal is optional in the way lots of things that attract customers is optional. At any rate, neither fee is a huge part of the final cost of goods sold.

But, let me repeat, none of that speaks directly to the ethical issue. It just sets the context. Trying to be as succinct as Bill Platt below, I think that context is "Retail margins are thin, and eBay fees are high." Now, to the meat of the ethical issue, for the last time, the buyer is not harmed under any theory of real damage, and I don't count a sense of outrage as such. eBay might be harmed, or it might actually be more in their interest to allow this sort of thing. In either event, their fee structures encourage this sort of optimization on the part of sellers. Also, either way they could suppress this behavior with policy and/or technology and they don't. They therefore don't appear to think they are being harmed, and they are in the best position to make that determination.

In my functional ethics, no harm == no ethical problem. Q.E.D.

Re: Unreasonable eBay shipping? No! Here's why.

*Message #14 Posted by **blurdybloop** on 20 Sept 2005, 9:29 p.m.,*
in response to message #9 by Howard Owen

So in a functional sense, who is hurt by this guy, the "poor slob of a seller" I called him above, shaving a few more points at the apparent expense of eBay?

Aren't you overlooking one small detail?

Since the sale price is $12, that's also the refund price if the buyer has to return it for any reason. Suppose it is DOA? Suppose it turns out that he bought it as a gift, and it turned out that he was supposed to get a 12C Platinum (yes, I know that people here would consider a 12C to be inferior, but you know what I meant...).

I don't know if the package was insured; if it was, then if the package is lost or crunched by the postal orifice then $12 is all the buyer gets.

Now, these all may be unlikely; but the fact is that something *is* being taken from the buyer when the sale is formulated in this way. The priced value of the item, which represents value to the buyer, is reduced.

I agree with the comment that one cretin found another; and the one is the other's proper prey.

Re: Unreasonable eBay shipping? No! Here's why.

*Message #15 Posted by **Howard Owen** on 21 Sept 2005, 12:00 a.m.,*
in response to message #14 by blurdybloop

I did overlook that detail. Of course, every eBay seller I have ever returned an item to refunded the shipping (both ways) too. It's a "what if" in this case. If the seller refused to refund that charge, I'd call that unethical.

As to insurance, what the seller charged the buyer for shipping and handling and what the shipment is insured for are two completely separate quantities. UPS automatically insures up to $100.00 in value, for example. The seller would have no reason not to insure for the total charge amount, since paying off in the event of loss wouldn't come out of his pocket. And he'd have less chance of negative feedback if the buyer got a full refund.

In fact, all these hypotheticals ignore the eBay reputation system. If a seller screws enough buyers, their reputation gets shot to hell, and at best they have to start over with a clean slate, for which trick eBay really *will* slap you down if you are caught at it. But assuming the seller successfully starts a new account, he then has to build up a positive rep with that account. That can't be done with phony $.01 auctions alone. (I know I'm not alone in actually reading a seller's feedback and looking at the auctins that generated a sample of the feedbacks.) So that means the seller has to treat a couple hundred customers right before screwing 10 or so and starting over. And then there's the risk of getting caught again. Aren't your suspicions starting to rise at this scenario? Doesn't it strain credulity a little? Isn't it simpler to assume the seller will not screw his customers?

What is it about this guy that really ticks you off? You can try to construe this or that element so some harm comes to the "stupid" buyer, but I haven't heard anything that convinces me that anyone is hurt in the slightest. Is it making a profit from the sale of a calculator that annoys you?

The official word about unreasonable eBay shipping

*Message #16 Posted by **Karl Schneider** on 21 Sept 2005, 12:33 a.m.,*
in response to message #9 by Howard Owen

Notwithstanding Howard's tedious accounting and long-winded essays, here is the excerpted official policy from http://pages.ebay.com/help/policies/listing-circumventing.html:

> Quote:
>
> ***Circumventing Fees***
>
> *Users may not use systems or techniques to circumvent, or avoid, eBay*

fees.

Some Examples

Unreasonable shipping or handling costs - Listings with low prices but unreasonably high shipping or handling costs.

Why does eBay have this policy?

Listings that circumvent (avoid) fees may provide a poor buying experience and always unlevel the playing field by putting sellers who pay all their eBay fees at a disadvantage. Further, these listings undermine the trust and legitimacy of eBay's marketplace.

So there!

Bill Platt stated,

Quote:

The point is, ebay has the discretion and the power to decide where to draw the line on "reasonable" shipping and handling charges.

... ebay can and will clamp an auction if it fails their criteria.

True -- but only if they know about it beforehand.

Quote:

The seller is minimizing his fee burden--and he is working within the system.

Since they allowed this auction, it is therefore legal.

They did not clamp it, therefore it is legal. Period!

False! eBay doesn't have the resources to validate and pre-approve every auction listing. Someone must inform eBay of a listing that violates its policy for them to terminate it. Consider the cancelled eBay auctions for body parts and memorabilia of infamous crimes.

-- KS

Edited: 21 Sept 2005, 12:39 a.m.

Re: The official word about unreasonable eBay shipping

*Message #17 Posted by **Howard Owen** on 21 Sept 2005, 2:21 a.m.,*
in response to message #16 by Karl Schneider

Yup, you got me pal. *cough* It's gettin' dark... (Bugs Bunny would know how to handle this.)

That's the legalistic approach to ethics. You are pointing to the writing, and ignoring the actual effect of the the actions it proscribes. I still haven't heard a refutation of *any* of the points I made about harm to the buyer, or harm to eBay.

So, I'm not convinced. But I'm happy to leave you with your interpretation of the situation. Good night.

Re: The official word about unreasonable eBay shipping

*Message #18 Posted by **don wallace** on 21 Sept 2005, 3:00 a.m.,*
in response to message #17 by Howard Owen

"This means War" - Bugs Bunny (one of my heroes.)

DW

P.S. Pf course, one can adopt the pose and motto of Soldier Of Fortune magazine: "Kill 'em all; let God sort 'em out..."

Then there's the Roman viewpoint: "Caveat Emptor"

I am definitely a "Let the buyer beware", sort of guy myself...

Edited: 21 Sept 2005, 3:03 a.m.

Re: The official word about unreasonable eBay shipping

*Message #19 Posted by **Karl Schneider** on 23 Sept 2005, 3:20 a.m.,*
in response to message #17 by Howard Owen

> Quote:
>
> You are pointing to the writing, and ignoring the actual effect of the the actions it proscribes.

Whatever the heck that's supposed to mean, unless the "actual effect" is that eBay receives the revenue to which it is *entitled* according to the *specific policies and fee schedules* by which the sellers *agree* to abide. The sellers, BTW, are not under any duress to participate, and collectively make much more money than eBay.

Ever wonder why almost all eBay sellers of HP calculators charge actual or near-actual shipping costs? Buyers consider it sleazy to do otherwise. If notified, eBay would quite likely have put the kibosh on that auction for its S&H demands, citing breach of agreement. In other words, bad ethics.

> Quote:
>
> I still haven't heard a refutation of any of the points I made about harm to the buyer, or harm to eBay.

There was nothing to hear. Only text that one is asked to read open-mindedly and to understand has been presented.

I'll refute your financial analysis, though: Most sellers of calulators worth $50 did not acquire them at $25 for the sole purpose of flipping them on eBay. They may have bought them long ago for college and no longer use them; they inherited them; they picked them up as surplus for a song. With a wholesale cost of essentially zero, it is not necessary to tack on exorbitant and bogus fee-evading surcharges in order to make a decent profit on the sale.

The same is surely true for other items sold on eBay, even the big-ticket ones that make the majority of the profits -- the wholesale cost was very low, or essentially "sunk".

> Quote:
>
> So, I'm not convinced. But I'm happy to leave you with your interpretation of the situation. Good night.

What other rational interpretation is there?

-- KS

Edited: 23 Sept 2005, 4:01 a.m.

Re: Silly people in HP calculator market...

*Message #20 Posted by **tony (nz)** on 19 Sept 2005, 3:58 a.m.,*
in response to message #1 by will

I just received a 1983 12C from California here in New Zealand, posted in California last week, via usps Global Priority Mail. Postage was eleven dollars!!! Came in an enormous box too - about A4 size and 2 inches deep. I recommend hpgoodies on ebay as a seller. Also have another on the go from the USA but the seller asked for $80 for postage!!! That actually may be a valid rate via DHL as courier or something, but I told the guy Global Priority Mail will do :-)

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Any news from HHC2005?

Message #1 Posted by . on 18 Sept 2005, 4:05 a.m.

Please see http://holyjoe.net/hhc2005/DoorPrizeList.htm

I just noticed that HP are providing "hp49g+ calculators, latest version (to be talked about)" as door prizes. Are these cheap junk like the current models, or something better?

.

Re: Any news from HHC2005?

*Message #2 Posted by **Namir** on 18 Sept 2005, 8:28 a.m.,*
in response to message #1 by .

I think that attending the HHC2005 itself is the true prize. I have met Viktor Toth who is the curator of rskey.org and a few other new folks like this site's Tim Wessman. Tim won the HP calculator contest for 2005 and his presentation was his winning design.

Of course seeing old and new friends like Gene Wright, Jake Schwarts, Richard Nelson, Eric Smith, Jeremy Smith, Jack Stout, Brian Walsh, Wiodek Mier-Jedzrejowicz, and many many others is a real pleasure. HP was kind enough to pay for lunch and we aprpeciate that a lot.

Soooo .. I am off for a second day of geeky fun.

Happy Programming

x<>y

Re: Any news from HHC2005?

*Message #3 Posted by **Gene** on 18 Sept 2005, 8:45 a.m.,*
in response to message #2 by Namir

And Namir is going to be giving part 2 of a good talk about comparing solver techniques and how they are implemented on HP machines. Very stimulating stuff.

:-) Gene

Re: Any news from HHC2005?

*Message #4 Posted by **Eric Smith** on 20 Sept 2005, 1:38 a.m.,*
in response to message #1 by .

There weren't any HP 49G+ door prizes, but there were three of the new HP 12C Platinum (radically different internal firmware than the original 12C Platinum).

HP did give each attendee a new handheld; I'll put a photo on my web site tomorrow.

Eric

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Where can I find new cases like 17BII+, 33S?

*Message #1 Posted by **Stephen** on 18 Sept 2005, 1:21 a.m.*

I recently bought the 33S and like it, though not quite as much as the 32S. However, I do like the new 33S case.

I also bought a new 17BII+. I hated the calculator (terrible keys,... similar to the 49G+ I recently got rid of, too!), but I loved the case it came in.

Where can I find new cases like the two supplied with the new 17BII+ and the 33S?

Re: Where can I find new cases like 17BII+, 33S?

*Message #2 Posted by **Martin** on 18 Sept 2005, 2:00 a.m.,*
in response to message #1 by Stephen

If you dont mind buying from the United Kingdom try Classic Calculators

Re: Where can I find new cases like 17BII+, 33S?

*Message #3 Posted by **Stephen Easterling** on 18 Sept 2005, 12:02 p.m.,*
in response to message #2 by Martin

I don't mind at all, esp if they will allow payment with US Post Office Internation money order. BTW, what is their pound-to-dollar conversion? The prices seem a little high for those cases!

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HP-48 case

*Message #1 Posted by **Michael Moore** on 16 Sept 2005, 8:06 p.m.*

I addition to an HP-48 case I need two of the rubber feet for the back. Thanks

MoHPC Classified Ads [was: HP-48 case]

*Message #2 Posted by **Karl Schneider** on 16 Sept 2005, 11:17 p.m.,*
in response to message #1 by Michael Moore

Please locate and follow the link to the Classified Ads section.

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Electrical Engi8neering Program

*Message #1 Posted by **Oliver Araúz** on 16 Sept 2005, 7:49 p.m.*

I need your help.

I need a program that can solve a short circuit analysis with simetrical components method for a HP 49G+ Calculator. I really need your help because I can not find this kind of program.

Best Regards

Re: Electrical Engi8neering Program

*Message #2 Posted by **James M. Prange (Michigan)** on 17 Sept 2005, 6:03 a.m.,*
in response to message #1 by Oliver Araúz

I don't know, but you could try http://www.hpcalc.org/ or the usenet newsgroup comp.sys.hp48.

Regards,
James

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HP 48 case

*Message #1 Posted by **Michael Moore** on 16 Sept 2005, 7:30 p.m.*

Anyone out there have a case for a HP-48 they would be willing to part with?

Re: HP 48 case

*Message #2 Posted by **Ed Look** on 19 Sept 2005, 12:53 a.m.,*
in response to message #1 by Michael Moore

I have a 48G case I am currently not using; the soft gray nylon one with a black vinyl panel at the bottom that says, "HP Hewlett Packard". But it is one I have used before.

If you want a new one, I got mine at CalcPro (they still have them).

Let me know: f_init_l_name_at_qc1_dot_qc_dot_edu

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HP Calculator PC Emulators

*Message #1 Posted by **Gordon Dyer** on 16 Sept 2005, 4:56 p.m.*

Has anyone tried one of the new HP PC emulators?
If you have can you tell us all what they are like to use?
http://h41111.www4.hp.com/calculators/uk/en/emulators/index.html
Thanks.

Re: HP Calculator PC Emulators

*Message #2 Posted by **Namir** on 16 Sept 2005, 8:26 p.m.,*
in response to message #1 by Gordon Dyer

You have to be an educator to get it. I asked an HP person last HHC2004 for a copy and got zip!!!

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Found an HP 67, what now?

*Message #1 Posted by **blake marnell** on 16 Sept 2005, 3:07 a.m.*

Greetings,

I recently picked up an HP-67 at a garage sale. I had no idea what it might be worth but I was fairly certain it was worth what I paid for it. The calculator came with a soft case, quick ref card, AC power adaptor, & a stand alone battery charger. Unfortunately it did not come with any manuals or blank magnetic strips.

There is a strip with some key functions written on it that is directly above the keyboard. I'm guessing that this is a mag strip that has been inserted into the upper slot after it was at some point in the past passed through the lower slot.

See my absurdly high resolution photos at: http://briefcase.yahoo.com/bc/blakemarnell/lst?&.dir=/HP+67+Calculator&.src=bc&.view=l

So with no blank cards and no instuctions I'm sort of at a loss as to how to tell if my unit is fully functional. Id like to do a test to see if my unit needs the "gummy" wheel repair but I need a card to do that and I can't figure out how to remove the card from the upper slot.

I have read that trying the card reader while on AC power is a bad idea so even if I had a card I'm not sure that I should proceed.

I'm guessing that my best course of action is, A) Buy manual B) Buy battery pack C) Buy mag strips D) Test

Any tips or suggestions would be welcome as would any offers to sell me a single blank magnetic strip. I see that I can get the manual off of this site and will probably do so and the batteries seem to come up now and then on e-bay. However, if anybody has an alternate source on the batteries they could point me to I'd appreciate it.

Any other tips/tricks/pointers would be welcome as well.

BTW, If my unit does need the gummy wheel repair, I may even try it myself given the excellent directions on this site.

thanks for any help or tips,

Blake

Re: Found an HP 67, what now?

*Message #2 Posted by **Tony Duell** on 16 Sept 2005, 6:38 a.m.,*
in response to message #1 by blake marnell

I can't get the URL you've given to work at the moment, so I can't see the pictures.

That said, I can give you some general comments.

There has been some debate here recently as to whether it is safe to plug an HP67 into the mains adapter without a good battery pack in place. The card reader sense amplifier chip _is_ directly connected to the battery terminals and will get a higher voltage than it should if the charger is connected without a battery. Whether this will damage the chip is another matter, but as the chip is HP custom, I don't like to risk it.

There is a guy on E-bay who sells reproduction batteries for these machines (it's the same battery as the 35, 45, 55, 65, 70, 80, 75C, 82168). Probably worth getting one.

I am pretty sure the user manual is on the CD-ROMs avaiable from this site.

It is quite normal to label the 'top row' of keys -- the A--E keys on the magnetic card, and then slide it into the slot above the keyboard after reading it. The card slides in from the right hand side of the machine and should be able to be slid out again towards the right. There are no catches or anything.

Unless your card reader roller has been replaced, it will need repair. In fact I think even if the machine was repaired by HP at the last date that HP repaired these machines, the roller will need replacement by now.

Re: Found an HP 67, what now?

*Message #3 Posted by **Mike T.** on 16 Sept 2005, 4:55 p.m.,*
in response to message #1 by blake marnell

You lucky man!

There is quite a lot of information about the HP67 on this web site, enough to get started anyway, so I'd say a battery was your highest priority...

I hope it 'just works' - have fun!

Mike T.

Re: Found an HP 67, what now?

*Message #4 Posted by **don wallace** on 17 Sept 2005, 4:29 a.m.,*
in response to message #1 by blake marnell

Hi Blake,

I jus happen to have three magnetic cards for the 41. I think they are exactly the same as the 67 uses. Anyone?

If you like I will mail one to you for free.

You can write to me at donwallace63@yahoo.com.au to let me know where to post it.

Don W

Re: Found an HP 67, what now?

*Message #5 Posted by **Howard Owen** on 17 Sept 2005, 5:06 p.m.,*
in response to message #4 by don wallace

They are indeed the same, Don.

If he's going to use that 67 much, he'll need several cards at least. It doesn't have continuous memory, so anything you want to save, you have to write to a card. But one will certainly do for testing purposes. 8)

Re: Found an HP 67, what now?

*Message #6 Posted by **don wallace** on 18 Sept 2005, 1:39 a.m.,*
in response to message #5 by Howard Owen

Actually I have three. Mot many, I know...

DW

Re: Found an HP 67, what now?

*Message #7 Posted by **Howard Owen** on 18 Sept 2005, 3:39 a.m.,*
in response to message #6 by don wallace

I was going to suggest that he buy an 80 pack of cards, after he's sure the card reader works. Having one to test would seem to be essential though.

Re: Found an HP 67, what now?

*Message #8 Posted by **blake marnell** on 18 Sept 2005, 4:35 a.m.,*
in response to message #4 by don wallace

Don,

Thank you very much for your offer of a free mag card for my HP 67. It never ceases to amaze me how generous people can be with their knowledge and support in forums like this one.

I have sent a message to your e-mail with my address.

Thanks also to all the others who posted replies to my "newbie" thread. I'm really excited about tackling this project and am looking forward to posting the results.

I'm going to order the manual on CD from this site and pick up a battery as soon as I can. Thanks for listing all of the other calculators that share the same battery packn as I'm sure that will help.

About the gummy wheel, apparently its almost a forgone conclusion that it will need replacement. Should I just go ahead and open the unit up to verify the wheel's condition? And if it's bad, I imagine I should go forward with the wheel repair before even testing the mag reader since I'm guessing that the mag reader won't work properly until the wheel is functioning correctly.

Basically I'm wondering if I could make the condition of the calculator worse by testing a mag card before replacing the gummy wheel. The old wheels look really awful in the pics posted on here and I'd hate to spread that gunk around inside if I don't have to.

Thanks again for your help,

Blake

Re: Found an HP 67, what now?

*Message #9 Posted by **blake marnell** on 18 Sept 2005, 5:03 a.m.,*
in response to message #8 by blake marnell

Wow,

I've just been reading a little further on here and it seems that even using the adaptor to power the HP

67 when there is no battey inside can cause damage?

Of course, I knew nothing of this and had already done this a few times so I guess I have to keep my fingers crossed that I didn't fry anything already.

So the revised project order as of now looks like,
1) GET BATTERIES
2) Get manual and read it!
3) Charge batteries in the stand alone charger
4) test non mag card calc functions using battery power only.
5) Crack open unit and inspect gummy wheel
6) Replace wheel if needed (99% chance)
7) test mag card function using battery power.
8) Rejoice/swear at my good/bad fortune.

how does that look?

Re: Found an HP 67, what now?

*Message #10 Posted by **don wallace** on 18 Sept 2005, 3:49 p.m.,*
in response to message #9 by blake marnell

Hi Blake,

You have probably gotten away with powering it up w/o batteries, but obviously it's not wise to push your luck.

I never owned a card reader, but if that decomposed plastic gets on the actual read/write heads then the thing will be history. The recording / playback gap is only 1/10th of a thousandth of an inch (or less) wide so it's really fragile.

While the machine is apart you could clean the head with a kit like they had for manual cassete head cleaning (remember them?). Also, be sure not to bend the microswitch actuators as this causes grief from what I have read here.

I will send you some cards on thursday (payday) by air mail.

Good luck.

Don W

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Rebuilding a HP-67 battery pack

*Message #1 Posted by **Albert** on 15 Sept 2005, 10:10 p.m.*

Hi all,

I must rebuild a HP-67 battery pack. Questions: Can I use a NiMH battery type set instead of a classic Ni-Cd type set? Problems, advises, tips? Power consumption suggested: 1600 - 2000 or 2300 mAh? Thanks in advance.

Re: Rebuilding a HP-67 battery pack

*Message #2 Posted by **David Smith** on 16 Sept 2005, 4:57 p.m.,*
in response to message #1 by Albert

NiMH cells work better than the original nicads. No memory effect to worry about discharging batteries before recharging and they will run the machine for very long times. You do have to keep them on the charger for quite a while to fully charge them (like 24-48 hours, depending upon their capacity).

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HP-41 PCB's pictures (for the HW guys out there... ;-)

*Message #1 Posted by **Diego Diaz** on 15 Sept 2005, 5:30 p.m.*

Hi

Hope some of the Hardware "maniacs" here enjoy this *almost* complete collection... just for fun, not much real use indeed, but it can be used as a time reference as the PCB's are shown in chronological order.

For the sake of precision, the initial CV shown in the picture is the four layer version PCB, there is a newer two layer verison with identical components footprint (except for the bender soldering pads) but with a more dense track pattern.

http://www.clonix41.org/Maintenance/hp-41_PCBs.htm

Have fun!!

Diego.

P.S. It's some 2Mbyte!!

Re: HP-41 PCB's pictures (for the HW guys out there... ;-)

*Message #2 Posted by **don wallace** on 15 Sept 2005, 7:40 p.m.,*
in response to message #1 by Diego Diaz

Nice pics, Diego.

DW

Re: HP-41 PCB's pictures (for the HW guys out there... ;-)

*Message #3 Posted by **Gordon Dyer** on 16 Sept 2005, 3:39 p.m.,*
in response to message #1 by Diego Diaz

Thanks for the pics, it's always interesting to see the differences between models.

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Who will be at HHC2005?

*Message #1 Posted by **Gene Wright** on 15 Sept 2005, 10:58 a.m.*

I will. See the rest of you who are attending on Saturday morning!

Gene

Re: Who will be at HHC2005?

*Message #2 Posted by **Matthias Wehrli** on 15 Sept 2005, 12:11 p.m.,*
in response to message #1 by Gene Wright

Hi Gene, Hi other HP-enthusiast,

I really would like to join you all on HHC2005, but the trip to US is a little bit too far for me in these days. I plan to join the next HHC meeting here in Europe and hope to see some of you.

Yours, Matthias

Re: Who will be at HHC2005?

*Message #3 Posted by **Howard Owen** on 15 Sept 2005, 1:18 p.m.,*
in response to message #1 by Gene Wright

I won't be able to attend. That's a pity because I was hoping to meet some of you face-to-face.

Are there enough enthusiasts in the SF Bay Area to get a regional club going?

Re: Who will be at HHC2005?

*Message #4 Posted by **John Cadick** on 15 Sept 2005, 2:01 p.m.,*
in response to message #1 by Gene Wright

I'll see you there, Gene. Shame you can't make it in Friday. I have to leave early on Sunday.

John

Re: Who will be at HHC2005?

*Message #5 Posted by **Tim Wessman** on 16 Sept 2005, 7:18 a.m.,*
in response to message #1 by Gene Wright

I am on my way out the door to the airport. Should be getting there at 2:00 or so with my wife. Hope to see everyone.

TW

Re: Who will be at HHC2005?--- and a reminder!

*Message #6 Posted by **Gene Wright** on 16 Sept 2005, 4:57 p.m.,*
in response to message #1 by Gene Wright

For anyone who cannot be there but would like to stay in the loop, videotapes and DVDs of these gatherings are always available in a few weeks after the meeting.

Jake Schwartz will be putting this together (and he has video of the past meetings too).

So, you can always be there after the fact! Gene

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An HP28S wakes up

*Message #1 Posted by **GE** on 15 Sept 2005, 4:12 a.m.*

Hello fellow calc fans. I recently acquired a nice HP28S and this made some fond memories resurface. It is a very curious experience to face all the quirks in this machine, which lacks many twists of its later siblings. The hardware is truly excellent, apart from the dreaded battery door (undamaged in my copy). Even knowing that putting batteries in would be a challenge, it was still a pain. On my original 28S, the battery door actually broke spontaneously.

I had a funny experience trying to get 'N' batteries ; I went to a store dedicated to selling rare kinds of batteries (the store is actually named "a thousand and one batteries" !). When I asked for 'N' batteries, the guy immediately replied "So you have an HP calculator ?" !! Seems all the world production of this kind goes into elder HP models. Great fun.

While typing some programs, I ran into some problems : - No such thing as a 'continue', once it is HALTed you can't restart the program
- No access to local vars in called programs : if program A has a local variable and calls program B, then B doesn't see the variable. You need to pass it on the stack - hmm.
- STO+ can't do all what + STO can : no STO+ into local variables, and for example {1,2} 'A' STO {3} 'A' STO+ brings an error
- The program editor is horrible, starts in overwrite mode, discards your nice indentation, doesn't go to the next line if you [->] at the last character of the line, etc. Cursor keys being the same as menu keys is also bad.

Other funny behavior includes : - UNITS catalog doesn't have base units such as kg
- 'A+B' 'A' STO A doesn't crash. Then A EVAL gives 'A+B+B'. EVAL again gives 'A+B+B+B' !?
- 'SQRT 5' 2 + SQ EXPAN COLCT gives back a numerical result 17,94... instead of '4*SQRT 5 + 9'(where SQRT is the square root character)

I still like the FORMS editor, it was powerful and a lot faster than the Equation Editor on 48s. 32 kb is nice to use. So I only wish this model would have benefited from all the ideas that surfaced in the following years. However, this one was the real innovation, the 48/49 being IMHO much less of a change in paradigm.

I think this machine deserves some space in the museum.

Re: An HP28S wakes up

*Message #2 Posted by **don wallace** on 15 Sept 2005, 5:06 a.m.,*
in response to message #1 by GE

Hi GE.

Now I remember! Around 1983 (84?, 85?) I saw an HP calc in an electronics store, (while shopping for opamps, dvm chips and some OTA chips).

It really blew me out because the thing would do symbolic (named variables) work, like speed=distance / time.

I really liked that and I was a bit jealous at the time since I own an old HP41CV [as everyone here knows by

now... sorry guys!]

I guess that was the 28S...?

DW

Re: An HP28S wakes up

*Message #3 Posted by **unspellable** on 15 Sept 2005, 1:38 p.m.,*
in response to message #2 by don wallace

Aside from my 28S I have several flashlights that use N cells.

Re: An HP28S wakes up

*Message #4 Posted by **marais** on 15 Sept 2005, 3:18 p.m.,*
in response to message #3 by unspellable

I think the community does not do justice to the 28S, which improved over almost all the faults of the admittently premature 28C. But the 28C was such a revolutionary break from the past that even HP couldn't get it perfect the first time. I bought the 28C right after it appeared (in fact even before-I had a friend at HP at the time who gave me his rebate), and was stunned from the very first day. I used to have little programs doing complex number calculations, determinants and matrix inversions - usually either complex numbers OR matrices, since both wouldn't fit into the memory of the FX602 (yes, that's a CASIO) I used at the time - and the 28C did all this and more right from the start, without programming. I found this ability to handle compound data types more impressive than the algebraic operations in fact - the 28C did the simple derivations I could do by hand, and failed at the same ones than me, let alone do symbolic integrations. After a year of heavy use, I hit the memory limit of the 28C, but HP issued the 28S right in time. It is still one of my favourite machines, and I never managed to become equally acquainted to the 48. Long live the 28C/S!

Andreas

Re: An HP28S wakes up

*Message #5 Posted by **don wallace** on 15 Sept 2005, 5:03 p.m.,*
in response to message #3 by unspellable

Hi all. All, that is, EXCEPT UNSPELLABLE.... ;-P

My 41CV uses N cells... Watch it, buddy!

Ah, yes. The machine I saw was brand new, so it nust have been the 28C. I think this was 1985?

DW

P.S. What have you got against flashlights, anyway?

Edited: 15 Sept 2005, 5:06 p.m.

Re: An HP28S wakes up

*Message #6 Posted by **marais** on 15 Sept 2005, 5:10 p.m.,*
in response to message #5 by don wallace

>1985?

No, must have been later. Bought mine in 87, and I'm sure I was one of the first customers. I pre-ordered mine before they came out. I recall the 28S came out about a year later or so.

Andreas

Re: An HP28S wakes up

*Message #7 Posted by **Howard Owen** on 16 Sept 2005, 4:02 p.m.,*
in response to message #6 by marais

The museum page for the 28C/S has this:

> Quote:
>
> Production Runs: HP-28C: 1987-1988, HP-28S: 1988-1992

So your recollection is right on.

Re: An HP28S wakes up

*Message #8 Posted by **unspellable** on 16 Sept 2005, 1:53 p.m.,*
in response to message #5 by don wallace

Whu'd I do? Whu'd I do?

Re: An HP28S wakes up

*Message #9 Posted by **James M. Prange (Michigan)** on 16 Sept 2005, 2:40 a.m.,*
in response to message #2 by don wallace

Well, the 28C was introduced in 1987, and the 28S in 1988, so either you're a bit off on your dates, or you're thinking of some other calculator.

Re: An HP28S wakes up

*Message #10 Posted by **James M. Prange (Michigan)** on 15 Sept 2005, 10:38 p.m.,*
in response to message #1 by GE

First off, I recommend that you have a look at the 28 series reference materials, particularly Bill Wickes's "HP-28 Insights", available on the Museum DVD if you don't have a printed copy. http://www.hpcalc.org/ also has a lot of information on this model, and of course the newsgroup comp.sys.hp48 is a good source of information.

I agree that the battery cover is a poor design; I haven't had one break, but that may be a matter of luck as much as a matter of being careful. I have mixed feelings about the hinged design too.

As for N cells, they are used elsewhere, but they're unusual enough that "new" N cells may have been in storage for a very long time. To avoid a "Memory Lost" condition, I recommend that you test the cells before inserting them into your calculator, especially if they don't have a date code.

> Quote:
>
> While typing some programs, I ran into some problems : - No such thing as a 'continue', once it is HALTed you can't restart the program

Sure there is; use CONT, the "shifted" 1 key. Or just type in CONT and press ENTER; it's a built-in command.

> Quote:
>
> - No access to local vars in called programs : if program A has a local variable and calls program B, then B doesn't see the variable. You need to pass it on the stack - hmm.

The compiler compiles a name as a local name only if that local variable currently exists, or is defined as such in the source code. A work-around: Suppose that your program 'A' defines the local variable 'a', and you want the called program 'B' to use 'a'. Run a program like

```
<< "dummy string" -> a << HALT >> >>
```

Now enter (or edit or visit) your program 'B' which uses 'a'; this way 'a' will be compiled as a local name. Finally, do a CONT to finish the suspended program. This technique is easy enough, but it's very easy to forget to use it if you decide to edit program 'B' at some later date. This technique works with the 48 and 49 series too. Starting with the 48G series, any name that begins with a <- (left arrow) character is compiled as a local name, even if it doesn't currently exist.

Of course you can pass the contents of the variable on the stack instead.

> Quote:
>
> - STO+ can't do all what + STO can : no STO+ into local variables, and for example {1,2} 'A' STO {3} 'A' STO+ brings an error

True enough, STO+ requires real or complex numbers or arrays, and a global name, while + can take quite a variety of arguments, and STO works with either a local or global name, but so what? The "storage arithmetic" commands are intended to be rather special purpose; STO+ is not intended to be a "short form" of + STO.

> Quote:
>
> - The program editor is horrible, starts in overwrite mode,

I prefer that editing start in insert mode, but note that overwrite mode seems to be the default for quite a few editors.

> Quote:
>
> discards your nice indentation,

The source code that you type into the command line editor isn't saved; it's compiled, and the resulting object is stored, thus all separator characters (such as SPACE and NEWLINE) and delimiters are discarded. To display an object on the stack, for editing, or printing the object, it's decompiled, using separator characters (and delimiters) as the designers thought appropriate.

If you want to save your source code, then write the program within a character string. When you want to compile it, you can use the STR-> command, or edit out the " delimiting characters around the body of the string.

> Quote:
>
> doesn't go to the next line if you [->] at the last character of the line,

??? So use NEWLINE (shifted SPACE key) when you want to go to the next line.

> Quote:
>
> etc. Cursor keys being the same as menu keys is also bad.

Okay, and the cursor keys being the same as ALPHA keys on the 48 series is a bit of a nuisance too. Design decisions had to be made; no doubt you or I would have decided differently on some things, but I think that the designers made reasonable decisions on the 28S.

> Quote:
>
> Other funny behavior includes : - UNITS catalog doesn't have base units such as kg

I think that this calculator treats g (gram) as the "base unit" for mass. While that doesn't agree with SI, it's easy enough to insert a "k".

> Quote:
>
> - 'A+B' 'A' STO A doesn't crash. Then A EVAL gives 'A+B+B'. EVAL again gives 'A+B+B+B' !?

Well, I'd certainly hope that it wouldn't "crash", but a "Circular Reference" error (as on later models) would be nice. But even the latest models don't catch all non-obvious circular references. In some cases, a warmstart may be needed to stop evaluation of a "circular reference".

> Quote:
>
> - 'SQRT 5' 2 + SQ EXPAN COLCT gives back a numerical result 17,94... instead of '4*SQRT 5 + 9'(where SQRT is the square root character)

True, as documented, COLCT starts out by evaluating numerical subexpressions.

> Quote:
>
> I still like the FORMS editor, it was powerful and a lot faster than the Equation Editor on 48s.

I tend to agree on that.

> Quote:
>
> 32 kb is nice to use. So I only wish this model would have benefited from all the ideas that surfaced in the following years.

Well, that's the nature of the evolution of devices.

> Quote:

> However, this one was the real innovation, the 48/49 being IMHO much less of a change in paradigm.

Actually, I'd say that the 28C was the real innovation; it introduced UserRPL. The changes in the 28S and 48/49 series seem rather minor in comparison.

> Quote:
>
> I think this machine deserves some space in the museum.

Well, it does have some space in the Museum; see http://www.hpmuseum.org/hp28c.htm. But apparently some feel that the RPL models don't belong in the Museum at all.

Regards,
James

Edited: 16 Sept 2005, 2:21 a.m.

Re: An HP28S wakes up

*Message #11 Posted by **Stephen** on 17 Sept 2005, 7:26 p.m.,*
in response to message #1 by GE

Nice thread! My first HP was a new 28S my first year of college back in '89. I had four manuals for it and read them all cover-to-cover that Christmas. Although I don't find it very useful at the workplace, it is really at home on a well-lit desk for doing hours of physics or math homework (somewhere it has space to breathe and not be shuffled around). I kept mine (and the manuals) in mint condition all these years and have increased my HP collection. I've hit my 32k memory limit, too, and was really down the day my batteries went south and memory followed (loosing it all!). I'll always have a special place in my heart for the 28S. I only wish I had purchased one of those nice leather covers for it back then! $20 in those days (same as the manuals) and the 28S itself costed me $200!.... back then! Gotta love its RPL, though.

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Saxon Calculus and Hp49+

*Message #1 Posted by **Stacey Bower** on 14 Sept 2005, 5:22 p.m.*

Can anyone help? My son who is 15 is trying to learn Calculus at home. Now he also has the challenge of learning to use the HP 49+ graphing calculator. He has used the HP-15 in the past. The book called for TI-83, but we couldn't bear to buy a TI having been an HP RPN family for 30 years.

The problem

Use a graphing calculator to approximate the values of y when x = pi and when x = Square root of 2

Given: y = (square root of x + one) over x

Stacey Bower and John

Re: Saxon Calculus and Hp49+

*Message #2 Posted by **bill platt** on 14 Sept 2005, 6:02 p.m.,*
in response to message #1 by Stacey Bower

It is pretty much like hte 48 series. You write the expression and save it to a variable, and then you can manipulate it. I think the manual should help you to know what buttons to push, but that is the basic gist of it.

Re: Saxon Calculus and Hp49+

*Message #3 Posted by **Osvaldo** on 14 Sept 2005, 6:44 p.m.,*
in response to message #1 by Stacey Bower

Hi: Sorry to say this but go for a TI 89. TI is a LOT more education oriented than HP. I am an HP fan but I recognize that on that subject TI are a lot better than HP

Br,

Re: Saxon Calculus and Hp49+

*Message #4 Posted by **I, Claudius** on 14 Sept 2005, 9:00 p.m.,*
in response to message #1 by Stacey Bower

Congrats on your boy taking calculus at 15, brighter than I was at his age!

There are many ways to do this on the 49/49+. This is one way:

Enter the Equation Writer with the EQW key. You are now in a special screen environment allowing you to write any equation or expression exactly as you would on paper. Type in your function: Y(X)=(square root of X + one) over X. Enter the equation onto the stack, you will see it on level one. Type DEFINE, the level one entry disappears. Hit the VAR key, you will see Y displayed. To see the expression in terms of X, hit the X key, then the F key under the variable Y key. You will now see (square root of X + one) over X displayed. As

a number example, hit 1 then the F key under the variable Y key and you get square root (2). For numeric approximations go RightShift ENTER. When you're through with that definition type 'Y' PURGE to delete it.

Edited: 15 Sept 2005, 1:30 p.m.

Re: Saxon Calculus and Hp49+

*Message #5 Posted by **Stacey Bower** on 15 Sept 2005, 2:18 p.m.,*
in response to message #4 by I, Claudius

Thank you, Claudius for prescribing a way to solve the problem!

We were wondering if you could tell us how after entering the equation we can solve for any number of particular x variables by imputting the x variable value.

Then the calculator will give the corresponding y value and mark it on the graph.

S & J

Re: Saxon Calculus and Hp49+

*Message #6 Posted by **Guest** on 15 Sept 2005, 5:39 p.m.,*
in response to message #5 by Stacey Bower

Speaking as another underage calculus student, I can say the 49g+ is fine for the purpose. TI just has better marketing.

Use the left-shift-hold and F1 keystroke to get to the Y= editor that lets you manage multiple functions. The add softkey will call the equation writer and give you a Y1= blank. From here you type in the function and hit enter. The functions are automatically stored to the proper variables (after you graph them or hit the OK softkey.) Once you have graphed the functions, the f(x) softkey in one of the menus will get you the y value, and leave it on the stack. For multiple values, you can use the table and type in your own values. The same menu with the f(x) button also can show you f' and graph the tangent line where the cursor is.

Re: Saxon Calculus and Hp49+

*Message #7 Posted by **I, Claudius** on 15 Sept 2005, 11:01 p.m.,*
in response to message #5 by Stacey Bower

I think you want to plot or table this function and then get values?

The 48/49/49+ create plot variables when plots are created. A neat way to keep these variables from cluttering up the Home Directory is to create a new directory for your plots. Type Plot then the command CRDIR. You will see a newly created directory named Plot. Press the F key under the Plot name and you enter this new directory. All the variables will be blank at this time. To delete any EQ, PPAR, ZPAR variables, enter them on the stack and type PURGE. To exit this directory use the commands UPDIR or HOME.

There are many ways to create plots, using (hold) Left-Shift (Y= or GRAPH) and the manual does a pretty decent job of describing this. You can also access the old 48 plot menu by typing 81. MENU , if you have the soft menu flag 117 set, -117 SF

You can also easily create a table of values for the function using the (hold) Left Shift TABLE function. This may the best way of getting what you want. I realize I'm not guiding you step by step

and I apologize, I'm just very busy at the moment.

Edited: 15 Sept 2005, 11:11 p.m.

Re: Saxon Calculus and Hp49+

*Message #8 Posted by **Mark A. Ordal** on 16 Sept 2005, 9:20 a.m.,*
in response to message #1 by Stacey Bower

"Use a graphing calculator to approximate the values of y when x = pi and when x = Square root of 2

Given: y = (square root of x + one) over x"

All the responses I've seen so far assume you are trying to find EXACT values of y for those two specific values of x. I think the intent of the problem is to GRAPH the function over a reasonable interval and then DIGITIZE approximate y values from the graph.

--Mark

Re: Saxon Calculus and Hp49+

*Message #9 Posted by **Howard Owen** on 16 Sept 2005, 10:09 p.m.,*
in response to message #8 by Mark A. Ordal

To plot a function on the 49G+, do the following:

1. Go to the "Plot Functions" menu (APPS->enter)
2. Press enter again to select the first item "Equation Entry."
3. Enter the equation as per the example above, but only the right hand side. (i.e. no "y(x)=")
4. Press the DRAW soft key when you are finished entering the equation. This will plot the function using the default axes and tick values.
5. You can now use the arrow keys to move a cursor around the graph.
6. When you are near a point you would like to see the x and y values for, press the "(X,Y)" softkey.
7. Press ON (cancel in this context) twice to return to the stack display

Hope this helps.

Re: Saxon Calculus and Hp49+

*Message #10 Posted by **Wayne Brown** on 19 Sept 2005, 2:12 p.m.,*
in response to message #9 by Howard Owen

Quote:

```
To plot a function on the 49G+, do the following:


    1.Go to the "Plot Functions" menu (APPS->enter)
    2.Press enter again to select the first item "Equation Entry."
    3.Enter the equation as per the example above, but only the right hand
side. (i.e. no "y(x)=")
    4.Press the DRAW soft key when you are finished entering the equation.
This will plot the function using the default axes and tick values.
    5.You can now use the arrow keys to move a cursor around the graph.
    6.When you are near a point you would like to see the x and y values
for, press the "(X,Y)" softkey.
```

Does the 49 include the **TRACE** function? On the 48, pressing the **TRACE** softkey and then the **(X,Y)** softkey will keep the cursor locked onto the graphed line. The left and right cursor keys will cause the cursor to follow the line in the -X or +X directions and the X and Y positions of the cursor will be displayed continuously at the bottom as the cursor moves. That makes it simple to move to a particular X value and see the corresponding Y value.

Re: Saxon Calculus and Hp49+

*Message #11 Posted by **Howard Owen** on 19 Sept 2005, 2:29 p.m.,*
in response to message #10 by Wayne Brown

> Quote:
>
> Does the 49 include the **TRACE** function? On the 48, pressing the **TRACE** softkey and then the **(X,Y)** softkey will keep the cursor locked onto the graphed line. The left and right cursor keys will cause the cursor to follow the line in the -X or +X directions and the X and Y positions of the cursor will be displayed continuously at the bottom as the cursor moves. That makes it simple to move to a particular X value and see the corresponding Y value.

Yes, it works exactly the same in the 49G+ instead of manually moving the cursor around as in my example, you can use the TRACE function as you describe.

I thought there was some requirement to "guesstimate" the values, though.

Re: Saxon Calculus and Hp49+

*Message #12 Posted by **John Bower** on 20 Sept 2005, 2:07 p.m.,*
in response to message #11 by Howard Owen

I am the son currently doing the Calculus. Thanks for the help, but what I really want to know how to do is: After I have graphed the function, can I imput values of x (i.e. pi or square root of 2) and have the calculator plot the matching y value? My textbook tells me how I can do it on a TI-83, but many of the buttons aren't carried over in exactly the same way. Thanks much.

John

Re: Saxon Calculus and Hp49+

*Message #13 Posted by **Ron Ross** on 20 Sept 2005, 3:00 p.m.,*
in response to message #12 by John Bower

If you are having difficulty, you might consider an Hp39G. It is a near Ti-83 clone and can be found on ebay for about $30 (NEW old stock) for the following reasons:

Unconventional Rubber buttons Ti-83 clone ie Algebraic only (very similar keyboard layout and press sequence). Slow (in comparision to a Ti-83).

On the plus side, it is cheap and it has a lot more math, calculus functions and memory over a Ti-83/84.

The newer Hp39G+ is basically an upgraded hardware version similar to your Hp49G+ in feel and speed. About $90 retail.

Or you might find a Ti-83/84 used at a local college or pawn shop.

I would still suggest keeping and learning your Hp49G as it is truly far superior to the Ti-83. But learning how to use and master an Hp49G will take months (and/or years depending upon HOW well you want to know it), not days or weeks, and you probably do not have that luxuary.

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Need More Decimal Spaces (17B II)

*Message #1 Posted by **Tommy Boy** on 14 Sept 2005, 2:04 p.m.*

I am about as smart as the movie character. Can someone help me add more decimal spaces behind the period?

Re: Need More Decimal Spaces (17B II)

*Message #2 Posted by **bill platt** on 14 Sept 2005, 3:09 p.m.,*
in response to message #1 by Tommy Boy

Hey Tommy,

Go to Menu (or is it Disp), and choose "all" or choose "fix" follwed by the number of places, then push "enter"

Regards,

Bill

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hp 32sii key repair

*Message #1 Posted by **brian bidonde** on 14 Sept 2005, 12:36 p.m.*

I have an HP 32Sii, SN 3349sxxxxx that has some loose keys. I know that the keys are attatched to the front plate with plastic strips. Is there anyway to repair loose keys on this calculator?

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HP Repair

*Message #1 Posted by **Michael Moore** on 14 Sept 2005, 8:34 a.m.*

Anyone know what happened to "fixthatcalc.com"? I have an HP 48GX and two HP 41s that need some help.

If do not find anyone in your country ...

*Message #2 Posted by **Artur - Brasil** on 14 Sept 2005, 10:14 a.m.,*
in response to message #1 by Michael Moore

If you do not find anyone in your country that could fix them, let me know, ok?

Best regards, Artur

Re: If do not find anyone in your country ...

*Message #3 Posted by **Thibaut.be** on 14 Sept 2005, 11:48 a.m.,*
in response to message #2 by Artur - Brasil

Browse ebay... you may find another unit for no that much money.

Re: If do not find anyone in your country ...

*Message #4 Posted by **Adrian Swanson** on 14 Sept 2005, 12:05 p.m.,*
in response to message #3 by Thibaut.be

I did buy one on e-bay for about $130

Thanks to all who responded, I have now have enough information to start the repair my self. Stay tuned.

Re: HP Repair

*Message #5 Posted by **don wallace** on 14 Sept 2005, 5:41 p.m.,*
in response to message #1 by Michael Moore

Hi Mike.

(Hey you aren't THAT Michael Moore, are you?!)

What's wrong with it? Depending on what is wrong, it can vary from being fairly "easy" to an absolute train wreck for someone to fix their 41. Be aware to not static damage the chips and do not muck around with the display at all or you will make it toast...

I have some pictures and contact info at:

http://donwallace.customer.netspace.net.au

Pretty much everything is covered in pictures there. But there are some pitfalls, also.

I repair 41s professionally for a fee. So if Australia isn't too far away for you by all means. Turnaround would be a week or two.

good luck!

DW

Re: HP Repair

*Message #6 Posted by **Paul Marin** on 14 Sept 2005, 7:48 p.m.,*
in response to message #5 by don wallace

Don, do you do repairs to other units other than 41's ie 48G's

Paul

PS what city are you in? Ta

Re: HP Repair

*Message #7 Posted by **don wallace** on 15 Sept 2005, 12:01 a.m.,*
in response to message #6 by Paul Marin

Hi Paul. I am looking at doing any high end machines which can be repaired. e.g. the 42S can be ram upgraded but not really repaired. Take a look inside one and you will see what I mean.

Have not done the 48/49 series yet but happy to look at them. Have a lot of (20 years+) experience on a wide range of small equipment repair, not just calcs... but als know the limits of what is practical... and economical.

Happy to help if I can.

DW

P.S. In queensland Austrlia. Write to me to get my city location.

donwallace63@yahoo.com.au

Edited: 15 Sept 2005, 12:02 a.m.

Re: HP Repair

*Message #8 Posted by **Paul Marin** on 15 Sept 2005, 7:49 p.m.,*
in response to message #7 by don wallace

Got a 48G that I would like to get working properly. It's either that or buy a TI-83 new in sealed wrapper from a friend of mine for $70.00. So what kind of costs would I be looking at to let you start looking at this unit? With batteries in it turns on, but then at its own discrection, the busy signal and left shift indicator appear and the unit runs to a stand still. Frantically pressing the on button might clear this status but at times it needs the batteries removed for a long period of time and then it still might be in this mode. I've looked on this site and asked advice by others more knowlwdgable than myself on repairs, but I can't bring myself to crack this baby open. Shit-scared i'm going to bust it, if you know whay I mean? Paul

Re: HP Repair

*Message #9 Posted by **don wallace** on 16 Sept 2005, 1:58 a.m.,*
in response to message #8 by Paul Marin

Hi Paul. If you don't mind please e-mail me as I don't discuss this stuff in the forum.

Thanks. Happy to help you.

DW

donwallace63@yahoo.com.au

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HP32SII disassembly

*Message #1 Posted by **Adrian Swanson** on 13 Sept 2005, 10:07 a.m.*

How is this calculator disassembled?

Re: HP32SII disassembly

*Message #2 Posted by **Jeff O.** on 13 Sept 2005, 12:35 p.m.,*
in response to message #1 by Adrian Swanson

Same as all Pioneers, check this thread for further information. Good luck!

Re: HP32SII disassembly

*Message #3 Posted by **Adrian Swanson** on 14 Sept 2005, 12:12 p.m.,*
in response to message #1 by Adrian Swanson

Thanks to all who responded, I have now have enough information to repair its damaged PCB. Stay tuned.

I did buy a used HP32SII one on E-bay for about $130.

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How many engineers etc. out there still using hp41?

*Message #1 Posted by **don wallace** on 13 Sept 2005, 2:43 a.m.*

Wondered how many professionals are still using the HP41 series? Have met a few here and elsewhere, but... maybe there's more. After all, tens of thousands got sold and they can't all be in the trash or behind a glass case.

Looking at developing some real add-ons for everyday professionals. Also at doing reliable repairs as a service for fee (a bit harder than it looks).

Anyone using their machine daily, what do you want in an add-on and what would you pay for it?

Don W

donwallace63@yahoo.com.au

Re: How many engineers etc. out there still using hp41?

*Message #2 Posted by **Geir Isene** on 13 Sept 2005, 9:30 a.m.,*
in response to message #1 by don wallace

At least two (you and me :)

Re: How many engineers etc. out there still using hp41?

*Message #3 Posted by **don wallace** on 13 Sept 2005, 9:38 a.m.,*
in response to message #2 by Geir Isene

Hi Geir. How are you going?

DW

Re: How many engineers etc. out there still using hp41?

*Message #4 Posted by **Andy** on 13 Sept 2005, 10:08 a.m.,*
in response to message #1 by don wallace

Still using one since 1989. Also using 15C and 32SII. Yes, i would pay for add-ons. In fact i also have a HP41CX Simulator on my workstation in case i forget to bring my calc.

Regards,

Andy Aerospace Engineer

Re: How many engineers etc. out there still using hp41?

*Message #5 Posted by **don wallace** on 13 Sept 2005, 10:33 a.m.,*
in response to message #4 by Andy

Thanks for the F/B...

What sort of add-ons?

DW

Re: How many engineers etc. out there still using hp41?

*Message #6 Posted by **Andy** on 13 Sept 2005, 2:38 p.m.,*
in response to message #5 by don wallace

Don,

I assist in design of spacecraft. Custom Overlays/module perhaps with triangle solutions, density calcs and Metric conversions without having to insert different modules or overlays. Similiar to TI 58C/59 program inserts. I know the new ALG/AOS HP Calcs have this. Also the older HP45, 55 and 31E series.

Thanks for your input.

Andy

Re: How many engineers etc. out there still using hp41?

*Message #7 Posted by **don wallace** on 13 Sept 2005, 5:14 p.m.,*
in response to message #6 by Andy

Hi Andy,

That's prety fascinating. I remember reading about the AOS module (program?) in HP keynotes in 1981 as youngster in the Air Force. (Was doing Comms Engineering before I dropped out due to stress).

If you can be even more specific and would be so kind as to dropp me a line at:

donwallace63@yahoo.com.au

we can take this further and I can work out what I can do in what timeframe. I am just working from home but I don't see why I can't put a bit of project management and QA into what I am doing...

I am trying to get to be *really good* at repairing these machines. There are quite a few pitfalls, actually. But when you get all the way under the hood on the 41 machine design it's a really NICE work of Art. Shame about the memory size though, I always thought...

Thank you very much for your comments.

DW

Re: How many engineers etc. out there still using hp41?

*Message #8 Posted by **Andy** on 14 Sept 2005, 1:56 p.m.,*
in response to message #7 by don wallace

Thanks Don. I too was in USAF '64-'68 in Montana at "Malfunction Junction" (Malmstrom) during Minuteman missile build-up years.

Thanks for e-mail address. Will definetly write and express desired add-ons for HP41

Warmest Regards

Re: How many engineers etc. out there still using hp41?

*Message #9 Posted by **don wallace** on 15 Sept 2005, 6:10 a.m.,*
in response to message #8 by Andy

Hi Andy. Way cool...

I don't know whether I should tell you this, but I like Stanley Kubrick movies (finally saw Clockwork Orange the other day for teh first time!), particularly 2001 AND:

Dr Strangelove (or How I Learned to Stop Worrying and Love the Bomb)

(Scary when Art imitates Life.)

I also liked Failsafe.

DW

Re: How many engineers etc. out there still using hp41?

*Message #10 Posted by **Andy** on 15 Sept 2005, 10:52 a.m.,*
in response to message #9 by don wallace

Yes Don, i remember Clockwork Orange, Fail Safe with Henry Fonda and the remake a few years back with Don cheadle. Also read the book. They used film of the B58 Hustlers (Vindicators) taking off. I remember the thunder they made when they took off from Kelly AFB in Texas with full afterburners on while i was in Basic at Lackland. It was the most overwhelming jet noise i have ever heard. I also have Stanley's Nightmarish epic with Slim Pickens riding an H-BOMB. There was a movie (UK) called THREADS made in '80s showing the aftermath of nuclear hallocaust. Had F4S taking off from from UK bases. Phantoms were part of NATO in COLD WAR years and used as primary Nuclear weopons delivery platforms. I also remember the Cuban Missile crises. Almost stopped doing my AlgebraII homework. Figuered world was going to end. Opps, just gave away my age. (59)

Warmest regards,

Andy

Re: How many engineers etc. out there still using hp41?

*Message #11 Posted by **don wallace** on 18 Sept 2005, 10:44 p.m.,*
in response to message #8 by Andy

Hi Andy.

I am posting to advise that my programming jig for the ROM emulator (Diego Diaz's Clonix clone) is running and I am in a position to roll your custom application packs (and write fully tested code for you).

I can also do some limited characterization if required:

Temperature limits testing from -20 degrees Celsius to + 45 deg.C Undervoltage latch up / 41 system crash testing and limited impact testing (2 meters to concrete). I can't characterize for RH but can quote an RH figure at which the tests are run.

Modules will be available hermetically sealed in standard module housing and can be reprogrammed using a jig. All modules would be 100% functionally tested and low voltage tested (for latch-up etc.) prior to dispatch.

Cheers,

Don W

Edited: 18 Sept 2005, 10:45 p.m.

Re: How many engineers etc. out there still using hp41?

*Message #12 Posted by **Namir** on 13 Sept 2005, 10:21 a.m.,*
in response to message #1 by don wallace

I still use mine for light calculations and some simple on-the-fly programming.

Re: How many engineers etc. out there still using hp41?

*Message #13 Posted by **don wallace** on 13 Sept 2005, 10:34 a.m.,*
in response to message #12 by Namir

Thanks for the feedback. What do you do in your job, Namir?

What gadgets would you want and use?

DW

Re: How many engineers etc. out there still using hp41?

*Message #14 Posted by **Andy** on 13 Sept 2005, 2:47 p.m.,*
in response to message #13 by don wallace

Don,

If desired features are offered, then price will not be an object.

Re: How many engineers etc. out there still using hp41?

*Message #15 Posted by **don wallace** on 15 Sept 2005, 12:24 a.m.,*
in response to message #14 by Andy

Hi Andy,

I should be able to engineer and produce either single or short run manufacture of application packs which will comply with your requirements. The time frame to supply finished product is in the next four to six months including software writing time.

Do you need MCODE in the application packs? Because I'm going to have to network with people or do some reading and creative fast-tracking to do that. I still am quite certain I can do it though. I've looked at coconut (cpu) asm code and it's not too hard; the architecture is nice.

The triangle solution stuff you speak of, is that out if the MATH I pack? Any further info you can provide to me by writing me at:

donwallace63@yahoo.com.au

Just mark it in confidence and encrypt it and bind me with a non -dsiclosure contract if it is sensitive.

Yours faithfully,

Don W

Edited: 15 Sept 2005, 12:25 a.m.

Re: How many engineers etc. out there still using hp41?

*Message #16 Posted by **Andy** on 15 Sept 2005, 10:56 a.m.,*
in response to message #15 by don wallace

Don,

MCODE not required. Yes the triangle solutions are out of the Math pac. Summations of moments of enertia would be nice. More detailed data request will be sent via e-mail

Regards,

Andy

I return to my Pro/ENGINEER WILDFIRE CAD modeling HP xwd100 workstation

Re: How many engineers etc. out there still using hp41?

*Message #17 Posted by **Namir** on 13 Sept 2005, 6:47 p.m.,*
in response to message #13 by don wallace

Hi Don,

I do analysis of European stocks. I do a lot of regression analysis. I use Excel (make use of VBA macros to automate things as much as possible), MatLab, and MiniTab. I am also looking at other software like Mathematica, SPSS, R, and so on.

My hobbies are statistics (linear and nonlinear regression), optimization, root-seeking algorithms, and time series analysis. I use calculators and computer software to implement various methods and see how I can also use them for my work.

My use of calculators is very limited in my work. I have an HP-41CX near my laptops which I used to do simple calculations.

Namir

Re: How many engineers etc. out there still using hp41?

*Message #18 Posted by **forrestswitzer** on 13 Sept 2005, 3:49 p.m.,*
in response to message #1 by don wallace

Don,

There are two other engineers in our small office of 12-people still using the 41. I am using a couple of 42's, but also have a couple of 41's. We are a civil engineering company, and mostly they are used over the top of drawings for figuring slopes, elevations, horizontal and vertical curves, etc. Many surveyors still have them and use them regularly, even though they may be using a 48 or some of the later data collectors for survey instrument data collection and transfer. If you want to see the level of use by surveyors of HP products (all obsolete) then go on eBay and search for "HP Survey*".

Although we do all of our drawings in CAD, and have a PC at every desk, it is just much easier to grab a calc, lay it on the drawing that is too big to fit beside the PC (or maybe a set of 200 sheets bound together), and do our calcs.

I have specialized programs for the 4 or 5 things I use most, but would use it for adding up lists, or anything where it is faster than creating a spreadsheet.

Most needed in our office would be a means to save and re-load programs and data. An ability to connect to a PC and transfer both directions for about $50 would be a huge help. Whether it is through an IR or USB or whatever. Since the 42 has no way of doing that, or even talking to another, that would be a huge help also.

Forrest

Re: How many engineers etc. out there still using hp41?

*Message #19 Posted by **don wallace** on 13 Sept 2005, 5:28 p.m.,*
in response to message #18 by forrestswitzer

Hi Forrest.

Thank you for the feedback. It aligns perfectly with my initial thoughts. I always wanted (larger capacity) data/program nonvolatile backup. And for all sorts of reasons 2-way IR would be nice and has been planned by mytself from the outset. I just wondered how many other people actually using "in-field" thought the same way.

I am looking closely at doing two way IR with very good lighting immunity at (a slow) 1200 bps because that is what you can do with cheap modulated (light) carrier components.

I also want to do a nice permanent data backup/restore system which fits in a module.

If you want to discuss this further, please write to me at:

donwallace63@yahoo.com.au

I agree totally on the space saving aspects of the calcs. They just "DO STUFF" as younger people are want-to-say today in a smaller package that nothing else does... It was very cool to read your post.

DW

P.S. In 1985 I used to fix desktop computers (a supercalculator with graphics and printer in-board) for Canon Australia in Brisbane. They were used a lot in roofing (truss design), and in a few med labs I think

Re: How many engineers etc. out there still using hp41?

*Message #20 Posted by **Fred Lusk** on 14 Sept 2005, 8:46 p.m.,*
in response to message #18 by forrestswitzer

Forrest…

Another civil engineer here, class of 1980.

There is one engineer in my office who still uses a 41CV, and one who did until he lost his a year ago. He bought a 48GX, doesn't like it, but got promoted to VP, so it's a moot point. I know of several other engineers in other offices who still use one version or another of the 41. I have a 41CX that I use sometimes, but I mostly use my 42S and once in a while my 48G+. For a 41, I am more likely to use Warren Furlows 41CX emulator. I typically use it to run some older programs that I haven't spruced up yet to use the 42S menus, or simply won't fit into the remaining memory of the 42S.

Since I'm the only one in the office who ever took an interest in writing programs, the guy who still uses the 41CV uses several of my programs.

Fred

Re: How many engineers etc. out there still using hp41?

*Message #21 Posted by **Forrest Switzer** on 15 Sept 2005, 2:28 a.m.,*
in response to message #20 by Fred Lusk

Fred,

I am in a similar situation but am probably much older than you. Maybe because I had some programming experience back in the mid 60's (when I was in the Army) the 41 seems really easy for me to program and when it first came out I wrote a COGO program for it that remembered coordinate points by point number. The survey module makes you type in the coordinates every time and that becomes a bummer real quick. I had a program that would traverse, inverse, and do the BB, DD, and BD intersections allowing you to set and recal points by number. As I recal, besides the program you could hold about 60 points in memory. It was two dimensional so we wern't carrying elevations with the numbers, just the northing and easting. That quickly got converted first to tape storage with a little more room for the program features, then to the disk drive. We had about four survey crews using it. (I wish I had kept a copy, but it looked like the laptop and pc were the future).

I really like the 42. It is light and fast and has that extra line on the screen, etc. I hate that it can't be backed up. You are right. It also needs more memory. I also really like the 71. Its survey module remembered points by point number and did some really slick stuff for that time.

My job is solving peoples problems. Most of them deal with grading in one way or another. Some with property boundary descriptions. Most of them are real problems that are happening now, and someone is really interested in getting them fixed quickly. The current thought process is that if they can fax or e-mail me a problem then I should be able to answer the question in the same time period that it took them to ask the question or pose the problem. Because of the type and variety of problems I deal with, the pc is seldom involved in the solution. It is more a process of fresh ideas from a different viewpoint and the 42S provides the necessary calc support. Once the solution is determined then maybe time spent on the pc in Land Development Desktop or maybe hydrology and hydraulic calcs.

Forrest

Re: How many engineers etc. out there still using hp41?

*Message #22 Posted by **chas** on 13 Sept 2005, 9:59 p.m.,*
in response to message #1 by don wallace

Use a 41CV every day since 1978. The same one. I've rebuilt the posts several times, all prior to using Internet.

It replaced/retired my HP35.

Use many programs that I wrote myself, and many longer ones that I bought from Mr. Horne, during the 80's. (They were such a steal at $6.00 to $12.00 at the time.) I ordered a back-up 41CX the week they quit making them, I already had a back-up card reader.

Since I've found this web site I've repaired both card readers, several voyagers and pioneers. Thanks to eBay, I now have a three repaired 41CV back-ups too.

Really would like some sort of connection to a computer, so I could store/retrieve programs there.

Batteries are not as easy to find as they used to be. If the N-cells disappear, like the half N's we'll all be going to 357 powered devices, and a ratty 42s will go for $500 on eBay.

Re: How many engineers etc. out there still using hp41?

*Message #23 Posted by **don wallace** on 13 Sept 2005, 11:59 p.m.,*
in response to message #22 by chas

Hi Chas.

I am going to build something simple and fairly cheap that fits in a module. Probably will implement RS232C and maybe over an infra-red link (maybe two way).

What software would you want at the PC end. Would a standard app. like (MS windows)Hyperterminal be preferred? Would a dedicated piece of (program and data load and save)software be expected? What options would you want?

DW

Edited: 14 Sept 2005, 12:05 a.m.

Re: How many engineers etc. out there still using hp41?

*Message #24 Posted by **Geir Isene** on 14 Sept 2005, 4:38 a.m.,*
in response to message #23 by don wallace

Hi Don,

I would love a simple way to hook my CX to my Linux laptop.

-> Geir :)

PS: I'll ship the module as soon as I can get my head above the waterline and get to the post office.

Re: How many engineers etc. out there still using hp41?

*Message #25 Posted by **don wallace** on 14 Sept 2005, 7:36 a.m.,*
in response to message #24 by Geir Isene

Hi Geir! How are you doin'?!

re: module, No problems!

re: Linux link, I'm working on a general purpose rs232 link. may even be two way IR at 1200 baud.

DW

Re: How many engineers etc. out there still using hp41?

*Message #26 Posted by **chas** on 14 Sept 2005, 7:13 p.m.,*
in response to message #23 by don wallace

Thanks for your reply Don,

2-way via infared economically would be great. I'd have to go buy an infared mod, but I'd do it if the economics was willing.

Whatever is the least painless with Windows. I haven't tried hyperterminal since Win3.1. For the amount of information going back and forth it should not be a problem, but likely more universal methods exist.

Re: How many engineers etc. out there still using hp41?

*Message #27 Posted by **don wallace** on 15 Sept 2005, 12:05 a.m.,*
in response to message #26 by chas

Chas,

I was thinking of building my own IR module... if you get my drift.

Stay in touch because I will definitely be doing something along this line.

DW

Re: How many engineers etc. out there still using hp41?

*Message #28 Posted by **mike hicks** on 13 Sept 2005, 10:07 p.m.,*
in response to message #1 by don wallace

Still use my HP-41 CX. I have several and it is my favorite. I use spreadsheets, etc., but sometimes you just need a good calculator.

Re: How many engineers etc. out there still using hp41?

*Message #29 Posted by **Garth Wilson** on 14 Sept 2005, 1:25 a.m.,*
in response to message #1 by don wallace

I still use my 41cx every day, although not very often anymore for the longer programs and data acquisition and equipment control. My home-made workbench computer and even the HP-71 is much better for that. I mostly use the 41 for quick calculations by hand, number-base conversions (with the Advantage module) for programming, various conversions and medium-short programs, my alarm clock, a Daytimer of sorts, and even keeping some phone numbers in. Most shifted keys are re-assigned.

I have the HPIL-to-RS232 and HPIL-to-HPIB (IEEE488) interface converters, but use them more with the HP-71 than with the 41. I also have the Mountain Computer HPIL 80-column video interface. I have sometimes wished I had bought a double extended-memory module for the 41 (which would fill my four ports with 6 modules since my HPIL and X-I/O are already combined to take only one port), but the need for the additional extended memory seems to be going away, as even without it now I haven't had to hook up either of my HPIL tape drives in years. The one thing I might still wish I had gotten when it was available was the HPIL-to-parallel interface-- the smaller, earlier, more versatile one. I can get the same function though in a

round-about way, going through RS232 to my home-made workbench computer which has far more I/O of various types, timers, and other nice things than I could ever expect to find in an HPIL (or dedicated HP-41) device. Connecting the 41 to a parallel printer this way for example is a little more involved than I'd like, but I've done it when necessary (when my HPIL Thinkjet didn't work anymore).

I would be more likely to buy further accessories for the 41 if I could use them with the 71 as well, which basically means HPIL.

Someone else mentioned difficulty in getting N cells. They're always available at Radio Shack, Sav-On, Home Depot, and all kinds of places, especially drug stores and consumer electronics stores.

Edited: 15 Sept 2005, 3:40 p.m.

Re: How many engineers etc. out there still using hp41?

*Message #30 Posted by **valentino ducati (switzerland)** on 14 Sept 2005, 2:43 a.m.,*
in response to message #1 by don wallace

Hi Don

I used my 41C on daily basis until I had a severe battery leakage after vacances in 1998.

After that I converted to a 32SII for on-the-fly calculations and short programs.

In 2004 I found a beautyful 41CV. So, after 6 years, I had again an 41.

Today I use it for larger programming tasks, always with printing routines for the IR printer. To make the story short: My daily favorite is the 32SII (smaller), but as soon it goes into programming or repetitive tasks, it comes the time for the 41CV.

My job: IT consulting and project management for solutions in enterprise content management sector.

If **I** could wish I would like some media card (SD, MMC...) external memory storage. Maybe as slot solution, or incorporated into a card reader device hull.

Re: How many engineers etc. out there still using hp41?

*Message #31 Posted by **Arne Helme** on 14 Sept 2005, 4:57 a.m.,*
in response to message #1 by don wallace

Hi Don,

for 25 years I have been using my 41s almost daily. I got my first one when I was a kid and used it throughout high school and university. Nowadays it is the 17BII that tends to be most used, though, but that's because the financial functions of the 17BII fits better with my current job as consultant/project manager than the standard scientific functions of the 41.

I have always liked the "look and feel" and functionality/programmability of the 41 series. For me there are only three shortcomings 25 years after 41 series was introduced: speed, storage, and communication. I'll pay for products that will improve on the 41s in either of these areas.

Good luck with your project(s)!

Regards,

Arne

Re: How many engineers etc. out there still using hp41?

*Message #32 Posted by **don wallace** on 14 Sept 2005, 7:47 a.m.,*
in response to message #31 by Arne Helme

Hi Arne!

Thanks for the feedback! (and encouragement) I am starting on actual hardware / firmware at this time, finally! I will certainly keep you posted on the IR and storage projects. You may want to look at my website again.? Early days...

I was 17 when I bought my 41CV (serial number 2103A...) so that makes me 42 ;-) The answer to Life, the Universe and Everything, so they say.

The 17 is very nice but I don't know much about finance and have never used one but yeah, balloon payments and amortization, etc... I can dig it. Anything numeric with a dollar sign in front of it makes me nervous, I don't really know why...!

Don W

Re: How many engineers etc. out there still using hp41?

*Message #33 Posted by **Garth Wilson** on 14 Sept 2005, 2:33 p.m.,*
in response to message #31 by Arne Helme

> Quote:
>
> Nowadays it is the 17BII that tends to be most used, though, but that's because the financial functions of the 17BII fits better with my...

If you can find yourself an Advantage module for the 41, that'll give you the TVM (time value of money) program for the financial stuff.

Re: How many engineers etc. out there still using hp41?

*Message #34 Posted by **don wallace** on 15 Sept 2005, 6:05 a.m.,*
in response to message #33 by Garth Wilson

Hi Garth. I will make myself one... ;-)

DW

Re: How many engineers etc. out there still using hp41?

*Message #35 Posted by **Vieira, Luiz C (from Brazil)** on 14 Sept 2005, 1:17 p.m.,*
in response to message #1 by don wallace

Hi, Don;

I am almost sure I'll start some discussion, maybe some flames, but I think that as you ask for some feedback, let's try a few thoughts.

When I bought my HP41C in the 80's I used to dream of possibilities and add-ons. I was later known about the 41´s adaptation of the HPIL system, but I could not afford any of those. I remember showing a friend of

mine the HP41 running programs I wrote for 3D and complex arithmetic, and at his turn, he showed me his Apple computer. Even if I could work with a color screen and use the whole bunch of kilobytes plus floppy disks, I'd still prefer my pocket-size, fully portable HP41.

Now I use the HP41's I have from time to time, mainly to run earlier programs prior to store them or to port them to other systems. Most of the programs I wrote for the HP41 are now available as internal functions, routines in newer models, but some of these HP41 programs contain specific procedures or data handling that may be useful somehow. I still use RPN/RPL calculators at the academic level (I'm an electrical engineer and since 1995 I act as a university teacher), but when I find the time and the 'tease', I go for some RPN exercise. A couple of days ago I wrote a small program for a friend that asked me if there was a way to compute NFV (net future value) in an HP12C/Platinum without the need of changing existing TVM data neither use extra storage registers. My final version is a 31-step, fully automated program.

If the HP41 system is still active, in production, or (even better) has compatible, updated replacement components, then I'd go for new add-ons. In fact, I think that the only ones are worth buying today are Meindert Kuiper´s MLDL, Christoph Klug´s HPIL/PC connection card and Diego Diaz´ Clonix. As for what I know, with these add-ons, you can make the HP41 sing and dance.

I myself like to keep track with the new, and I have been dealing with some experiments involving bidirectional IR I/O for the HP48/49 series. Just a few tests with sending and receiving, nothing exceptional so far.

Thanks for your offer, Don. I hope you take these words of mine as my own feedback. And guys, please, don't toast me up…

Cheers.

Luiz (Brazil)

Re: How many engineers etc. out there still using hp41?

*Message #36 Posted by **don wallace** on 15 Sept 2005, 12:36 a.m.,*
in response to message #35 by Vieira, Luiz C (from Brazil)

Hi Luiz,

Really good to hear from you about your work and your interests in maths. Plus the HP gear you have and use.

I am actually an EE dropout (long story) turned small system tech and defacto EE (contractor). Also into NT4 systems admin and also tinker with LINUX / UNIX when I feel I need to. I have an educated laymans interest in maths. But I failed D.E.s at UNI...(subject called ME201 [maths for 2nd year engineers - differential equations])

Back to the 41: There really is nothing like these old machines. So far as I know the 41 is rather dead in any form of manufacture. I am interested in preserving and repairing the hardware, plus assisting with eliminating the weakness of no cheap connectivity and poor memory / storage, etc.

Modifications and enhancements are for me only a way to increased utility, not really for hacking mcode (though that is fascinating to many people here, including me to an extent).

Re: How many engineers etc. out there still using hp41?

*Message #37 Posted by **Jim Creybohm** on 14 Sept 2005, 3:42 p.m.,*
in response to message #1 by don wallace

Hi Don.

Tried to lurk only, but had to add my .02Cdn (.0000001 USD). I am a petroleum using mine daily. Not so much technical anymore, but still a daily driver.

1) Two way transfer with the PC. NOT using Hyperterminal, rather a standardized program such as kermit or vt100. $150 w/ cable? USB 1.0/serial/parallel.

2) Extension of the 41 screen/stack through the PC, i.e, trace on the printer. This would also allow editting of programs in your favourite editor. Perhaps printing as well. Why? It would be record of work done, and later could be a replay of your session.

3) An interface into a memory card. 8/16 MB would suffice, but it would be better if I could then put the memory card in to my PDA. Perhaps through the card reader.

4) Replacement battery/module traces! How many 41's have been put into drawers because leaking batteries ate through the traces? I would pay up to 25 USD for a new one. This should be a simple thing to do.

I know that there are some applications out there that do exactly what I am seeking, but I am seeking something simpler. I find it easier to use my PC keyboard, but I prefer using the 41. If I could write a program on my PC, then xfer it to my 41, I would be one happy duck.

Re: How many engineers etc. out there still using hp41?

*Message #38 Posted by **don wallace** on 14 Sept 2005, 7:40 p.m.,*
in response to message #37 by Jim Creybohm

Thank you, all, for your GREAT FEEDBACK...

Will be implementing the best and most popular ideas in the next three to six month time period. Yu can stay posted by visiting my website.

Thanks.

Don W

Re: How many engineers etc. out there still using hp41?

*Message #39 Posted by **don wallace** on 15 Sept 2005, 12:57 a.m.,*
in response to message #37 by Jim Creybohm

Hi Jim.

Thank you for your comments. Very interesting. I don't like Hyperterminal. I was thinking of a one protocol like kermit or something similar. I always used to use PROCOMM (now here's a blast from the Past...) in the MS DOS days. Was thinking in the price range you mentioned. Serial though, as it has more utility for machine control than USB.

Straight serial would mean a linux/unix link also.

SD memory cards have been mentioned to me before. Has got me seriously thinking. Would one want that amount of ram? Would be very good for storing data sets.... That amount of storage does mean an intelligent peripheral to maintain an indexed library of data for the 41 to access, so i thought people would rather have a laptop do that...?

Tracethrough, well thats a really neat idea, but if you can tell me a bit more about how you want it to work and I might be able to actually build it for you. Anyone else want something like this? If there is enough demand then a good idea can get engineered into reality. Meinderts mldl2000 is a good example of that.

Battery flexstrips. Simple? yes. Cheap? No... I can't see it. Copper on mylar (or whatever it is) can't be cheap in low run quantities because it's low demand/specialized. I am looking at ways to fix this interconnect problem but can't get past hand repair of machines sent to me as yet. Still thinking about it though. I would love to see everybody able get their old 41 machines up and running again. Most units I have seen sold on Ebay have these problems.

I am also looking at a really neat way to repair the stress cracking of the plastic shell mouldings that all old machines suffer from in time. This is a serious "killer" of machines.

Anyway, thanks for the really interesting feedback, Jim. I'll give the solution to those problems you raised serious thought.

DW

Edited: 15 Sept 2005, 1:01 a.m.

Re: How many engineers etc. out there still using hp41?

*Message #40 Posted by **Garth Wilson** on 15 Sept 2005, 2:37 a.m.,*
in response to message #39 by don wallace

> Quote:
>
> SD memory cards have been mentioned to me before. Has got me seriously thinking.

I'd recommend MMC instead. MMC uses the same form factor and even the same connector; but you don't have to pay thousands of dollars to the association, plus royalties, to be able to make and sell MMC-compatible equipment like you do with SD. One of the industry magazines predicted that MMC will be gaining more market share against SD because of this. MMC does have an SPI mode too, which makes it really simple to interface.

Re: How many engineers etc. out there still using hp41?

*Message #41 Posted by **don wallace** on 15 Sept 2005, 3:35 a.m.,*
in response to message #40 by Garth Wilson

Hi Garth!

Thanks for the advice (I haven't bothered to check this stuff out in that legal/costs area). For sure MMC would be the deal... and SPI is what I am looking for, because that will dove tail with the IIC buss which I will probably implement the comms to work on.

I am looking at something a little lower power than what Diego has done. With similar general capacities... or better, using a different approach. I wish to get close to truly emulating the old modules themselves, if possible.

DW

Edited: 15 Sept 2005, 3:53 a.m.

Re: How many engineers etc. out there still using hp41?

*Message #42 Posted by **Meindert Kuipers** on 15 Sept 2005, 6:39 a.m.,*
in response to message #39 by don wallace

The MLDL2000 is designed just to be able to do all this. Of course it requires a special program on the PC, but my plan is to ultimately have the PC emulate mass storage, printer and maybe keyboard and display as well (althoug it is then better to use V41 or another emulator). There is no need to modify the hardware for this, all should be possible to do this in the PC software, a special ROM and perhaps some modifications in the CPLD 'firmware'. Communication is through USB, even the upgrading of the CPLD firmware. Note that these features are NOT implemented yet, but will be my next project for the winter evenings. Since the design is completely open, you are all invited to do your own stuff!

Another possibility is to use the HP41 as the input device for V41 with the right modifications to V41 itself.

The MLDL2000 has a ridiculous large amount of storage (that is compared to the HP41 memory itself) and a memory card is not really needed. ROM images can easily be backed up to the PC.

The only think that the user community should do is to make software for the host computer supporting Linux, since I only support Windows myself. Again, with the open design of the MLDL2000 this should not be too difficult.

Meindert

Re: How many engineers etc. out there still using hp41?

*Message #43 Posted by **don wallace** on 15 Sept 2005, 5:14 p.m.,*
in response to message #42 by Meindert Kuipers

Hi Meindert.

Whats the power drain of the MLDL2000? How rugged and reliable is the system? What does a complete pre-tested unit cost? Has there ever been any mldl or 41CX host crash? How often? What is the MTBF?

DW

Re: How many engineers etc. out there still using hp41?

*Message #44 Posted by **Meindert Kuipers** on 18 Sept 2005, 6:38 a.m.,*
in response to message #43 by don wallace

Hi Don,

A lot of questions, most are answered at my website. It is as rugged as you want it, since the unit is shipped as a kit with an empty cardreader shell, and you are the one to assemble it. I do offer an assembly service, and I think it is just as rugged as a normal cardreader. Just do not abouse it (I would never do that with my '41 anyway). Current consumption is about 8 mA extra when the HP41 is running, and virtually none when in standby or off. Current may be a bit higher if a gold cap is installed for battery backup and it needs to be charged by the HP41. And yes, I have seen some crashes in the HP41, but these are mainly due to bad contacts or bad settings. Some I have not been able to fully explain yet.

Meindert

Re: How many engineers etc. out there still using hp41?

*Message #45 Posted by **Jim Creybohm** on 15 Sept 2005, 10:34 a.m.,*
in response to message #39 by don wallace

Hi Don.

1) Straight serial would be great! Serial link and standardized protocol would allow MAC/Linux and PC's to talk to the 41.

2) The SD card would allow transfer of programs from PC to 41 to pocketpc/palm. I want to save my 41 for better things, however I also would like to run prgrams on a pocket pc emulator when I am out in the dirt and don't always have access to my laptop. Pie in the sky stuff, but it seems that the people here can do anything with the 41 (unlike myself who only can dream of programming in mcode).

3) The tracethrough idea is one that I haven't fleshed out yet. Initially, the PC was simply to be a virtual printer for the 41 - ergo any printing could then be reflected on the virtual printer and then a txt save. Ultimately, I was dreaming that if a 41 active playback were used, it would be a simple matter to then create a checksum for programs after a certain number of steps. Thus, program data entry error could be reduced, as well as a transaction record of the session. A playback would not be required, but again I am doing a little dreaming...I am also trying to stimulate a little conversation on something that I think might have some merit.

4) I am very sorry to hear about the flex strips. I guess I should have thought a little bit about the fact that there is a reason no one has done this. Every second week I get a spam email from a chinese vendor offering to do printed circuits and copper traces. I will pay more attention in the future and maybe I can get them to put something together. I see this as the biggest single shortfall of the 41.

I wish you the best of luck in your endeavour to return the 41 to its rightful place at the head of the class. It is a noble venture, and you have some great persons available for resources.

Re: How many engineers etc. out there still using hp41?

*Message #46 Posted by **Massimo Gnerucci (Italy)** on 15 Sept 2005, 12:47 p.m.,*
in response to message #45 by Jim Creybohm

> Quote:
>
> I also would like to run prgrams on a pocket pc emulator when I am out in the dirt

I use eV41 on my iPAQ 6315 (download here)

Give it a try if you already haven't: quite good in my opinion.

Greetings,
Massimo

Re: How many engineers etc. out there still using hp41?

*Message #47 Posted by **don wallace** on 15 Sept 2005, 5:28 p.m.,*
in response to message #45 by Jim Creybohm

Hi Jim.

I am thinking that maybe I am able to just fix the flexstrips if people just send me the

BACKSHELL of their machine. That would get the weight down and maybe the cost and would be (only a little) less disastrous if the post goes awry.

The thing is that in a moderate leakage, corrosion or contamination occurs on the gold flashing on the keyboard PCB, so the machines require my attention to repair this. I also permanently fix the problems of failed ports and intermittent crashes caused by corrosion on the interconnect, without soldering wires into the machine (!). So the repairs are solid and restore the machines to original (you can remove the backshell).

I am looking at the best way to reinforce the screw holes which crack over time (this is a very weak design area). Given thats resolved I think these machines could last another ten years, maybe twenty? Does anyone know the life of a well made LCD display?

An Italian friend of mine remarked that it almost unheard of for a calculator (or any small computing product) to last 25 years and he wondered what their lifespan really is... We will see.

As regards the people I have here to help me, yeah you are right they are a great bunch.

DW

P.S. I HIGHLY RECOMMEND Warren Furlows V41. It is very, very nice.

Edited: 15 Sept 2005, 5:31 p.m.

Re: How many engineers etc. out there still using hp41?

*Message #48 Posted by **Garth Wilson** on 15 Sept 2005, 6:01 p.m.,*
in response to message #47 by don wallace

> Does anyone know the life of a well made LCD?

I'm not aware of any limits on the life of an LCD as long as it's not abused. I have seen one that turned dark from being in extreme heat for a long time, and I've read that the worst combination is heat and moisture. The LCDs on my own HP's that are getting close to 20 years old still have bright, silvery backgrounds and really black segments or dots. Ditto for my workbench computer's LCD which is also nearing 20 years of age. I have several other LCD samples from products I've developed, and these are also at least 15 years old and appear and work as new. I have purposely tested LCDs at temperature extremes, but did not leave them at those extremes for more than an hour or so. At super low temperatures, it may even take seconds for a segment or dot to turn off or on before it gets so cold it won't work at all (like -40ºC). At high temperatures, the display may even turn negative-- ie, lighter dots against a dark background and be hard to read. But in all cases, everything went back to normal when the LCD was brought back to a normal operating temperature.

Re: How many engineers etc. out there still using hp41?

*Message #49 Posted by **Ian Phillips** on 15 Sept 2005, 3:51 p.m.,*
in response to message #1 by don wallace

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The R/S key on the 41C I bought in 79 has become unreliable but I bought a goverment
surplus 41CV about 9 years ago and it is daily use. Mainly for temperature and unit
conversion programs that are assigned to labeled buttons.


I have not tried a 42, 15 or any other HP calculator but have never come across anything
as versatile, functional and as convenient as the 41. I have card reader and wand but not
used either in the last 5 years, but I just tested the card reader and it works fine even
though its never been opened up.
```

Wish list...

data transfer with pc that does not cost an arm and a leg!

Ian Phillips, Cheshire UK

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HP-71B - HP-41 Translator Bits?

*Message #1 Posted by **Howard Owen** on 11 Sept 2005, 5:19 p.m.*

I can't find this particular bit pattern anywhere on Usenet or the Internet. Do any of you hard-core HP collectors have the 82490A module? Have you extracted it into a free-standing LIF or other file type? Would you consider letting me make a digital copy of that bit pattern?

Regards,

Howard

Re: HP-71B - HP-41 Translator Bits - Found 'em

*Message #2 Posted by **Howard Owen** on 12 Sept 2005, 12:00 a.m.,*
in response to message #1 by Howard Owen

FTH41ROM in J.F. Garnier's Lex Files 1 collection.

Found 'em, but now what?

*Message #3 Posted by **Howard Owen** on 12 Sept 2005, 1:33 a.m.,*
in response to message #2 by Howard Owen

That's actually a copy of the lexfl1.gz LIF image available from the museum's FTP site.

The status of the FTH41ROM file is discussed in this museum thread. What I'm trying to do is to run EMU71 with the HP-41 translator. The referenced thread says that the FTH41ROM file is "part of" the 16K soft configured portion of the translator. Is the hardwired E0000 portion the same as the standard FORTH ROM? Also, the lex file is only 890 bytes, far smaller than 16K. WTF, over? 8)

Edited: 12 Sept 2005, 1:34 a.m.

Re: Found 'em, but now what?

*Message #4 Posted by **don wallace** on 12 Sept 2005, 1:46 a.m.,*
in response to message #3 by Howard Owen

Hi Howard! How are you?

Got the FORTH bug I see. I wish I could help you but I don't have a HP-71 to start with... Let me (us all?) know how you get on.

Interesting archive thread you pointed out.

On another subject entirely, I have a few (hardware) photos I just posted to my webpages that might just interest you. I am tinkering with my 41 on a 'scope, preliminary to getting my LSA running. One photo is interesting in that it shows what a difference twisting two short (insulated) wires together can

make... ;-). The difference between crashing a 41C and seeing the data bus in actin is so very fine... In light of your earlier inquiries about HP-IL it might be interesting to you.

Just a thought.

w.r.t. your current endeavours: good luck!

Don W

Re: Found 'em, but now what?

*Message #5 Posted by **Meindert Kuipers** on 12 Sept 2005, 8:53 a.m.,*
in response to message #4 by don wallace

Don,

I am surprised that it makes so much difference. The HP41 bus is pretty stable in my experiences. However, since the signals are CMOS, you should avoid loading them. Crashes can occur when pulling a signal too low, but I have used pretty long (non-twisted) wires to my scope or other circuits without any problem at all. Also be aware that the ISA signal is used as a reset by driving it high for a short time.

Meindert

Re: Found 'em, but now what?

*Message #6 Posted by **don wallace** on 12 Sept 2005, 5:09 p.m.,*
in response to message #5 by Meindert Kuipers

Hi Meindert.

Thanks for the info. I have been doing a bit of reading so I know about the coconuts "soft" reset, etc.

I am not loading the buss much at all at the moment. Just a CRO: 1 Mohm || 39 pF.

Yeah, I was a bit surprised at the DATA bus crashes, too. To be exact though, that happened on my 41CV, which is a very old (early) machine from January 1981 production. It wuld have been one of the first to use the then new high capacity (?!) 16 x 56 bit RAM chips. Maybe they switched to internally buffered circuitry or revised the chip design shortly after that?

On my old CV I know the ROM is able to drive the ISA bus more strongly than the RAM can do with the DATA bus. There's a real difference!

Finally, to be fair to my CV it was fitted with a TIME MODULE and two other modules during the "run" where I had the crashes: X functions and a CIRCUITS ROMPACK. So there was a bit of capactive loading contributed by the modules themselves. But yes, I got the system to crash a few times...without trying ;-). The "new" 41C (manufactured September 1980!) was not fitted with any modules, so it "got off lightly", so to speak.

I had been planning to buffer the BUSS before looking further (with a 74HC04 or a CD4069) but found I could get reliable operation just by using the transmission line approach. So I guess we can all learn a thing or two from a simple jig, even if we do use high density chips, SMT and CAD/CAM VHDL software!

Electronics is fascinating. I have been working with CMOS and LSTTL logic for 27 years

(analogue a little longer) and I am still surprised very occasionally. The other day with my CV was another such occasion.

Don W

Re: Found 'em, but now what?

*Message #7 Posted by **Eric Smith** on 13 Sept 2005, 1:05 a.m.,*
in response to message #6 by don wallace

> Quote:
>
> my 41CV, which is a very old (early) machine from January 1981 production. It wuld have been one of the first to use the then new high capacity (?!) 16 x 56 bit RAM chips.

I think you meant the new high-capacity 64 x56 bit "quad" RAM chips; the HP-41CV uses five of those and one of the 16 x 56 chips.

"My Bad..."

*Message #8 Posted by **don wallace** on 13 Sept 2005, 1:38 a.m.,*
in response to message #7 by Eric Smith

HOW EMBARRASSING!

Yeah, Eric, I was lost in space (tired) when I wrote that...

By the way, I think you said way back when (in a reply to me in another thread) that a USB port for the HP-41 would be good. What's wrong with using an MLDL2000?

Would many people really just want usb alone for the 41? What for? And what else might people want that's practical?

I was thinking a while ago about doing a very few really practical add-ons for the system, which the average engineer would use, rather than people who want a pocketable coconut assembler etc., which is in theory what some of these "power gizmos" (Diego and Meinderts marvellous hardware) would do and I guess what they are aimed at.

My interest lies in another area entirely, real add-ons and reliable repairs for everyday maths / engineering HP41 users.

Any regular (everyday real world) HP41 USERS please feel free to respond... (keep it practical if possible.)

DW

Re: "My Bad..."

*Message #9 Posted by **Eric Smith** on 13 Sept 2005, 6:46 p.m.,*
in response to message #8 by don wallace

> Quote:

> I think you said way back when (in a reply to me in another thread) that a USB port for the HP-41 would be good.

Did I? I suppose I might have said something like that, though I don't recall. I'd personally probably be happier with an EIA-232 serial port (formerly known as RS-232), but these days most people probably prefer USB.

A serial port would be more useful to me in that it would allow the 41 to control instruments as well as upload and download software.

> Quote:
>
> What's wrong with using an MLDL2000?

Nothing, other than that I don't have one, and AFAIK it doesn't allow the 41 to programmatically control data transfers to other devices.

Re: "My Bad..."

*Message #10 Posted by **Howard Owen** on 13 Sept 2005, 9:11 p.m.,*
in response to message #9 by Eric Smith

A $20.00 USB to serial device gives you the best of both worlds.

Well, a USB port + converter *is* bulkier than a nice built in serial port. But I've gotten an HP-85, HP-48, HP-41, HP-75 and HP-71 talking to my T40 laptop running Linux with one of those things. (The latter three with the HP-IL<->RS-232C converter.)

Re: USB vs 232

*Message #11 Posted by **don wallace** on 13 Sept 2005, 10:59 p.m.,*
in response to message #10 by Howard Owen

Hi Howard. Yes you are right it does, MOST of the time... USB has a few serious drawbacks in certain areas though...

I ran across your docs showing your network the other day. Pretty cool, but what do you actually DO with it?

Not being rude, just curious. How's the long HP-IL going?

DW

Re: USB vs 232

*Message #12 Posted by **Howard Owen** on 14 Sept 2005, 12:05 a.m.,*
in response to message #11 by don wallace

Hi, Don.

I now have two of the HP-IL/Cat-5 cables. I use both on a daily basis and they work great.

As to what I actually *do* with all this stuff, I'd first like to point out that getting anything accomplished with a hobby is optional, in theory anyhow.

But truth be told, I am pursuing several goals with all my HP-IL equipment. The main high-level goal is to make as much old software for the HP-41, HP-71 and HP-75 accessible to current enthusiasts as possible. That means developing or reviving systems to connect the old storage media to the 21st century Internet. It also means trying to scrape together documentation for all the old stuff that lacks it. The lack may be due to loss of original hardcopy, or perhaps because the documentation is buried in old PPC or other club journals. In either case I need to load the software onto a real machine or an emulator, figure out what it does, then try to match it up with other information sources. This is an enormous task, which I will never complete on my own. But it's pleasant to pursue at my leisure because it requires playing with the old machines and reading the old journals, which are both activities I enjoy.

In a closely related goal, I'd also like to collect and conserve as much old software and printed matter as I can. I'm standing on the shoulders of giants here, for which fact I am profoundly grateful. But I do occasionally run across old programs that aren't in any online repository I know about. I have several user library programs that fit this description. The user library probably perished in a landfill after the Corvallis division moved to Singapore, according to several threads in the museum archives. It seems to me to be worthwhile to try and reconstruct as much of it as we can from the materials that were distributed by the library over the years.

I'm also interested in writing a Linux HP-IL driver. I got some way down this path before I realized I could run EMU41 and drive Cristoph Klug's ISA card under Linux without a driver. That removed a lot of the incentive to write the native driver. So I've been lazy about that.

And generally, I have fun with systems. The HP-41 is an open system, rather than a closed box. I didn't know that when I bought my first one from tutoring money in Junior College, but that's what it was, and is. The other machine I got introduced to then was the Apple II, another open system. Those two open platforms were products of the accelerating advance of microelectronics that swept through the last third of the 20th century. And they were my entry point into that tide of change and progress. So being able to connect them to the 21st century isn't just a cute trick in my opinion. It's really a profound reflection on the nature of open systems, as well as a personal journey through my own history.

Re: USB vs 232

*Message #13 Posted by **don wallace** on 14 Sept 2005, 12:09 a.m.,*
in response to message #12 by Howard Owen

Another great answer, Howard.

I dig it, brother...

Cheers,

DW

hp41-i/f

*Message #14 Posted by **don wallace** on 13 Sept 2005, 10:56 p.m.,*
in response to message #9 by Eric Smith

Thanks for the feedback Eric.

Yes, I thought rs232 is better. USB being block sucks a fair bit for control type apps. The data rate is total overkill for the 41.

I will try to roll a nice simple 232 adaptor for the 41. Don't know when but in next month or three...

Do you have an e-mail address where I can ask you about software control of 232 port data lines etc...? If you don't mind down the track I would love to be able to get a few answers from someone who's actually done it, because I would be using the port in a higly non-standard manner... you know what I mean.

DW

Re: "My Bad..." or USB vs RS-232

*Message #15 Posted by **Meindert Kuipers** on 14 Sept 2005, 2:59 a.m.,*
in response to message #9 by Eric Smith

Let me add my comments why I have done USB instead of RS232 in the MLDL2000. I agree that RS232 is better because it is on almost every type of computer. The problem is that a controller or CPU is required on both ends for RS232, andthe latest notebooks do not have RS232 anymore. The USB solution in the MLDL2000 allows a much easier implementation on the MLDL side, and the selected USB device (FT2232C) gives me instant communication with the CPLD by allowing bitbanging from the PC. Eric is totally correct that it does not allow control of devices from the HP41, and indeed, that is not possible with USB, and that was not intended. In order to allow control, microcode or usercode is needed on the HP41 and I wanted a device with no specific microcode requirements. The USB on the MLDL2000 is mainly intended to transfer data between the 41 and the other computer (ROM images and control of settings) and later (still need to make some software for that) to do higher level control, like having the PC emulate mass storage, printer and such stuff.

Meindert

Re: "My Bad..." or USB vs RS-232

*Message #16 Posted by **don wallace** on 14 Sept 2005, 3:28 a.m.,*
in response to message #15 by Meindert Kuipers

Hi Meindert,

Yes, I understand why you chose usb and did it really well, too.

I have just looked at your manual for the mldl2000 or maybe the specs, not sure?

Man, you have done one class A1 job on that hardware design of yours. It really is a very very nice implementation. When I think of the amount of work you put into that, including the documentation, and the time that it all took I am really quite amazed.

I have done a little real engineering work for clients with say a breadboarded SBC which was hairy as a goat but ran, non optimized, which they wanted a PCB cut for.

Too much detail, way o.t. and boring to most to go into here. But there was a lot more to that story including on-the-fly design corrections to debug their circuit with no possiblility to test the mods, and a very tight design / fabrication schedule. For example, I had to learn PROTEL advanced schematic and PCB in about one month flat... My point being that I have an idea of the work involved in your project.

Very well implemented and documented, Man!

DW

while on subject of erratta. . .

*Message #17 Posted by **don wallace** on 13 Sept 2005, 1:50 a.m.,*
in response to message #7 by Eric Smith

Eric,

errata to your post: 4 x 64by56bit + 1 x 16by56bit (not 5x64x56b + 1x16x56b), [I have one...]

Whose counting? This stuff is so small in capacity that no wonder I got confused. I have always really been annoyed that HP provided so little RAM. The system was very old, but they could have at least furthered the series of RAM to give a factor of (at least) four times the CV memory. Otherwise a really great product.

Re: while on subject of erratta. . .

*Message #18 Posted by **Eric Smith** on 13 Sept 2005, 6:43 p.m.,*
in response to message #17 by don wallace

No, the 41CV definitely has five of the 64x56 and one 16x56. Otherwise how would you get 320 registers (319 as described by HP, due to three bytes consumed by the final .END.)?

Maybe you've overlooked one because it's on the other end of the board with the ROMs.

The original 41C had only five RAM chips, all 16x56. The 41CX has eight; the same six as the 41CV plus two more 64x56 to add the built in extended memory (128 registers, 127 as described by HP due to one being consumed by housekeeping).

Eric

Edited: 13 Sept 2005, 7:06 p.m. after one or more responses were posted

Re: while on subject of erratta. . .

*Message #19 Posted by **don wallace** on 13 Sept 2005, 6:50 p.m.,*
in response to message #18 by Eric Smith

I think I am getting confused between the new C I just got, (mucking around with that till my eyes go funny...) and my old CV (now safely together again, not coming apart unless it has to, etc...)

So yeah, Eric, I need more sleep...

You programmers are always SO picky... ;-)

DW

P.S. had a look at your pages somewhere. Hey, you have written a bit of code, haven't you? Cool...

Re: while on subject of erratta. . .

*Message #20 Posted by **Eric Smith** on 13 Sept 2005, 7:04 p.m.,*
in response to message #19 by don wallace

> Quote:
>
> P.S. had a look at your pages somewhere. Hey, you have written a bit of code, haven't you? Cool...

Lots of little things, a few almost-medium-sized things. The only big programs I've worked on have been commercial programs where I was only responsible for a few portions.

Some day, when I win the lottery*, I hope to spend a lot more time on writing free software.

Eric

(*) By which I mean stock options, not the state-run lottery. I almost never participate in the latter, since it's normally negative expectation.

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different versions of 12c platinum

*Message #1 Posted by **laskody** on 10 Sept 2005, 9:34 p.m.*

Please help - I am aware of two different versions of the HP 12C Platinum financial calculator: some versions have the "minus" and "divide" keys imprinted with a blue ("G" key) sub-function operation - each are printed with differnet blue arrows on these minus and divide keys - while other 12C Platiunums do not have the printed function. Can anyone explain why? Thank you! Laskody

Re: different versions of 12c platinum (that's new... NT)

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 11 Sept 2005, 6:07 a.m.,*
in response to message #1 by laskody

Edited: 11 Sept 2005, 6:09 a.m.

Re: different versions of 12c platinum

*Message #3 Posted by **Tomas Fischer** on 15 Sept 2005, 12:01 p.m.,*
in response to message #1 by laskody

It appears that there will be a new revision of the 12c Platinum. Some of the diferrences are: Adjustable display contrast, Backspace key (under minus sign), Undo key (under division sign), Left and right parentheses (STO and RCL).

If you download the manual from HP's 12c platinum page, it will have all those new functions included.

Tomas

Re: different versions of 12c platinum

*Message #4 Posted by **bill platt** on 18 Sept 2005, 11:27 a.m.,*
in response to message #3 by Tomas Fischer

You know what? I think that person from HP who asked us about the 12c a few weeks back may have been legitimate.

One of the things I told her was wrong with the 12c was the lack of a back-space!

Edited: 18 Sept 2005, 11:27 a.m.

Re: different versions of 12c platinum

*Message #5 Posted by **john** on 19 Sept 2005, 12:54 a.m.,*
in response to message #4 by bill platt

wow. If that's true, she should be put in charge.

She was able to introduce an entirely new calculator in a few weeks.

Re: different versions of 12c platinum

*Message #6 Posted by **tony (nz)** on 19 Sept 2005, 4:01 a.m.,*
in response to message #4 by bill platt

Bill, I just read a review on amazon.com dated July last year where the guy asked for backspace and also said what's the point of ALG mode without parentheses. Evidence of Amazonian influence?:-)

Re: different versions of 12c platinum

*Message #7 Posted by **bill platt** on 19 Sept 2005, 6:50 p.m.,*
in response to message #6 by tony (nz)

See, there I go with illusions of grandeur again ;-)

Re: different versions of 12c platinum

*Message #8 Posted by **walter** on 17 Sept 2005, 11:37 a.m.,*
in response to message #1 by laskody

Hi laskody, where did you see the new version of 12c platinum? I want to buy one!!

Re: different versions of 12c platinum

*Message #9 Posted by **Jeff** on 20 Sept 2005, 6:44 p.m.,*
in response to message #8 by walter

I called HP's calculator department today, and the doofus that I talked to said that the enhancements were "premature." The manual had them, but they weren't applied to the units yet.

Nonsense.

I bought one today at Office Depot (the wouldn't honor the $15 discount certificate that had expired 3 days ago).

Anyway, the display is greener than the other Platinum that I have. I don't know if I like that or not. It does have the modifed keys as mentioned, but the TVM calculations are MUCH faster than the original unit.

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29c battery contacts

*Message #1 Posted by **Hal** on 9 Sept 2005, 2:52 p.m.*

Hello HP fans. I've rebuilt the battery pack in my 29c by cutting out the center bar and replacing the old cells with 1.2v nickel-metal hydrides (which I always charge outside of the calculator). This works fine except that sometimes I need to reposition the battery pack (by pushing it against it's springs slightly) to get it to power up. I did notice that on the original battery pack, the ends of the cells toward the springs were connected with a soldered on strip. Do I need to do something similar with my rebuilt pack to cure this glitch? Any other tricks that might be applicable? All ideas appreciated. Thanks very much, Hal.

Re: 29c battery contacts

*Message #2 Posted by **David Smith** on 10 Sept 2005, 11:11 a.m.,*
in response to message #1 by Hal

The batteries should be strapped together on the end (you should not trust just the spring to connect the cells). Also there needs to be some slack in the strap so that the cells can move freely (they can't be glued together). I also clean the contacts in the calculator by applying a drop of DeOxit contact cleaner, gently polishing them with a wire brush wheel in a Dremel, wipe off the residue, and then use another light drop of DeOxit.

For stuborn machines (and all HP-19C and HP-10's) you may need to place a small wad of aluminium foil on each battery contact.

Re: 29c battery contacts

*Message #3 Posted by **Hal** on 10 Sept 2005, 4:56 p.m.,*
in response to message #2 by David Smith

Thanks for your response David. When I go to put the strap on, I'm assuming I can use a soldering pencil and a little silver solder, is this right? Any other tricks to soldering directly to a battery? Thanks for your help, Hal

Re: 29c battery contacts

*Message #4 Posted by **David Smith** on 11 Sept 2005, 3:02 p.m.,*
in response to message #3 by Hal

You really should have the strap spot welded on. Any battery store can do this (Batteries Plus, Batteries Etc). Heat from a soldering iron can easily damage batteries... but, if you are careful, ...

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Is there anyone writing MCODE for the HP-41?

*Message #1 Posted by **don wallace** on 8 Sept 2005, 4:45 p.m.*

No text...

Re: Is there anyone writing MCODE for the HP-41?

*Message #2 Posted by **Doug Wilder** on 8 Sept 2005, 5:40 p.m.,*
in response to message #1 by don wallace

Ya, just finished a new 4k disassembler rom, not much in the last two weeks however, been working on my motorcycle. Did the BLDROM over at TOS a few months back.

Why?

Doug

Re: Is there anyone writing MCODE for the HP-41?

*Message #3 Posted by **Matthias Wehrli** on 9 Sept 2005, 12:17 a.m.,*
in response to message #2 by Doug Wilder

Hi Doug

Just for my database: You programmed the BLDROM? It is a 4k MCode image (with no hardware module). There is no manual and no overlay. Is this correct?

Matthias

Re: Is there anyone writing MCODE for the HP-41?

*Message #4 Posted by **Doug Wilder (CA.)** on 12 Sept 2005, 5:39 a.m.,*
in response to message #3 by Matthias Wehrli

Hi Matthias,

Yes it is a 4K image. There is a .pdf manual at TOS. I have done an update, improves the off poll and some other things. The manual in .doc is better if you are interested.

Best Regards, Doug

Re: Is there anyone writing MCODE for the HP-41?

*Message #5 Posted by **don wallace** on 13 Sept 2005, 4:43 a.m.,*
in response to message #4 by Doug Wilder (CA.)

Hi Doug. Could you give me a URL for the manual, please?

What licence do you have on the software?

Would you please write to me, I have a proposal for you...

donwallace63@yahoo.com.au

DW

Re: Is there anyone writing MCODE for the HP-41?

*Message #6 Posted by **Jeff** on 8 Sept 2005, 6:54 p.m.,*
in response to message #1 by don wallace

I have been having a go at this lately. I now have the NoVram module with the HEPAX and have been trying to write some code. Why do you ask? Jeff

Re: Is there anyone writing MCODE for the HP-41?

*Message #7 Posted by **don wallace** on 8 Sept 2005, 7:21 p.m.,*
in response to message #6 by Jeff

Hi Doug, Jeff.

Really cool, Doug... What sort of motorbike do you have? What are you doing on it?

Well Jeff, to be honest I am just curious. I am going to have to write a few simple routines in MCODE to do my IR module and maybe (if it ver sees the light of day) to implement my rom expansion for the 41. I am using a different scheme to the method Diego employed so I need to write my own MCODE for the 41 side of what amounts to an HP41 buss to IIC buss adaptor. I plan to use two PICs (one to implement the 41 microcode) and some flash ram or eeprom. All smt of course. Prototyping with standard DIP parts fairly soon.

DW

Re: Is there anyone writing MCODE for the HP-41?

*Message #8 Posted by **Doug Wilder (CA.)** on 8 Sept 2005, 10:15 p.m.,*
in response to message #7 by don wallace

Hi Don,

Aw, it's an old HD. 1931 VL. Did you know that those old machines literally dump oil on the road? It just goes straight through. Have to fill up the "oil" tank (half the gas tank) every 200 miles or so (hand pump it every 5) ... it just goes by the crankshaft one time .. then on the ground. Not gonna pass ANY envionmental test! The gas/oil tanks are a nightmare when they leak: about 30 pieces and all lead soldered together like a radiator. The chromoly frame is brazed together with cast iron at the joints. The springer front end is all cast iron save the springs, but i have told you more than you want to know.

Any help i can offer with your MCODE, yet i don't know much about the actual signals on ISA due to any particular function, i'm definately software on the 41 only, too clumsy to handle a soldering iron or an smt.

Best Regards, Doug

Re: Is there anyone writing MCODE for the HP-41?

*Message #9 Posted by **don wallace** on 9 Sept 2005, 1:46 a.m.,*
in response to message #8 by Doug Wilder (CA.)

Hi Doug,

Well thanks on the offer of (advice / asisstance with) coding; I might just need your help sometime soon...

W.r.t. the 'cycle... well what can I say? You certainly seem to be a gultton for punishment (love hurts...). I have heard the old Harleys (etc.) want to spew their stomach contents a bit...

I think old motorcycles are a bit like women:

A Great hobby, fun to ride, very lovable but HIGH MAINTAINENCE...(?)

It's cool, I won't call the EPA (or FEMA) on ya, buddy!

Cheers,

Don W donwallace63@yahoo.com.au

Re:Regarding EPROM

*Message #10 Posted by **PeterP** on 11 Sept 2005, 2:37 p.m.,*
in response to message #6 by Jeff

Jeff, I found a post from you lat year where you asked about EPROMS for the HP 41 - did you ever find anything out there? How is it possible? would love to hear about your outcome!

Cheers

Peter

Re:Regarding EPROM

*Message #11 Posted by **don wallace** on 11 Sept 2005, 4:20 p.m.,*
in response to message #10 by PeterP

Hi Peter.

Diego Diaz following on from the work of J.I. has built a hepax programmable module using a microcontroller to emulate the behaviour of a rom or rambox. I think you have to program the module yourself. (I think Diego is a bit strapped for time, but he would want to speak for himself on this.)

I am making these (ROM) modules fully preprogrammed. I can manufacture whatever you want. Feel free to write to me: Shortly I am releasing FORTH and PPC combined in one ROMPACK.

Don Wallace

donwallace63@yahoo.com.au

http://donwallace.customer.netspace.net.au

Re:Regarding EPROM

*Message #12 Posted by **Diego Diaz** on 12 Sept 2005, 1:42 p.m.,*
in response to message #11 by don wallace

Hi Don... all,

You're right on both... very little time (actually I'm writting this in a few hours gap between flights) and I've renewed production of Clonix & NoVRAM.

Please see my last ad:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/adforum.cgi?read=14025

Further info at:

http://www.clonix41.org

I'd like to point out that Clonix is supplied with customer selected configuration which, of course, can be re-configured at will.

Sorry for the lack of time... will be back in a couple of weeks.

In the meantime, keep the 41 spirit alive!! ;-))

Regards from Spain

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I just beieve this was a problem only of mine ...

*Message #1 Posted by **Artur - Brasil** on 8 Sept 2005, 3:59 p.m.*

Hi,

Look why someone is selling one of his beloved equipment ...

"This dual mode analog/digital scope is in very good physical condition and fully functional. **I am selling it because SWMBO (She Who Must Be Obeyed) says I have too many oscilloscopes** -- I don't think 6 is too many however who truly understands the female mind..."

Ebay item 7543499861

Just for fun!

Artur

Re: I just beieve this was a problem only of mine ...

*Message #2 Posted by **Joao** on 8 Sept 2005, 4:45 p.m.,*
in response to message #1 by Artur - Brasil

Artur, you are not alone my friend...

Re: I just beieve this was a problem only of mine ...

*Message #3 Posted by **Namir** on 8 Sept 2005, 8:31 p.m.,*
in response to message #2 by Joao

My better half SELLS calculators in a university bookstore. She has re-organized my collection (for the better) and often asks me, for example, "Why 6 units of HP-41CX???

<Sigh>

Re: I just beieve this was a problem only of mine ...

*Message #4 Posted by **Palmer O. Hanson, Jr.** on 8 Sept 2005, 9:46 p.m.,*
in response to message #3 by Namir

Accumulating hand-held calculators is one thing. Try justifying three old Fridens. They have been consigned to the garage.

Wasn't That A Line From Rumpole....

*Message #5 Posted by **I, Claudius** on 8 Sept 2005, 10:44 p.m.,*
in response to message #1 by Artur - Brasil

"She Who Must Be Obeyed." Wasn't that the description from the Brit show Rumpole of The Bailey used to call his wife? Are they showing reruns of that down in Brazil? Great show, loved it.

Re: Wasn't That A Line From Rumpole....

*Message #6 Posted by **Les Bell** on 8 Sept 2005, 11:25 p.m.,*
in response to message #5 by I, Claudius

And Horace Rumpole, in turn, got it from H. Rider Haggard. Or at least, John Mortimer did.

IIRC, it was even made into a horror flick: "She".

Best,

--- Les [http://www.lesbell.com.au]

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New 48/49 AUR guide?

*Message #1 Posted by **Namir** on 8 Sept 2005, 1:40 p.m.*

I saw on the list of HHC2005 presentations, that Gene Wright will be talking about the new 48/49 AUR guide. Anyone knows about teh new guide? Any links?

Gene can you shed more light on thsi guide?

Thanks!

Namir

Re: New 48/49 AUR guide?

*Message #2 Posted by **Tim Wessman** on 8 Sept 2005, 3:44 p.m.,*
in response to message #1 by Namir

I know. . . but I am not speaking. ;-)

TW

Re: New 48/49 AUR guide?

*Message #3 Posted by **Namir** on 8 Sept 2005, 4:34 p.m.,*
in response to message #2 by Tim Wessman

Is it a secret??? All I am asking for is a PDF file??

:-)

Namir

Re: New 48/49 AUR guide?

*Message #4 Posted by **Tim Wessman** on 8 Sept 2005, 11:27 p.m.,*
in response to message #3 by Namir

Well if you go, you will find out what (if anything) it is about. Perhaps it is a complaint to HP about lack of an AUR. . .

TW

Re: New 48/49 AUR guide?

*Message #5 Posted by **Namir** on 9 Sept 2005, 1:20 a.m.,*
in response to message #4 by Tim Wessman

Looking forward to seeing you at the HHC2005 next week!!!

Re: New 48/49 AUR guide?

*Message #6 Posted by **bill platt** on 8 Sept 2005, 6:11 p.m.,*
in response to message #2 by Tim Wessman

Hey Tim,

Aren't some congratulations in order?

Re: New 48/49 AUR guide?

*Message #7 Posted by **Tim Wessman** on 8 Sept 2005, 11:18 p.m.,*
in response to message #6 by bill platt

Thanks. Hopefully I can post it or send it to those that are interested in seeing my entry.

TW

Re: New 48/49 AUR guide?

*Message #8 Posted by **Namir** on 8 Sept 2005, 8:32 p.m.,*
in response to message #2 by Tim Wessman

Did you write the AUR update??????

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HP Calcs and amatuer Radio

*Message #1 Posted by **Jeff D** on 8 Sept 2005, 1:24 p.m.*

Has any one ever written programs for HP calcs that solve inductance, coil winding or any other topic related to amatuer Radio. My son and I have been building a tube radio and I was curious to see some of the interesting programs written for such items. Thanks,Jeff

Re: HP Calcs and amatuer Radio

*Message #2 Posted by **Bill (Smithville, NJ)** on 8 Sept 2005, 1:50 p.m.,*
in response to message #1 by Jeff D

Hi Jeff,

Great to see that you're doing a father/son project building a tube radio. Should be a fun project.

You might want to try a search on the HPCALC.ORG site. I just did a search on "Inductor", "Capacitor", and "Resistor" and got several interesting hits. Not sure which calculators you're wanting to use.

Found the following HP-33S guide to electrical engineering:

http://www.hp.com/calculators/docs/guides/33sElectrical.pdf

The HPmuseum site has following:

http://www.hpmuseum.org/software/67resist.htm

http://www.hpmuseum.org/software/33/33resist.htm

http://www.hpmuseum.org/software/11serres.htm

Have fun building the radio.

73,

Bill

WD9EQD

Re: HP Calcs and amatuer Radio

*Message #3 Posted by **Garth Wilson** on 8 Sept 2005, 4:19 p.m.,*
in response to message #1 by Jeff D

> Has any one ever written programs for...

Quite a bunch for the TI-59. That was before my HP days. Let me know if you're interested anyway. I've maintained my license, but have been inactive for 21 years.

Garth

WB6NUY

Edited: 8 Sept 2005, 4:20 p.m.

Re: HP Calcs and amatuer Radio

*Message #4 Posted by **don wallace** on 8 Sept 2005, 4:43 p.m.,*
in response to message #1 by Jeff D

Hi Jeff,

Once I wrote a simple program to do inductance based on a standard formula.

I would refer you to ARRL Handbook. Very practical "Bible" for any amateur radio (transciever or reciever) builder. You can get them cheap second hand and maybe someone has scanned one in and released it into the peer-to-peer space (I recommend Limewire, a well configured computer and DUE CAUTION to access the Guntella P2P mesh)...

Once I had a HAM licence (as a young teenager), dropped my licence in my early 20's. (Most amateur radio operators [I know] know distressingly little about electronics and operating regs for that matter, so I had no-one savvy to talk to. At its best an interesting hobby though. Anyone here remember SSTV?)

DW

VK4Z..

Re: HP Calcs and amatuer Radio

*Message #5 Posted by **Les Bell** on 8 Sept 2005, 8:01 p.m.,*
in response to message #4 by don wallace

I used to be GM4CFM but never bothered getting a licence once I moved to VK-land. Paradoxically, I got diverted into doing stuff with computers (partly due to the fun I was having with my -45 and -65) and ham radio fell by the wayside.

I still have a 1978 ARRL Handbook on the bookshelf, though.

Best,

--- Les [http://www.lesbell.com.au]

Re: HP Calcs and amatuer Radio - who's got the oldest ARRL Handbook?

*Message #6 Posted by **Dave Shaffer** on 9 Sept 2005, 12:17 a.m.,*
in response to message #5 by Les Bell

From Les: "I still have a 1978 ARRL Handbook on the bookshelf, though."

The first one I bought, which I still have, is from 1960, when I got my license, and I have one somewhere from 1946 that was originally my Dad's (and, I just realized, the same age as me). These are sort of like HP calculators - thay can be admired and used even after many years for their continuing utility (although finding some of the components might be a challenge! Do you still have any acorn tubes or selenium rectifiers?!).

73,

Dave W8MIF/ZF2AZ (ex K3NXO)

Re: HP Calcs and amatuer Radio

*Message #7 Posted by **bill platt** on 9 Sept 2005, 10:11 a.m.,*
in response to message #5 by Les Bell

"I still have a 1978 ARRL Handbook on the bookshelf, though."

I also have the 1978 book, in fact! My father went out and bought it when I expressed interest back then. He had been active in MARS in the 50's as W3RTR, but let his license slide. We had both a National and a Hallicrafters full MF-HF reciever in the house when I was a kid. And a T-50 transmitter that we wanted to get going again.

Re: HP Calcs and amatuer Radio

*Message #8 Posted by **bill platt** on 8 Sept 2005, 6:06 p.m.,*
in response to message #1 by Jeff D

Hi Jeff,

There are a lot of hams on this frequency :-) Somewhere I scribbled down the ones I know of and there are at least a dozen regulars here who are hams.

I suppose we really aught to set up a 20 meter sked one of these days--that would be fun, and a challenge (especially since I don't have a 20m rig!).

About the only thing I ever programmed to do was antenna calculations. Nothing special--just keystroke saving routines. I loved building makeshift antennas with bicycle wheels and stuff.

N3LPX

Re: HP Calcs and amatuer Radio

*Message #9 Posted by **Donald** on 9 Sept 2005, 5:38 a.m.,*
in response to message #1 by Jeff D

The HP65 EE PAC 1 has good coverage on inductor winding and other useful topics.

I can't find a copy online - anyone else got a URL ? If there's interest, I could scan it and make a pdf for the archive

Re: HP Calcs and amatuer Radio

*Message #10 Posted by **Les Bell** on 9 Sept 2005, 8:29 p.m.,*
in response to message #9 by Donald

> Quote:
>
> I can't find a copy online - anyone else got a URL ? If there's interest, I could scan it and make a pdf for the archive

I'm pretty sure it's on the Museum CD's/DVD; I have it here and if it wasn't, I would have volunteered to

scan it earlier. (I could easily be wrong, though).

Best,

--- Les
[http://www.lesbell.com.au]

Re: HP Calcs and amatuer Radio

*Message #11 Posted by **don wallace** on 9 Sept 2005, 9:37 p.m.,*
in response to message #10 by Les Bell

Hi Les.

Hey did you ever write for a '70's magazine called ETI?

Just wondered if you are THAT Les Bell..

DW

Re: HP Calcs and amatuer Radio

*Message #12 Posted by **Les Bell** on 10 Sept 2005, 1:35 a.m.,*
in response to message #11 by don wallace

Hehe. Yes, I'm *that* Les Bell. Worked for ETI in London, then edited the mag in Canada and Australia. In fact, I got my job with the magazine on the strength of an article I wrote about the '45. Well, that and my ability to eat duck a l'orange. Long story. . .

Best,

--- Les
[http://www.lesbell.com.au]

Re: HP Calcs and amatuer Radio

*Message #13 Posted by **Les Bell** on 10 Sept 2005, 8:39 p.m.,*
in response to message #10 by Les Bell

I just checked, and yes - the HP-65 EE Pac 1 is on the Museum DVD/CD's. What's more, the scanned version has my name written on the inside of the front cover, so I must have scanned it. That's the trouble with being an old codger . . .

Best,

--- Les
[http://www.lesbell.com.au]

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HP41 parts for sale - possibly...

*Message #1 Posted by **don wallace** on 8 Sept 2005, 12:31 a.m.*

Hi all.

I bit the big one and bought a dud HP41C on Ebay. Paid top dollar, too. You get that.

But maybe one mans misfortune can be someone elses good fortune?

I am thinking of junking the calc, testing the parts (rather involved...) and selling the following:

Keyboard PCB and front half shell (minus LCD display panel)

LCD display module only single with tag leads

I may also be able to salvage the processor.

The fault is a heavy load on the power buss. Machine obviously does not power up...

I will determine which parts have failed and recycle the rest. Sadly it's only a 41C...

The backshell is mechanically sound but the interconnect is fairly badly corroded...

I have very recently posted some photos of this beasts innards on my webpages, so if you are curious, go have a look.

For mre details, please write...

Best regards everyone!

Don W

donwallace63@yahoo.com.au

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OT, but I need math help

*Message #1 Posted by **Don Shepherd** on 7 Sept 2005, 9:13 p.m.*

OK, this is off-topic, but I'm stumped and I need some brainy math people to help me find the pattern here. The question is, how is the last number derived from the first two in these four examples? This puzzle was designed to be solved by third graders, so no higher-order math should be required. I wrote the author of the textbook where I found this, but he has not responded yet. Here is the deal:

```
3 * 4 --> 5
4 * 7 --> 1
8 * 4 --> 0
1 * 2 --> 9
```

Any ideas, guys and gals?

Don Shepherd

Re: OT, but I need math help

*Message #2 Posted by **Gerson W. Barbosa** on 7 Sept 2005, 11:23 p.m.,*
in response to message #1 by Don Shepherd

+ CHS 12 +

Regards,

Gerson.

Re: OT, but I need math help

*Message #3 Posted by **Howard Owen** on 8 Sept 2005, 1:43 p.m.,*
in response to message #2 by Gerson W. Barbosa

An RPN solution. *Very* appropriate. 8)

Re: OT, but I need math help

*Message #4 Posted by **Gerson W. Barbosa** on 8 Sept 2005, 3:47 p.m.,*
in response to message #3 by Howard Owen

But that will not work on the HP-35 unless we add an extra CHS. I should have posted the following, which works for all RPN HP calculators:

```
+
12
-
CHS
```

Sometimes we have trouble trying to solve certain problems, not because they are hard but because they are easy. Once I was given a problem and after an hour trying to solve it, to no avail, I quit. Two

months later, when I opened the drawer where I had kept it, the solution popped up in front of me. I can understand Don's trouble with it.

Regards,

Gerson.

Re: OT, but I need math help

*Message #5 Posted by **Namir** on 8 Sept 2005, 4:38 p.m.,*
in response to message #4 by Gerson W. Barbosa

When I wa sin 5th grade my math teacher gave us an example of two linear equations. I just looked at it, tried in my mind a could of numbers and gave him the solution. He was very impressed. He gave the same question to the other section, but no one solved it. It IS how you perceive the problem that allows the brain to analyze it and then solve it.

Re: OT, but I need math help

*Message #6 Posted by **Don Shepherd** on 8 Sept 2005, 7:29 p.m.,*
in response to message #2 by Gerson W. Barbosa

Thanks Gerson, Howard, and Namir. You are right on! I never noticed that each set of 3 numbers added up to 12. I was actually doing the multiplication and trying to relate the product to the number on the right, with no success.

I think this relates to the math skills that a third-grader has, and I imagine that includes addition and subtraction, but maybe not multiplication. I think it also involves clock arithmetic, where kids solve 3 + 4 by starting at 12 on the clock face and counting "clockwise" to get the answer. If a kid sees the symbol "*" or "X" and does not understand what it really means, that same kid might just start at 12 and go counter-clockwise, and arrive at the number on the right.

Gerson, I tip my hat to you!

Don Shepherd Louisville, KY

Re: OT, but I need math help

*Message #7 Posted by **Gerson W. Barbosa** on 8 Sept 2005, 9:42 p.m.,*
in response to message #6 by Don Shepherd

Thanks, Don. Am I allowed in 4th-grade now? :-)

Relating this problem to a clock makes a lot of sense. But when I read it was a problem for third-graders, the first image that came to my mind was this:

http://www.eggs.ab.ca/news/images/mediathumbs/basic6.jpg

I don't know why I thought of this, perhaps because at the time we solved problems like this: "You have three eggs and get four more. How many more do you need to make up a dozen eggs?". However, this was a problem presented to first or second-graders as far as I can remember (1st-grader in 1968).

Best Regards,

Gerson W. Barbosa

Curitiba, PR Brazil (25°25'47.9" S; 49°16'19.5" W)

Re: OT, but I need math help

*Message #8 Posted by **Howard Owen** on 8 Sept 2005, 11:20 p.m.,*
in response to message #7 by Gerson W. Barbosa

It occurs to me that the third graders (if they aren't mythical) may well have been given such a lesson just before being asked to answer that question.

Re: OT, but I need math help

*Message #9 Posted by **Ed Look** on 19 Sept 2005, 1:04 a.m.,*
in response to message #8 by Howard Owen

I was confused... LOL!... because I took the "*" to be multiply; for example, I entered 3, then 4, then ENTER then "x" then + then +/- (I was using a 32SII) then + and was totally mystified at first!

I guess one has to be a kid...

Re: OT, but I need math help

*Message #10 Posted by **Howard Owen** on 19 Sept 2005, 10:49 a.m.,*
in response to message #9 by Ed Look

Yes, the asterisk is bound to confuse anyone who codes in a high level language. BASIC, C, C++ FORTRAN, Pascal, Modula, Java, Perl, Python and many others all use the "star" as the multiply operator. A third grader of yesteryear would have been blissfully ignorant of that usage, although I'm not sure about the more recent crops.

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29c value

*Message #1 Posted by **Hal** on 7 Sept 2005, 7:04 p.m.*

Hello out there in HP land. Can anyone give any input on the value to collectors of a 29c? The unit has the original box, manuals, softcase, etc, is virtually in mint condition and works fine. I did notice that there are no 29c's on E-Bay...This either means they're very rare, or commonplace to the point of total disinterest. Opinions appreciated. Thanks, Hal

Re: 29c value

*Message #2 Posted by **Gerson W. Barbosa** on 7 Sept 2005, 8:44 p.m.,*
in response to message #1 by Hal

Not very rare, but definitely no commonplace. Take a look at the Prices & Rarity section:

http://www.hpmuseum.org/collect.htm#diff

Regards,

Gerson.

Re: 29c value

*Message #3 Posted by **hugh steers** on 8 Sept 2005, 7:32 a.m.,*
in response to message #2 by Gerson W. Barbosa

out of interest, how often do these figures get updated?

i noticed that in the slide-rule market, they use a robot that collates past sale prices of makes by month.

FYI, http://www.voidware.com/calcs/hp29c.htm cost me about $240 and i'm happy with it.

Re: 29c value

*Message #4 Posted by **Gerson W. Barbosa** on 8 Sept 2005, 10:09 a.m.,*
in response to message #3 by hugh steers

I don't know how often Dave updates these figures or whether he has automated this task. But they seem to be update. For example, I am currently looking for a 34C ($46-$150, $177, $202, $205, according to Dave's list). The most recent 34C's on eBay sold for $49.99 (calculator and case, untested), $87.51 (not so good), $178.50 (complete with manuals, no box - thought it would sell for much more and quit), $207.50 (it appeared to be excellent and the seller told me it passed the self test, I quit when the price went over $200 - still expect to get it for less than $150).

Anyway, Dave's list and the price information you have provided (yours looks excellent) may give Hal a reference price.

Re: 29c value

*Message #5 Posted by **don wallace** on 9 Sept 2005, 6:26 a.m.,*
in response to message #4 by Gerson W. Barbosa

The 34C is a nice machine. I like the FREE LIGHT SHOW you get when you get it to run a program or particularly to do a SOLVE...

A bit slow though...

I had a friend who dismantled one... integrated circuits went everywhere! And in 1979 (?) you couldn't just log onto the internet to find out what went where...

He is now an ELECTRICAL ENGINEER... (Nice guy, though and quite clever [and a bit bent...{Hi Peter! How was Tibet?}]).

DW

34C (Was: Re: 29c value)

*Message #6 Posted by **Gerson W. Barbosa** on 9 Sept 2005, 5:45 p.m.,*
in response to message #5 by don wallace

I've heard a story like that before, a 34C being dismantled and the user not being able to put it together again. That's why I'd like to get an European 34C: DECIMAL POINT IS COMMA (as it should be :-), so I wouldn't have to open it to cut the radix selection jumper.

As of speed, isn't it just slightly slower than the 11C/15C?

Re: 34C (Was: Re: 29c value)

*Message #7 Posted by **don wallace** on 9 Sept 2005, 9:42 p.m.,*
in response to message #6 by Gerson W. Barbosa

Hi Gerson.

Doing a solve or running a program which implments a function (to use solve or integrate on) it runs about 1/4 (maybe 1/3?) as fast as a 41CV.

I'm not bagging it but it IS quite slow. Only a few program steps per second (about four to five?). same or faster from what I can remember than the 33E. Long time ago...

DW

Re: 34C (Was: Re: 29c value)

*Message #8 Posted by **Gerson W. Barbosa** on 9 Sept 2005, 10:57 p.m.,*
in response to message #7 by don wallace

Hello Don!

According to the benchmarks in the link below, let us not discuss whether they are adequate or not, the 41C/CV runs twice as fast as a 34C. Of course, the tasks you have mentioned may be accomplished even faster than this on the 41C/CV depending on the algorithms you use.

http://www.thimet.de/CalcCollection/CalcPerformance.html

What I'd like to point out is that the 34C can be occasionally used even today, the same way we may occasionally use an 11C or a 15C, since they have comparable features. I was pleased to be able to use a red LED display calculator again, when I received my HP-35 early this year, which incidentally came from Australia. My first HP calculator was a 15C (a replacement for a stolen TI-59). For I matter of months, it could have been a 34C... Yes, a long time ago...

Re: 34C (Was: Re: 29c value)

*Message #9 Posted by **don wallace** on 10 Sept 2005, 3:38 a.m.,*
in response to message #8 by Gerson W. Barbosa

Hi Gerson. Yeah that would be right...

I am also a bit biassed ;-)

The 34C is a nice little calc though...

DW

Re: 34C vs. 15C

*Message #10 Posted by **Karl Schneider** on 11 Sept 2005, 12:23 a.m.,*
in response to message #8 by Gerson W. Barbosa

Gerson posted,

> Quote:
>
> My first HP calculator was a 15C (a replacement for a stolen TI-59). For I matter of months, it could have been a 34C... Yes, a long time ago...

Hey, me too! I bought the 15C in November 1983, fully intending to buy a 34C, which I had seen several years before. The improved version of the 34C was still for sale, but the young salesman eventually persuaded me to buy the 15C instead. I could see that the 15C was clearly the superior product, but I had to come to terms with the change in paradigm and expectations.

The 15C was my only HP until 2002, when I started a collection with an older 34C and a 41CV from a local used-electronics seller.

-- KS

Re: 34C vs. 15C

*Message #11 Posted by **Gerson W. Barbosa** on 11 Sept 2005, 10:51 a.m.,*
in response to message #10 by Karl Schneider

> Quote:
>
> I bought the 15C in November 1983

Hi, Karl!

I am almost sure I bought mine the same year and month. My 15C has serial 2343B75099, that same year I bought one of my brothers an 11C, just before Christmas as a gift (his only calculator until today). Then I had the bad habit of selling my HP calculators in order to buy newer models (15C => 28S => 48GX, trying in between the 32S and 42S). Fortunately that 15C had beed with my youngest brother all these years and has eventually returned to me. I don't remember ever having seen a 34C on the shelves. Anyway, at the time I didn't miss the LED display because the 15C Liquid Crystal Display was impressively excellent, and I never had to look for a seat next to a power outlet again :-)

Re: 29c value

*Message #12 Posted by **Bram** on 9 Sept 2005, 5:09 a.m.,*
in response to message #1 by Hal

> Quote:
>
> any input

Well, I still own the HP-29C that I bought on November 7, 1977 for ƒ680 (=€300). It matches your description and any reasonable price will be far too low to make me sell.
A 29C and its owner hardly ever part. That may explain the lack of them on eBay.

Re: 29c value

*Message #13 Posted by **don wallace** on 9 Sept 2005, 6:22 a.m.,*
in response to message #12 by Bram

I remember having heard of those beasts. They were pretty smooth, I think... It was a long time ago.

DW

Re: 29c value

*Message #14 Posted by **Hal** on 9 Sept 2005, 5:03 p.m.,*
in response to message #12 by Bram

Thanks everybody for your responses. I think Bram hit the nail on the head when he said a 29c and it's owner never part and that's why they're not on e-bay. I've had mine since it was new in '77 and was not thinking of selling, just wanted to get an idea of what they're worth. Cheers, Hal

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service wanted

*Message #1 Posted by **Gcinumuzi Ngwenya** on 7 Sept 2005, 2:37 a.m.*

where can I get my HP48G serviced in South Africa?

Re: service wanted

*Message #2 Posted by **don wallace** on 13 Sept 2005, 4:39 a.m.,*
in response to message #1 by Gcinumuzi Ngwenya

I am happy to repair your machine. However, I am in Australia. I first repaired calculators in my job in 1985.

You can also try "fixthatcalc" in the U.S.A.

If you are interested, then write to me at:

donwallace63@yahoo.com.au

I will discuss the problem, payment, transport, etc...

Yours faithfully

Don Wallace

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Which side of the glass case do the Hp's belong on?

*Message #1 Posted by **Richard Zajac** on 6 Sept 2005, 9:01 p.m.*

Having lurked for some time, I have grown curious about how everyone treats the calculators they collect.

Do you keep them under glass, carefully locked in some curio cabinet, lest their aging keys suffer wear from dirty fingers?

Or do you adhere more closely to the TOY STORY philosophy that a toy becomes miserable just sitting on a shelf and must be active?

I myself teach everyday with one of my HP sidekicks wheezing through the smog of chalk right beside me. Perhaps that kind of abuse is sacrilegious to a few of you serious collectors. Somedays I'll even take along the Novus, lest it get bored.

What say you? What's the more proper fate for your noble HP's?

Re: Which side of the glass case do the Hp's belong on?

*Message #2 Posted by **don wallace** on 6 Sept 2005, 9:36 p.m.,*
in response to message #1 by Richard Zajac

Hi Richard.

My HP41CV (early fullnut Sliverbird) is a bit mechanically fragile at the moment so I am handling it carefully until I get time to do some structural repairs on it. But it still runs perfectly and is fully functional after 24 years and five repairs. It gets use doing impedance calculations on capacitors and on timing values for LM555 oscillator circuits which I use for clocking some digital projects I am doing. It has a TIMER module also and so is used to alert me to closing Ebay auctions and I wrote a very simple PROJECT MANAGEMENT program with it to help goad me into putting in the neccesary time to get my longer term projects out the door on time.

If you and others are curious you may like to look at my website:

http://donwallace.customer.netspace.net.au

I have a few photos there of some of my digital electronics projects. The latest one centers on a tool I am builidng (a five channel serial Logic State Analyzer) to assist me in designing and building hardware add-ons for the HP41C series machines among other things...

I think any self-respecting HP engineering calculator would rather "die with it's boots on" in a chalk saturated classroom helping the engineers of tommorrow or end up MIA on a construction site rather than quietly languish in a glass case somewhere. But collectors are also an important part of the "user mix" that constitutes this community of people within the forum. You find a lot of helpful people here and I am delighted to see what others are doing and offer help where I can. The speed and quality of responses to my own questions makes me feel really confident about "hanging out" on the forum and I have met some VERY INTERESTING people here. Some are rather qualified and experienced. All are pleasant and helpful to each other. If RL was

this way there would probably be no war (just a few healthy debates from time to time ;-)

Welcome aboard!

DW

Re: Which side of the glass case do the Hp's belong on?

*Message #3 Posted by **Karl-Ludwig Butte** on 7 Sept 2005, 3:33 a.m.,*
in response to message #2 by don wallace

Hello Don,

I just had a look at your really impressive documentation for repairing a 41. What I missed is a closer look at the keyboard-PCB. The "8"-key of my 41C has the problem that you nearly always have to push it twice before the 8 is accepted. Did you had such a keyboard problem once, too ? And could you show me how to repair it ? Thank you for your answer in advance.

Regards

Karl

41C series keybaord repair

*Message #4 Posted by **don wallace** on 7 Sept 2005, 4:07 a.m.,*
in response to message #3 by Karl-Ludwig Butte

Hi Karl.

I did have a serious failure in the keyboard of my 41CV in 1994.

The actuators for the keys are moulded in the keys themselves. I found that the ALPHA and USER plastic spikes broke off.

Others have said the keyboard is not repairable. I would say this is partly true and if you have no great experience with fine soldering on CMOS circuitry your chances aren't that good at all. Experiened people will find it a tedious exercise which involves a total strip down of the calculator. My repair took me about five to six hours. But I don't rush repairs like this.

The most delicate part of the repair is to unsolder the LCD module from the keyboard PCB. Once that's done one can cut away the many plastic heat stakes holding the keyboard onto the front panel to access the key mouldings themselves to repair them.

At this point you have to determine if it's a failed key or the actuator has broken away. This is readily apparent. The key moulding has to be repaired and then the keyboard PCB has to be re-staked to the front panel. The main problem is repairing the key acuator so that the keyboard will function properly with a pretty long life. Due to the limited length of the heat stakes, I believe keyboard repair is a once-only procedure.

Once that is done, re-assembly proceeds with components going back where they came from with due care to avoid static damage.

From what I saw of the keyswitches themselves I believe spray solvent or immersion / ultrasonic cleaning would not work as they are pretty well sealed.

Hope this helps. Happy to repair your 41 if you want. If so, please write to me.

Don Wallace donwallace63@yahoo.com.au

HP41 keyboard contacts

*Message #5 Posted by **Tony Duell** on 7 Sept 2005, 8:03 a.m.,*
in response to message #3 by Karl-Ludwig Butte

It would be worth trying to clean the contacts without dismantling the keyboard.

Take the machine apart (remove the back case, the logic board, and the black 'paper' cover over the keyboard PCB). Now get some fine strands of wire (e.g. from a piece of multi-strand wire) and grip them in a pin chuck. Trim them all to the same length so you have a tiny wire brush. Put it through the via (hole) behind the defective key, and carefully brush the contacts. Maybe drop a _little_ propan-2-ol down there as well. Then put it all back together and try it.

If it doesn't help you've not lost much. If it does, you've saved the problems of re-assembling the heat-staked keyboard.

Re: HP41 keyboard contacts

*Message #6 Posted by **don wallace** on 7 Sept 2005, 8:21 a.m.,*
in response to message #5 by Tony Duell

Good suggestion...

DW

Re: Which side of the glass case do the Hp's belong on?

*Message #7 Posted by **don wallace** on 7 Sept 2005, 9:39 p.m.,*
in response to message #3 by Karl-Ludwig Butte

Hi Karl,

I just rxed a hp41C, very old, totally D.O.A.

In the process of diassempling the machine, I will photograph the keyboard PCB and post my pictures for you.

It appears to me that you are very unlikely to get alcohol into the keyswitches themselves from the back of the keyboard. There are very small "plate through" holes in the PCB, but they are too small to allow alcohol to go through, I think. Capillary action will stop it. The photos will show you what I mean...

DW

Re: Which side of the glass case do the Hp's belong on?

*Message #8 Posted by **don wallace** on 7 Sept 2005, 10:10 p.m.,*
in response to message #3 by Karl-Ludwig Butte

Hi Karl,

I have quickly posted some photos of the HP 41C keyboard PCB.

No comments yet. I'll post some shortly...

Hope these help you.

DW

Re: Which side of the glass case do the Hp's belong on?

*Message #9 Posted by **Karl-Ludwig Butte** on 8 Sept 2005, 7:08 a.m.,*
in response to message #3 by Karl-Ludwig Butte

Hello Don and Tony,

thank you very, very much for your suggestions and the really great photos. As the photos show the 41-keyboard has nothing to do with the simple to repair 35/65/67-keyboard anymore. Well, the "8"-key is still working although one often need 2 presses. And because I just got 41cx for my collection without this problem I'll let this as is. Many thanks for your repair-offer, Don, I may be come back to you at a later date.

Hope one day I can return the favour.

Kind regards

Karl

Re: Which side of the glass case do the Hp's belong on?

*Message #10 Posted by **Karl-Ludwig Butte** on 9 Sept 2005, 3:34 a.m.,*
in response to message #3 by Karl-Ludwig Butte

Hello Don,

thanks a lot for adding comments to the pictures of the 41-keyboard.

Kind regards

Karl

Re: Which side of the glass case do the Hp's belong on?

*Message #11 Posted by **don wallace** on 9 Sept 2005, 3:41 a.m.,*
in response to message #10 by Karl-Ludwig Butte

No problem, Karl.

You may find my pages get more interesting: I now have some 41 hardware I have been waiting on to build a Clonix ROMPACK. I will be steadily working on my interface projects and posting photos as I go. So if you are interested by all means keep an eye on my pages...

DW

Re: Which side of the glass case do the Hp's belong on?

*Message #12 Posted by **Larry Corrado, USA (WI)** on 6 Sept 2005, 9:41 p.m.,*
in response to message #1 by Richard Zajac

Richard:

I keep most of my HPs on a shelf, some behind glass, in a display case in my dining room, the rest in the basement. However, I don't hesitate to pull one out and turn it on when someone comes over and shows some interest. (besides "Calculator collecting? Why?") Sometimes some of my machines travel to displays in local libraries or schools. (Of course, there they're behind glass in a safe environment.)

I also have a few I keep out to use: a beat up HP 15C next to my computer for miscellaneous calulations, an HP 11C (in pretty good shape) in my desk at work for occasional use, and an HP 33S on my desk at home for balancing my check book.

My HP 16 sometimes comes out when I'm working with number theory.

FWIW... Larry

Bottom Line

Re: Which side of the glass case do the Hp's belong on?

*Message #13 Posted by **Garth Wilson** on 7 Sept 2005, 3:26 a.m.,*
in response to message #1 by Richard Zajac

My 41cx is going on 20 years of perfect daily operation with no repairs. There was a time however that it was getting operated in a dusty environment, so I kept it in a clear zip-lock bag, with the HPIL cables (to the IEEE-488 interface converter) coming out a corner and the extra bag plastic folded behind and taped. So in a sense, you could say it was getting heavy daily use "behind the glass."

Re: Which side of the glass case do the Hp's belong on?

*Message #14 Posted by **Mike (Stgt)** on 7 Sept 2005, 4:01 a.m.,*
in response to message #1 by Richard Zajac

See here two rare pics of opened display cabinets. Typically I touch those items only with cotton gloves. Only a real HP200LX I have still in use, all others I use as emulation only.

Ciao.....Mike

Re: Which side of the glass case do the Hp's belong on?

*Message #15 Posted by **Valentin Albillo** on 7 Sept 2005, 6:34 a.m.,*
in response to message #1 by Richard Zajac

Hi, Richard:

I own more than a hundred vintage calculators, mostly HP and SHARP BASIC handhelds, together with their manuals, accessories, etc.

But for three, all of them are safely stored within an enclosed, humidity-controlled cabinet in a relatively cold place, each particular calculator inside a hermetically thermo-sealed plastic bag. This keeps interaction with light, heat, air, and humidity to a minimum. Before storage, each calculator has been carefully cleaned up, both inside and outside, and of course with no batteries or power cells in them. This guarantees as much as possible that except for time itself, most aging and degrading agents are left out.

As for the three models excepted from this treatment, they are an HP-15C, a full HP-71B, and a SHARP PC-1350. All of them are in very good condition (the 71B being actually mint), and see frequent use. The HP-15C

is further protected by being tightly enclosed in a very clear plastic bag, which prevents any physical contact with its surfaces, thus avoiding stains, fingerprints, dust under the display, moisture, etc., while allowing perfectly comfortable use.

The other two models are not so delicate and do not require such extra protective measures, they're simply treated with care.

Overkill you might think ? Not so. These measures ensure that my valuable calculator collection stays in pristine condition for years to come, so that I can take out any of them some years in the near future and have the extreme pleasure of holding in my hands a, say, pristine, not-a-single-dust-speck, not-the-slightest-blemish, shiny and new HP42S, HP-15C, or HP-41CX, say. Proceeding otherwise I would be denied this exhilariating experience.

Do I not miss having them at hand at all times, using them, etc ? Well, I *do* have an HP-15C, full HP-71B and SHARP PC-1350 available at all times, and they do get used. As for the rest, I did make extremely good quality digital pictures of all of them, and can look at them at will.

And re using them, with such fantastic emulators as V41, Emu42, Emu71, Nonpareil, and SHARP PocketEmu, to name a few, my vintage programming needs are more that fulfilled, and with better facilities to boot (keyboard, mass storage for calculators that had none whatsoever, etc).

Best regards from V.

Re: Which side of the glass case do the Hp's belong on?

*Message #16 Posted by **Tony Duell** on 7 Sept 2005, 8:08 a.m.,*
in response to message #1 by Richard Zajac

I've said many times that the _appearance_ of a calculator doesn't matter to me. What interests me is how it works, what it does, the electronic design, the firmware. So I use them, take them apart, probe them with a logic analyser, solder wires to the insides, and similar things

I have little interest in collecting lumps of plastic that I never turn on. Therefore my HPs get used. Well used in some cases. I always have at least 2 41's, a 67, a 71B and several IL peripherals with good batteries and 'ready to go'.

I treat most of my other things like that too. Obviously for optical stuff (cameras, etc) I make darn sure the lenses don't get damaged -- that would affect the performance. But a 'ding' in the paint wouldn't bother me at all.

Re: Which side of the glass case do the Hp's belong on?

*Message #17 Posted by **bill platt** on 7 Sept 2005, 9:28 a.m.,*
in response to message #1 by Richard Zajac

Hi Richard,

I have about 20 calculators. None of them are "stored away" though I try to take good care of them.

I keep on top of the battery situation. I am quite certain that use keeps a battery from leaking--at least that appears to be the case! (My wife has a sharp elsi-mate that is 20 years old, and still has the original battery!).

I like to rotate them into use, too. It is fun to go back to an 11c after having been awy from it for a long time.

Or to switch to a 32s 50th anniversary edition from a 32sii--the color scheme is different.

I also find that now that I have a working collection, I think about programming in a different way. I go the "easiest route" and so if I know that the 48gx has a good way to handle something, I pull it out. Sometimes I have three on my desk at once--since each one is already programmed for some particular task.

For travel, I use less valuable machines: I used to take the 20s around, but now I use the 33s. I carry a 49g (not the new G+) when I want to have an RPL machine on the road.

Re: Which side of the glass case do the Hp's belong on?

*Message #18 Posted by **Palmer O. Hanson, Jr.** on 8 Sept 2005, 10:30 p.m.,*
in response to message #17 by bill platt

I have over 500 hand-helds. The great majority are in working condition. I have another 25 desktops, over 100 slide rules, and numerous mechanical calculators including two Fridens. I have carrying cases and documentation for many of the units. Putting all that material under glass or in special packaging isn't possible for me. I keep the calculators in an air-conditioned environment with battery packs removed where possible.

Some of my biggest problems are with devices where circuitry has been damaged by cell leakage and with some of the older hand-helds where the rechargeable NiCad's are hard-wired in. I clean up the residue due to cell leakage as best I can.

I have thirty HP's including three HP-11C's, four HP-12C's and four HP-41's. Only the HP-11C which is one of the early models with the glitch and the HP-41C which has gold balls and exhibits bug 2 qualify for special care.

The easiest to care for are the Sharps which are by far the best built units. When I see a Sharp in a thrift store or at a garage sale I expect that it will work properly. By far the hardest to care for are the NOVUS/National Semicondctor models. When I see one of those I am surprised if it works properly, and units which were once working properly have gone bad on the shelf. The rest of the manufacturers are somewhere in between.

Re: Which side of the glass case do the Hp's belong on?

*Message #19 Posted by **Stephen Easterling** on 8 Sept 2005, 10:31 p.m.,*
in response to message #17 by bill platt

Just like the last post, I have at least a dozen models from the 20S up to the 48GX (got rid of my 49G+). Some I have two of, so I don't mind getting more use with the "back-up" model (e.g., 20S, 32SII, 48G, G+, GX). I try to keep them all rotated into use and stay on top of the battery situation, too. The calculators get jealous if one gets more use than another! I take extremely good care of each of them, but know that some day I'll die, and what a regret I'll have if all I did was keep them under glass and not get any use out of them. (Just my opinion, of course.) Mine don't see chalk dust or dirty hands that always want to borrow them, and I use a cheap Casio when I go to the operating room (medical physicist) just in case something happens and a doctor "contaminates" it. So my HPs have an easy life and they "know" they are appreciated and used routinely. My current hobby is trying to make a medical physics PAC for my own personal use at work.

Re: Which side of the glass case do the Hp's belong on?

*Message #20 Posted by **GE** on 12 Sept 2005, 6:51 a.m.,*
in response to message #19 by Stephen Easterling

I have quite a number of machines, all brands including HP (!) and also Sharp which are wonderful hardware and software-wise.

They are stored vertically (so keyboards are not pushed onto) in cupboards (no light, no dust) in a bedroom normally heated/ventilated. They are wrapped in foam or in the original pouch, whichever is available, and only a few have batteries. I have never experienced battery leakage.

Few machines get real usage, as I like to work on real problems and only recent machines provide semi-adequate speed. So usually I get a recent machine (HP48, a Sharp, others). Most machines are on a permanent rest, and some talk to me a few times each year. I always fear I can damage my beloves LED models.

Fortunately everybody thinks I'm crazy, so they stay clear of the stuff. Behaving bizarrely is sufficient, and for most of us it must be easy !

As of now, no machine died on the shelf (including the Novus). Actually, he older the machine the better its quality it seems (apart from 'budget' ones like some Radofins or Novus etc).

Re: Which side of the glass case do the Hp's belong on?

*Message #21 Posted by **Chris Dean** on 12 Sept 2005, 11:58 a.m.,*
in response to message #20 by GE

People think you are crazy, I collect sliderules and they think I am totally bonkers!!!

Slide rules are interesting, too

*Message #22 Posted by **John L. Shelton** on 12 Sept 2005, 9:33 p.m.,*
in response to message #21 by Chris Dean

So, tell us about your slide rule collection.... Have web photos yet? Mine (early 1970s) still work, and the "battery" has a lifetime warranty!

Re: Which side of the glass case do the Hp's belong on?

*Message #23 Posted by **don wallace** on 12 Sept 2005, 9:58 p.m.,*
in response to message #21 by Chris Dean

Hi Chris , John.

Hey do you have any of those circular aviation ones for doing flight plans / nav?

I always thought circular slide rules were cool, being "different". Maybe thats why the 41CV appealed to me when it came out...

DW

Re: circular slide rules for aviation

*Message #24 Posted by **Garth Wilson** on 12 Sept 2005, 11:45 p.m.,*
in response to message #23 by don wallace

> Quote:
>
> Hey do you have any of those circular aviation ones for doing flight plans / nav?

That would be the E6B. Somewhere I have a smaller, less expensive one for aviation that didn't do as much as the E6B.

Re: circular slide rules for aviation

*Message #25 Posted by **Les Bell** on 13 Sept 2005, 1:20 a.m.,*
in response to message #24 by Garth Wilson

Flight computers - a.k.a. "whizz wheels" - have two sides. One is a fairly conventional circular slide rule which is used for time/speed/distance problems. It often has markings for useful conversion factors (e.g. litres/gallons/lbs/kg) and of course, has a prominent index mark against 60, since most time/distance calculations done in flight involve minutes although speed is expressed in knots.

The back side is unique to navigation devices and usually has a panel which slides up and down behind a rotating perspex wheel; this is used for solving wind triangle problems (e.g. working out the heading to fly in order to maintain the correct track for a given cross-wind and what the resulting groundspeed will be). It's a very simple vector calculation, and the flight computer lays it out graphically.

A few (e.g. Jeppesen CR series) don't have the large rectangular slide, but are completely circular. They (probably) use a slightly more tricky trigonometric technique to solve wind problems, and make it harder for the user to intuit what's going on. However, the smaller ones like the CR-5 can fit in a shirt pocket.

I occasionally pull mine out and check that I can still do things the old-fashioned way. Funnily enough, I've never had to replace the batteries, either . . .

Best,

--- Les
[http://www.lesbell.com.au]

Re: circular slide rules for aviation

*Message #26 Posted by **don wallace** on 13 Sept 2005, 2:05 a.m.,*
in response to message #25 by Les Bell

Hi Les,

Yeah, the Jeppesen is the one I was thinking of...

About batteries... That reminds me of a joke I coined when I was baby-sitting an SBS server for some guys who (think they?) run a communicatins company:

Q. Whats the difference between a Notebook PC running Windows and a Spirax notepad?

A. A spirax doesn't crash or need batteries.

Comments on slide rules

*Message #27 Posted by **Palmer O. Hanson, Jr.** on 13 Sept 2005, 4:54 a.m.,*
in response to message #26 by don wallace

I have about 170 slide rules in my collection including the K&E Log Log Duplex Decitrig that I purchased while a freshman engineering student in 1947. I also have several of the navigation slide rules.

One of the most unusual slide rules in my collection is a Faber-Castell 67/22R which has a 12.5 cm slide rule on the front and an Addiator (one of the push-down adders) on the back. I think it was an attempt to compete with the early four-bangers.

One of the problems with the circular slide rules is that the scales closer to the axis are shorter. Typically, the C and D scales are on the outside and the K scale is innermost and practically useless.

Some slide rules do deteriorate. Many yellow with age. The slides on the early metal Picketts (made with magnesium, I think)tended to corrode and bind. In the 1940's there wasn't a good solution for that. Now one can make them work as smooth as silk with a little WD-40 on the slide.

Re: Comments on slide rules

*Message #28 Posted by **don wallace** on 13 Sept 2005, 6:19 p.m.,*
in response to message #27 by Palmer O. Hanson, Jr.

Hi Palmer,

What sort of engineering did you do? What is your most enjoyed aspect of retirement? (assuming u r ...)

What is your favourite computing device of all time? What is your most loved branch / area of maths? What is your most hated? [mine is D.E.s and statistics ;-P]

Just curious ;-)

DW

Re: Comments on slide rules

*Message #29 Posted by **Palmer O. Hanson, Jr.** on 14 Sept 2005, 9:25 p.m.,*
in response to message #28 by don wallace

I received my BS from the University of Minnesota in 1950. After a year of half-time grad school and half-time teaching freshmen mathematics I entered the Navy in 1951. I left the Navy in 1956 and joined Honeywell. I worked with automatic flight control systems and inertial navigation systems on aircraft such as the F-100, F-101, A-11, YF12, etc., from 1957 through 1989.

My retirement activity has been limited by multiple bouts with cancer.

My favorite computing device by far was and is the Radio Shack Model 100. That device was primarily designed for use by reporters. I found that Microsoft had provided a BASIC with astounding scientific capability. It's default mode was double precision which used 14 digits. I did some

fairly exhaustive testing of the trigonometric functions. The largest errors I found were 5 in the fourteenth place. The display could be used for graphing with a 240 x 64 pixel range although I had to write my own graphing routines. This was is in 1983. Casio would not provide graphing capability until the fx-7000G with 96 x 64 pixels in1985, HP not until the HP-28 with 137 x 32 pixels in 1988 and TI not until the TI-81 with 96 x 64 pixels in 1990. The Model 100 also provided a full size keyboard which was a real advantage to me since I could touch type, something adults can't do on computers with baby sized keyboards. A major deficiency of the device was that the external power supply would not charge the batteries.

I did a lot of work with linear regression and curve fitting, not because I particularly liked it, but because my work required it.

Re: Comments on slide rules

*Message #30 Posted by **don wallace** on 15 Sept 2005, 1:17 a.m.,*
in response to message #29 by Palmer O. Hanson, Jr.

Hi Palmer.

Amazing...

I had an old friend who has since passed on who was quite berzerk over two hardware items: His HP 11C and his TI-99/4A. Don Curry could rattle of a polynomial expression for any trig or trancendental you cared to ask about. Amazing guy, who used to install ground station equiment (including help with the odd dish) for Marconi in the 50's and 60's in South Africa and England, I think.

He shared your interest in accuracy of trigs and in using curve fit and polynomial stuff. He was doing a high accuracy planetary ephemeris in turbo pascal (bcd) and was, like myself, into Astronomy as an amateur. We had trouble with the int function and with cummulative rounding errors. He was very into high accuracy versions of Basic, Pascal and to an extent, Forth. In fact I got him a copy of Power Basic v 1.0 from Bob Zane; it is quite good, in it's way. Way better than anything Microsoft had at the time.

My contact with Pascal, Forth and Mathematics has crossed paths with quite a few people who have similar interests over the years.

Clear Skies, Palmer!

DW

Trigs in Microsoft BASIC interpreters (Was: Re: Comments on slide rules)

*Message #31 Posted by **Gerson W. Barbosa** on 15 Sept 2005, 10:52 a.m.,*
in response to message #29 by Palmer O. Hanson, Jr.

Quote:

> I found that Microsoft had provided a BASIC with astounding scientific capability. It's default mode was double precision which used 14 digits. I did some fairly exhaustive testing of the trigonometric functions. The largest errors I found were 5 in the fourteenth place.

Here's how the MSX, an 8-bit computer with a Microsoft developed BASIC, behaves in this usual trigonometry test:

```
10 K=ATN(1)/45
20 DEF FNASN(X)=ATN(1/SQR(1/(X*X)-1))
30 DEF FNACS(X)=ATN(SQR(1/(X*X)-1))
40 PRINT FNASN(FNACS(ATN(TAN(K*COS(K*SIN(K*9))))/K)/K)/K
Ok
run
 8.9999999954364
Ok
```

According to Mike Sebastian's Calculator Forensics Results, the Radio Shack TRS-80 Model 100 Computer returns 8.9999999956625, which means both interpreters may share the same code. Very likely, since the Zilog Z80 is backward compatible with the Intel 80C85 microprocessor.

That's Microsoft's implementation of trigonometric functions on the MSX computer:

```
-----------------------------------------
From "The MSX Red Book":
(Avalon Software. The MSX Red Book. Pangbourne: Kuma
Computers, [c.1985].)
(This book is not on sale anymore, but a text file can be
found at
http://www.robsy.net/docs.htm)


...


... The function is then computed by polynomial
approximation (2C88H) using the list of coefficients at
2DEFH.
These are the first eight terms in the Taylor series X-
(X^3/3!)+(X^5/5!)-(X^7/7!) ... with the coefficients
multiplied
by successive factors of 2*PI to compensate for the
initial
scaling.


...


... The function (ATN) is computed by polynomial
approximation (2C88H)
using the list of coefficients at 2E30H. These are the
first
eight terms in the Taylor series X-(x^3/3)+(X^5/5)-
(X^7/7) ...
with the coefficients modified slightly to telescope the
series.


...


2DEFH  8               SIN
2DF0H -.69215692291809
```

```
2DF8H  3.8172886385771
2E00H -15.094499474801
2E08H  42.058689667355
2E10H -76.705859683291
2E18H  81.605249275513
2E20H -41.341702240398
2E20H -41.341702240398
2E30H 8                  ATN
2E31H -.05208693904000
2E39H  .07530714913480
2E41H -.09081343224705
2E49H  .11110794184029
2E51H -.14285708554884
2E59H  .19999999948967
2E61H -.33333333333160
2E69H  1.0000000000000


...
--------------------------------------------------
```

Edited: 15 Sept 2005, 12:23 p.m.

Re: Trigs in Microsoft BASIC interpreters (Was: Re: Comments on slide rules)

*Message #32 Posted by **don wallace** on 15 Sept 2005, 7:39 p.m.,*
in response to message #31 by Gerson W. Barbosa

Hi Gerson,

Correct me if I am wrong but the Intel 8085 and the Zilog "Z80CPU" are contemporary and not 100% op code compatible with each other. They are both op code back compatible with the Intel 8080.

There was a math library (with a few really nasty bugs, most notoriously the INT function code) written in C, which got used a lot through the 1980's... found it's way into quite a few versions of (personal computer) BASICs... [bugs - Yuck!].

Pascal we found was better, but alos had it's limitations. I believe JPL used FORTRAN for the required precision to manage the voyager series spaceprobe flight plans. Interesting.

Anyone heard of PAPC.exe, a variable precision HP calc simulator. Runs user code in MS DOS... Anyone want a copy? PAPC=Programmable Arbitrary Precision Calculator

DW

Re: Trigs in Microsoft BASIC interpreters (Was: Re: Comments on slide rules)

*Message #33 Posted by **Gerson W. Barbosa** on 15 Sept 2005, 9:20 p.m.,*
in response to message #32 by don wallace

Hello Don,

By what I can remember, the Z80 was designed to be

backward compatible with the 8085, at least at software level. I had a course on the 8085 at work, back in 1986, and soon noticed the compatibility when I started to study the Assembly language of the 8-bit Z80-based microcomputer I had then (and still have :-)

As I wrote from memory, I thought the early Microsoft BASIC had been written originally for the 8085 microprocessor. In fact, it was written first in the 8080 Assembly Language and later ported to 8085 and Z80 microprocessors (and not taking fully advantage of the more complete intruction set of the latter), according to my copy of the MSX Red Book in Portuguese (it took me a while to find it).

I had a hint you'd be the first one to reply. Thanks for your remarks,

Gerson.

Re: Trigs in Microsoft BASIC interpreters (Was: Re: Comments on slide rules)

*Message #34 Posted by **Les Bell** on 15 Sept 2005, 9:43 p.m.,*
in response to message #33 by Gerson W. Barbosa

The Z-80 predated the 8085, so it can't be backward-compatible with it.

In fact, the 8085 only added a couple of new instructions over the 8080. The major new features were the use of a single 5V supply (the 8080 also required -5V and +12V), a reorganised pinout (to work with the related RAM/ROM & I/O chips) and the incorporation of some serial I/O (which accounts for the new instructions).

The Z-80, by contrast, provided an alternate register set and a lot of new instructions, though the assembler syntax was completely different. Incidentally, the Z-80 was designed by Federico Faggin, who had earlier designed the 4004 and the 8080 at Intel, but left Intel in 1974 to found Zilog.

Both were designed as a superset of the 8080 architecture, though.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Trigs in Microsoft BASIC interpreters

(Was: Re: Comments on slide rules)

*Message #35 Posted by **Gerson W. Barbosa** on 15 Sept 2005, 10:34 p.m.,*
in response to message #34 by Les Bell

Thanks, Les, for definetely clarifying the matter, and Don for first pointing me out the mistake. I've just found the old 8085 stuff, but that took a little longer... I had written below the 8085 syntax the Z80 correspondence when I began to study the Z80 Assembly: MVI M, byte -> LD (HL),byte; INR -> INC r; XRA A -> XOR A, etc.

Regards,

Gerson.

Re: Trigs in Microsoft BASIC interpreters (Was: Re: Comments on slide rules)

*Message #36 Posted by **don wallace** on 16 Sept 2005, 1:54 a.m.,*
in response to message #34 by Les Bell

Good one, Les. I didn't wanna go into painful detail on it all and you saved me the hassle.

Cheers, Man!

DW

Re: Trigs in Microsoft BASIC interpreters (Was: Re: Comments on slide rules)

*Message #37 Posted by **John Limpert** on 16 Sept 2005, 7:20 a.m.,*
in response to message #32 by don wallace

IIRC, the 8085 only added two instructions, RIM (Read Interrupt Mask) and SIM (Set Interrupt Mask), which could be used for software-controlled serial I/O.

Re: Trigs in Microsoft BASIC interpreters (Was: Re: Comments on slide rules)

*Message #38 Posted by **Les Bell** on 16 Sept 2005, 8:19 p.m.,*
in response to message #37 by John Limpert

> Quote:
>
> IIRC, the 8085 only added two instructions, RIM (Read Interrupt Mask) and SIM (Set Interrupt Mask), which could be used for

> software-controlled serial I/O.

You have a very good memory, John - I racked my brains over that, and could only remember that there were two new instructions, but not what they were!

Best,

--- Les
[http://www.lesbell.com.au]

Re: Trigs in Microsoft BASIC interpreters (Was: Re: Comments on slide rules)

*Message #39 Posted by **Eric Smith** on 27 Sept 2005, 12:27 p.m.,*
in response to message #37 by John Limpert

The 8085 actually added about a dozen new instructions. They were deliberately designed in, not the accidental result of partial decode, but Intel management decided to leave them undocumented. A pity, since they were specifically designed to make compiled code more efficient.

Presumably Microsoft did not use them in any of their 8080/8085/Z80 software.

Re: Trigs in Microsoft BASIC interpreters (Was: Re: Comments on slide rules)

*Message #40 Posted by **Bill Wiese** on 30 Sept 2005, 4:04 p.m.,*
in response to message #39 by Eric Smith

Eric..

> Quote:
>
> The 8085 actually added about a dozen new instructions. They were deliberately designed in, not the accidental result of partial decode, but Intel management decided to leave them undocumented. A pity, since they were specifically designed to make compiled code more efficient.
>
> Presumably Microsoft did not use them in any of their 8080/8085/Z80 software.

Any links to this? I always thought RIM & SIM were the only new 8085 instructions; I'd heard there were one or two 'practical' hidden ones on NEC 80C85

chips.

Bill Wiese
San Jose CA USA

Re: Trigs in Microsoft BASIC interpreters (Was: Re: Comments on slide rules)

*Message #41 Posted by **Eric Smith** on 1 Oct 2005, 3:59 p.m.,*
in response to message #40 by Bill Wiese

There were ten undocumented instructions:

- HL := HL - BC
- DE := HL + imm16
- DE := SP + imm16
- memory [DE] := HL
- HL := memory [DE]
- arithmetic shift right HL
- rotate DE left through carry
- jump if status reg bit 5 set
- jump if status reg bit 5 not set
- RST 40 if overflow

The first five in this list would be especially useful in compiled code.

I have no idea whether any of the CMOS variants included these instructions; the CMOS parts might have been redesigned from the published specifications.

I've seen some vague references to the 8085A having some bug fixes compared to the original 8085, but nothing definitive, and I'm dubious. It seems more likely that it just had improvements to the electrical characteristics, as a result of layout changes or process tweaks. The 8085AH was redesigned in HMOS, Intel's high-density NMOS process, and ran faster. AFAIK, the undocumented instructions existed in all of the Intel NMOS/HMOS parts.

Re: Which side of the glass case do the Hp's belong on?

*Message #42 Posted by **Chris Dean** on 13 Sept 2005, 5:11 a.m.,*
in response to message #23 by don wallace

Don

I do have circular sliderules, Otis Kings and of course straight ones. In all about 60 of them. I also have a sliderule used by the army for calculating the elevation angle for firing artillery

shells!!!

Chris

Re: Which side of the glass case do the Hp's belong on?

*Message #43 Posted by **Dean Chacon** on 13 Sept 2005, 3:15 a.m.,*
in response to message #1 by Richard Zajac

Hi, Since I am the original purchaser of my HP-41CV (in 1981) I feel no problems with using it regularly, since that is why I bought it. I figure that that way I will replace the batteries regularly.

I do, however, keep away from the kids. And it does not go travelling. I have a new (vintage 2003) HP for that, and occasionally I take a "beater" 6-inch slide rule for fun. I probably am showing my age to say that I used a slide rule in high school.

As far as I can determine, they are very resistant to normal wear and tear.

Re: Which side of the glass case do the Hp's belong on?

*Message #44 Posted by **don wallace** on 13 Sept 2005, 6:21 p.m.,*
in response to message #43 by Dean Chacon

Hi Dean,

Hey man, I really like the disciplinarian "sub-text"...

I don't have any kids (Thank Chr....)

DW

Re: Which side of the glass case do the Hp's belong on?

*Message #45 Posted by **valentino ducati (switzerland)** on 14 Sept 2005, 3:39 a.m.,*
in response to message #1 by Richard Zajac

The small Voyager and Pioneer pocket calculators I own, are rotated on a weekly basis (but I still like most the 32SII, and dislike the cheeper 20S, 21S etc...). They sit in a corner of my desk in their hull and wait for their job.

The 41CV, 48SX, 48GX I own are the one I hold "under glass" with all the fine accessories arranged. But even they are still in use for grater programming stuff (or data collection) from time to time.

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HP F1690A

*Message #1 Posted by **Larry** on 6 Sept 2005, 2:01 p.m.*

Can anyone tell me if this is part number F1690A (leather soft case for HP 48/49)?
http://tinyurl.com/aa5u3 http://tinyurl.com/acx3y
Its made of Leather and is a perfect fit for the HP 48 and 49 calculators. It has a genuine Hewlett Packard Logo. If its not an F1690A anyone know what it is? It was given to me by someone who found it in a "bits" box at an HP calculator distributor.
1

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HP Forum Archive 15

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How does the HP 42S come apart?

*Message #1 Posted by **don wallace** on 5 Sept 2005, 10:55 p.m.*

Anyone have any experience with repairing these?

DW

Re: How does the HP 42S come apart?

*Message #2 Posted by **Tony Duell** on 6 Sept 2005, 6:28 a.m.,*
in response to message #1 by don wallace

Not so much repairing, as upgrading, but that involves taking them apart.

The case is heat-staked together, like most recent HPs :-(. The stakes are in the battery compartment, and under the metal overlay.

Take off the battery cover and cells. I find it best to carefully peel off the overlay -- use a thin screwdriver worked across the machine between the rows of keys. Don't try to pull it up starting at one end, that _will_ crease it. Then cut off the top of the stakes with a 3.5mm twist drill bit held in the fingers. The case will now open.

For _my own_ machines, I just clip the case back together. I find it says together well enough, even without the stakes, to stand up to the usage I give the machine.

Others have said you can leave the overlay in place, drill off the tops of the stakes in the battery compartment, and then pull the machine apart, breaking the stakes at the front edge (the tops of which are under the overlay). While this preserves the appearance of the overlay, I feel the forces involved could damage the keyboard or even the PCB, and I prefer to have a working machine to one that looks perfect (as I've said here and elsewhere, I don't really care what my machines look like).

On the main PCB there's a large TAB chip (CPU, display driver, ROM, etc), and a 8K*8 SRAM chip. Oh, and a few small components, IR LED, etc. There's not a lot to repair. What's the problem with your machine?

Re: How does the HP 42S come apart?

*Message #3 Posted by **adrian swanson** on 13 Sept 2005, 4:44 p.m.,*
in response to message #2 by Tony Duell

In my case something fell on the calc and now none of the keys 3 rows to the left dont work. May be a simple enough repair. What do you think.

Re: How does the HP 42S come apart?

*Message #4 Posted by **Paul Brogger** on 13 Sept 2005, 5:10 p.m.,*
in response to message #3 by adrian swanson

The keyboard contacts are contained in a multi-layer mylar "sandwich" with a 15-conductor edge connector. That connector's contact with the PCB is maintained by a rubbery cushion that sits a bit below the display, above the top row of keys, and behind the case front. (Don't confuse this with the longer, thinner, also rubbery LCD contact strips running above & below the LCD.) If you're living well, removing the PCB will allow you to beef up the cushion strip and re-establish keyboard contact.

I'm one who does NOT remove the overlay -- and I claim I've never damaged a Pioneer by taking it apart the other way. (That is, drilling the stakes in the battery compartment, then prying the case halves apart with my fingers.)

Read the two articles (linked-to elsewhere) and ask questions as they arise. Good luck!

Re: How does the HP 42S come apart?

*Message #5 Posted by **don wallace** on 13 Sept 2005, 5:33 p.m.,*
in response to message #4 by Paul Brogger

Hi Paul.

THANKYOU very much (!) for your reply... Very cool answer.

There is certainly a bit of Art to doing repairs on these babies, isn't there? (Even the 41 has a few tricks, traps and pitfalls)

I will certainly write if/when I need to as I go.

DW

Re: How does the HP 42S come apart?

*Message #6 Posted by **Jeff O.** on 6 Sept 2005, 7:24 a.m.,*
in response to message #1 by don wallace

Our friend Paul Brogger has posted extensively on repair of pioneers. Search the archives, plus see these two articles:
Pioneer "Observational Internals"
Increasing HP-42s Memory to 32K

Re: How does the HP 42S come apart?

*Message #7 Posted by **don wallace** on 6 Sept 2005, 9:39 p.m.,*
in response to message #6 by Jeff O.

Thank you very much for the ine info, Tony and Jeff.

Thanks also to Paul.

The 42S? D.O.A. (for now... ;-)

DW

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Screwdrivers

*Message #1 Posted by **John Limpert** on 5 Sept 2005, 5:42 p.m.*

I recently picked up a HP-6S that appears to have a dead battery. The case is held together with some tiny phillips screws. None of my jeweler's screwdrivers are small enough to fit. Is there a standard for these tiny screws, so I can say what size the screw is and what size screwdriver will fit it? I've run into similar problems with other hardware that uses microscopic screws.

Re: Screwdrivers

*Message #2 Posted by **Gerson W. Barbosa** on 5 Sept 2005, 6:50 p.m.,*
in response to message #1 by John Limpert

I have a screwdriver set that looks like this one, only it has 5 screwdrivers and a tweezer:

http://www.allproducts.com.tw/sup2/powermost/hq1005.jpg

The second screwdriver from the left, the one marked **+ #0** fits the HP-6S screws nicely.

http://www.allproducts.com.tw/sup2/powermost/hq1005.html

Re: Screwdrivers

*Message #3 Posted by **Tony Duell** on 6 Sept 2005, 6:21 a.m.,*
in response to message #1 by John Limpert

From what I remember, there's not _a_ standard for small crosspoint screws, there are 2 or 3 (Phillips, JIS, Pozidriv (maybe).

You might want to look at MicroTools (http://www.micro-tools.com/). They specialise in small tools for camera repairs (another of my hobbies), and certainly sell small crosspoint screwdrivers. They're not cheap, but I've been very satisfied with the stuff I've bought from them.

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Technology missing in calculators

*Message #1 Posted by **John L. Shelton** on 5 Sept 2005, 2:17 p.m.*

There are a number of technical advances used in other products that haven't shown up in HP or other mainstream calcs. Why? Wouldn't some of them be helpful? The technologies below are demonstrably useful and cheap.

- backlit display (see cellphones)
- bluetooth or wifi (cellphones, cordless mice)
- Speech recognition for handsfree operation (cell phones, phone systems)
- waterproofing, for outdoor operation (rugged cells, cameras, etc)
- Color hi-res display to show more math, documentation. (PDAs, cell phones)

Re: Technology missing in calculators

*Message #2 Posted by **Guest** on 5 Sept 2005, 3:19 p.m.,*
in response to message #1 by John L. Shelton

Battery life.

Also, many of those things are not that cheap. Calculators are currently aimed at high school and college students. Cost is a big factor, and the licensing costs for voice recognition software would not be worth the limited convenience. Voice recognition can't beat rpn, either. Waterproofing is also not worth is anymore, because the targets are students in classrooms, not surveyors.

The nice displays are the only thing that I am surprised at the lack of. I do wonder what the biggest reason is for not including high resolution color displays. For TI and HP, the biggest remaining obstacle could very well be backwards compatibility.

Re: Technology missing in calculators

*Message #3 Posted by **Bill Wiese** on 7 Sept 2005, 2:11 a.m.,*
in response to message #1 by John L. Shelton

> Quote:
>
> - backlit display (see cellphones)
> - bluetooth or wifi (cellphones, cordless mice)
> - Speech recognition for handsfree operation (cell phones, phone systems)
> - waterproofing, for outdoor operation (rugged cells, cameras, etc)
> - Color hi-res display to show more math, documentation. (PDAs, cell phones)

I'll comment on items one by one...

- **Backlighting:** Marketing droid perception of calculators is that long battery life on a couple of "watch

batteries" is *de rigeur* - and size of device is important too. Don't see many calcs today taking AA batteries.

- **bluetooth/WiFi:** Or even Ethernet or USB. All the technologies are too expensive in chip count or chip area except for USB for top-end HP49G... You end up with a tail wagging the dog situation where there's more firmware running the WiFi card innards than there is running the whole calculator! Plus support costs would be high due to complexity (esp for WiFi - lotsa consumer electronic vendors making WiFi products are reporting huge support costs and high return rates.
- **Speech recognition:** Would require a DSP chip + firmware of more complexity than the calc itself. Another 'tail wagging the dog' configuration for dubious usefulness. Also, speech interfaces for many human control tasks are actually WORSE (less reliable, slower and more fatiguing) than other input methods.
- **Waterproofing:** Calcs are near-disposable items now, and biggest market is student market. And if the keyboard is reasoanbly tactile, a good clear ZipLoc bag could be useful. And I can't think of a project (except for some rare civil engineering field work) where numeric work couldn't be done back in vehicle, shed, etc.
- **Color Hi-res Displays:** Again, a tail-wagging-dog situation for many calcs. Prob a successor to the 49G, if HP still makes calculators in a year or so (!), could have one of these. Remember, these better displays cost more themselves than most *entire* calculators (chip, display, case, KB) do. More intense software development/maintenance, for no perceptible marketing/sales gain. Furthermore, you're pricing yourself into PDA territory. And battery life gets worse esp when backlight considered... one of the biggest things consuming juice in digital cameras these days is the LCD viewfinder and backlight; it's right behind the CCD sensor in terms of drain/battery life.

Bill Wiese
San Jose, CA USA

Re: Technology missing in calculators

*Message #4 Posted by **Meindert Kuipers** on 7 Sept 2005, 2:59 a.m.,*
in response to message #3 by Bill Wiese

I agree with all of this, except USB: a USB device (not a host!) is very simple and cheap to implement, and my MLDL2000 add-on for the HP41 adds the USB device with a two-chip solution (USB controller and EEPROM).

Meindert

Re: Technology missing in calculators

*Message #5 Posted by **Bill Wiese** on 7 Sept 2005, 6:06 p.m.,*
in response to message #4 by Meindert Kuipers

> Quote:
>
> Meindert Kuipers wrote: "a USB device (not a host!) is very simple and cheap to implement, and my MLDL2000 add-on for the HP41 adds the USB device with a two-chip solution (USB controller and EEPROM).

Meindert,

Yes, USB device software is relatively easy to implement. But I'd still bet a USB-enabled calculator doubles firmware size (KB) over a non-USB-enabled calc. A calc of HP41 complexity takes 12K or less in ROM space. From some of the example/demo code I've seen, a simple USB device, esp if supporting mass storage (a la USB stick drives) is gonna use up at least 8KB or more in firmware just

to support the RBC disk block device commands.

In high-volume low-cost microcontrollers - the kind that are used on calcs - chip area is king. Look at a photomicrograph of a USB-equipped microcontroller (one not requiring an external analog line driver chip) - the USB I/O area consumes a fairly large fraction of chip area.

Microcontrollers (a la SunPlus) suited for use in most calculators are often $0.75 or less in volume cost, varying on packaging & pin count.

An extra $0.75 in chip price to get in the pricing arena of USB-equipped microcontrollers, plus a $0.40 USB connector (estimate), will add over $3 to price of calc hardware at retail. Add in additional budgeting to cover tech support costs for PC connectivity ("my calc won't enumerate", etc.) and that's at least a $6 in retail price for a feature most won't use. $6 will control whether or not your calc fits in a pricing slot at WalMart, RiteAid, or other volume retail establishments.

Bill Wiese
San Jose, CA USA

Re: Technology missing in calculators

*Message #6 Posted by **Meindert Kuipers** on 8 Sept 2005, 3:09 a.m.,*
in response to message #5 by Bill Wiese

Bill,

I can see the math, but somehow it doesn't fit. Why can I get a USB MP3 player at current market prices or the very low end digital cameras? Obviously, only the higher end calcs require interfaces like USB and they may then cost a bit more ....

Meindert

Re: Technology missing in calculators

*Message #7 Posted by **don wallace** on 8 Sept 2005, 12:23 a.m.,*
in response to message #4 by Meindert Kuipers

Hi Meindert. What chips do you use / how do you implement USB? (In your MLDL2000)

DW

Re: Technology missing in calculators

*Message #8 Posted by **Meindert Kuipers** on 8 Sept 2005, 3:21 a.m.,*
in response to message #7 by don wallace

Hello Don,

The USB interface is the FT2232C from FTDI. There is also the FT245BM that can be useful, but it is much slower. These chips have license free drivers and loads of example programs. The cost of the FT2232C in small quantities is about 6 Euro's, and there are some companies offering the chip on a very small PCB for easy integration.

I have seen on your webpages that you have built a logic analyzer, well, I have done just that with the FT245BM. It is much slower than yours, but when connected to the HP41 it will gice a cycle-by-cylce trace of what the '41 is doing. I must credit Eric Smith for the original idea who uses a

similar approach for dumping all kinds of HP ROM images. This analyzer was very very helpful in debugging the MLDL2000 design.

I plan to add an HP41 bus analyzer later in the MLDL2000.

Meindert

Re: Technology missing in calculators

*Message #9 Posted by **Holger Veit** on 7 Sept 2005, 5:30 a.m.,*
in response to message #3 by Bill Wiese

This seems to work for mobile phones and PDAs, though, and no such fuss is made about battery life or requirements of complex chips and software support there.

Given that PDAs, and to some degree also "universal mobile phone+PDA+MP3player+gameboy+videoviewer", may be considered an evolutional successor of plain calculators, the observation is:

* you have all these features in such a handheld device nowadays * it does no longer make sense to produce a high-quality calculation-only tool, except as a cheap throwaway gadget - you get more features with a "communicator" * PDAs normally don't reach the calculation features found in older HP and TI calculators, except with additional software which is often work of hobbyist calculator enthusiasts (like HP41 emulators etc.): this make be believe that there is no longer a real interest - read: market - in such complex machines at your fingertips. If you want to do mathematics, you use a full PC; for four-species arithmetic with a single "M"emory, even the lousiest mobile phone has a program built in.

Regards Holger

Re: Technology missing in calculators

*Message #10 Posted by **don wallace** on 7 Sept 2005, 8:17 a.m.,*
in response to message #9 by Holger Veit

Hi Holger.

I could not be bothered to use a spreadsheet to do impedance calculations (extreme overkill), etc. I HATE having to do it on a four function calc. Ofen I want to do other stuff with the result, like a quick attenuation calculation in dB (for audio filter or "roll-off" calc or maybe curious about phase or time delay, too).

No calculator other than my 41CV with TIME module can tell me how many hours per week I will have to put in between now and Christmas to do the remainder of an allocated 150 hours on a technical project. I can't effortlessly tell my wristwatch to beep when the ebay auction is nearly closed (but the mobile phone timer will do that at least).

No four function calc can do any of the simple but neccessary calculations I like to do for my electronics "work". And a PC is VERY CUMBERSOME overkill...

So my 41CV is really quite important to me. I have survived without it and I like to keep my mind sharp enough to "do numbers in my head" but I miss it when I don't have it or it is down or (lately) in need of some repair or TLC. It is an indidspensible workhorse the like of which I have never seen before and never will again. It is one of my most used and valued possessions.

DW

Re: Technology missing in calculators

*Message #11 Posted by **Bill Wiese** on 7 Sept 2005, 6:16 p.m.,*
in response to message #9 by Holger Veit

> Quote:
>
> This seems to work for mobile phones and PDAs, though, and no such fuss is made about battery life or requirements of complex chips and software support there.

A totally different pricing and distribution model makes the difference.

Support - that's handled by the phone carrier. At least in USA, phone manufacturer's customers are NOT the end-user but the cellphone carriers. When you have a phone problem you're often referred to your carrier as 1st line of support.

A phone is a $200-$300 device, even if you don't pay it directly. In USA (Europe/elsewhere may be different) you often get a 'free' or 'cheap' ($50) phone but have to keep service w/carrier for 2 years or you have to return phone or pay a service charge of several hundred dollars to terminate service (to recoup cost of 'free' phone).

Plus, you charge your phone every few days or even more often than that. The relative power budget for the display as opposed to the transmitter power amplifier and radio DSP allows some leeway there. And the color backlit LCDs DO have more drain than monochrome LCDs and battery life is less than roughly equivalent generation phones w/simpler LCD display - though that is narrowing a bit. (My next cellphone will NOT have a color display!)

By contrast, most people are accustomed to their calculator always being there and up & running without charging or worrying about batteries. Otherwise, LED calcs would still be on the market: 7-segment LED display sticks are cheaper than LCDs and zebra connectors. ;)

And a $35 calc can't afford to be sold expecting a 1 in 5 chance that customers will call an 800# with detailed tech questions requiring 10 minutes of a customer rep's time. The profit has just walked away if that's happened.

Bill Wiese
San Jose CA USA

Given that PDAs, and to some degree also "universal mobile phone+PDA+MP3player+gameboy+videoviewer", may be considered an evolutional successor of plain calculators, the observation is:

* you have all these features in such a handheld device nowadays * it does no longer make sense to produce a high-quality calculation-only tool, except as a cheap throwaway gadget - you get more features with a "communicator" * PDAs normally don't reach the calculation features found in older HP and TI calculators, except with additional software which is often work of hobbyist calculator enthusiasts (like HP41 emulators etc.): this make be believe that there is no longer a real interest - read: market - in such complex machines at your fingertips. If you want to do mathematics, you use a full PC; for four-species arithmetic with a single "M"emory, even the lousiest mobile phone has a program built in.

Regards Holger

[/quote]

Re: Technology missing in calculators

*Message #12 Posted by **Eric Smith** on 7 Sept 2005, 7:30 p.m.,*
in response to message #11 by Bill Wiese

> Quote:
>
> 7-segment LED display sticks are cheaper than LCDs and zebra connectors

Not in my experience. LED displays have more components and require more manufacturing steps to assemble than LCDs, so they are more expensive for a comparable display (i.e., if both are 10 seven-segment digits).

Edited: 8 Sept 2005, 2:25 p.m. after one or more responses were posted

Re: Technology missing in calculators

*Message #13 Posted by **don wallace** on 8 Sept 2005, 12:53 a.m.,*
in response to message #12 by Eric Smith

Hi Bill, Eric.

Sorry but I have to agree with you on this ne, Eric. Hands down...

LCD's are kind of a bitch to drive...

DW

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Mathematical typesetting

*Message #1 Posted by **John L. Shelton** on 5 Sept 2005, 2:05 p.m.*

There's been recent discussion of math programs. And HP manuals. Combining the two, I'm curious: What are best programs/systems for designing truly beautiful documentation. In particular, showing complex mathematical and computer examples.

In the 1970s & 1980s, Don Knuth's TeX was the gold standard. I've lost touch. If you were writing a calculator manual or math paper today, and wanted highest visual quality, what would you use? Why? Can you post PDF examples showing elegance?

My own answer used to be Frame Maker (now from Adobe). But I had to switch to MS Word. It is "good," but fails several tests for true high-quality output.

Re: Mathematical typesetting

*Message #2 Posted by **Namir** on 5 Sept 2005, 2:21 p.m.,*
in response to message #1 by John L. Shelton

I used FrameMaker when I worked for Cisco as a documentation specialist. I was told that it handled multi-chapter documents better than MS-Word. I did not use it to create mathematical docuemnts.

Perhaps MathCAD can help. Alos someone on this website mentioned Mackichan Software's Scientific Notebook. Check the Mackichan Website to see their math software.

Re: Mathematical typesetting

*Message #3 Posted by **I, Claudius** on 5 Sept 2005, 10:11 p.m.,*
in response to message #2 by Namir

I've used MathCAD and found it to be quite poor for typesetting. Indeed, it is a poor program, period, using an outdated subset of Maple 5 commands. It has its users but I don't see how they are doing heavy duty engineering problems with it. Try solving even the most simple symbolic difeq with it. If a so called math program does not have some type of 'dsolve' command, along with accompanying numeric solvers, it can't call itself a math program.

Edited: 5 Sept 2005, 10:15 p.m.

Re: Mathematical typesetting

*Message #4 Posted by **Mark A. Ordal** on 9 Sept 2005, 9:55 a.m.,*
in response to message #2 by Namir

If you are just concerned with aesthetics, you could use QuarkExpress and an XTension "Mathsetter" ($399 from <http://www.bluesky.com>). The MathSetter XTension adds TeX/LaTeX math typesetting capability to some older versions of QuarkExpress (version 4.x or 3.3.x versions equal to or greater than 3.3.2).

If the long-term viability of your files is important, you will need to stay with LaTeX. FrameMaker is clearly not an option in this regard! FrameMaker's only champion at Adobe, John Warnock, is no longer with Adobe---he's the one man responsible for the purchase of FrameMaker. Adobe has already discontinued development of the Mac version and all UNIX versions except Solaris. It seems highly likely that FrameMaker will be discontinued as soon as Adobe can get away with it.

Addons for M$ Word, such as Mathtype (from <http://http://www.adeptscience.co.uk>) or Expressionist (now called MathEQ from <http://www.livemath.com>) aren't the answer either, in my opinion. For one thing, they are specific to Mac and Windows systems so you preclude any future move to a Linux/Unix system. (TeX/LaTeX doesn't suffer from that limitation.) Using these equaton editors with TeX/LaTeX involves some compromises too. For example, when I used Expressionist (about 10 years ago) it could export in TeX format for pasting into TeX/LaTeX files. HOWEVER, Expressionist didn't have a parser for TeX/LaTeX so you couldn't edit your equation again in Expressionist UNLESS the big block of comments Expressionist generated was kept intact. Those comments were Expressionist's notes to itself on how the equation was made. I'm sure MathType uses a similar scheme for TeX export.

I would expect the word-processor-like front-ends for LaTeX (e.g., Lyx <http://www.lehigh.edu/~dlj0/LyX.html> or Scientific Word <http://www.mackichan.com/>) would suffer to some degree from this problem as well. At least for me, there is a distinction between a "LaTeX compatible" file format and a "LaTeX" file.

As for Dave Shaffer's comment regarding TeX/LaTex:

"The main drawback as I see it is that high-priced scientists have been turned into secretaries."

I would have to strongly disagree. I've known and worked with many talented secretaries over the years and NONE of them could have done what I do with LaTeX. So I don't think that document preparation with TeX/LaTeX can be considered "secretarial work". The bottom line is: if you want it done right with TeX/LaTeX you are going to have to do it yourself.

--Mark

Re: Mathematical typesetting

*Message #5 Posted by **Dave Shaffer** on 9 Sept 2005, 12:16 p.m.,*
in response to message #4 by Mark A. Ordal

Mark,

re: "I would have to strongly disagree. I've known and worked with many talented secretaries over the years and NONE of them could have done what I do with LaTeX. So I don't think that document reparation with TeX/LaTeX can be considered "secretarial work". The bottom line is: if you want it done right with TeX/LaTeX you are going to have to do it yourself."

I don't think we disagree - That's exactly my point!

In the good old days (?!), you gave your secretary a handwritten draft, and she quickly produced an impeccable typewritten version, with equations handwritten in (maybe she did that, maybe you did that). Nowadays, virtually all my astronomer friends and I do all this work ourselves, including the TeX typesetting (which as you note, is far from trivial). Yes, I agree that is beyond the capability of most secretaries, which is why you have to do it yourself.

My point was that the time you spend typesetting is time that you are not collecting, reducing, analyzing, and perhaps most importantly contemplating data.

Re: Mathematical typesetting

*Message #6 Posted by **Doug Wilder** on 5 Sept 2005, 6:58 p.m.,*
in response to message #1 by John L. Shelton

There is an add-in for MS Word called MathType that has full mathematical features. It can even export the equations in TeX/Latex and a couple other formats for typesetters. LaTeX is alive and well in modern usage. Check out this thread for LaTeX usage on the net (doubleclick an equation for it's code):

http://www.physicsforums.com/showthread.php?t=8997&highlight=LateX

Best

Re: Mathematical typesetting

*Message #7 Posted by **Tony Duell** on 6 Sept 2005, 6:18 a.m.,*
in response to message #1 by John L. Shelton

So far I've seen no good reason to _downgrade_ from \TeX or \LaTeX.

Re: Mathematical typesetting

*Message #8 Posted by **Joao** on 6 Sept 2005, 6:41 a.m.,*
in response to message #7 by Tony Duell

I think the standard for maths papers is still TeX/LaTex. I use Scientific WorkPlace from Mackichan, which is a nice front end for LaTex and integrates Maple.

Re: Mathematical typesetting

*Message #9 Posted by **Dave Shaffer** on 6 Sept 2005, 1:34 p.m.,*
in response to message #1 by John L. Shelton

TeX/LaTeX is still the gold standard in astronomy. Most published meeting procedings want only a LaTeX file (with the relevent style file(s)) for the book which is the result of the meeting (means practically no typesetting or formatting effort on the part of the editors or publishers).

Many journals also want (La)Tex files as the final version of submitted papers - once again, a minimum of effort on the part of the publisher.

The main drawback as I see it is that high-priced scientists have been turned into secretaries.

HP manuals prepared on TeX/LaTeX?

*Message #10 Posted by **Karl Schneider** on 7 Sept 2005, 1:51 a.m.,*
in response to message #1 by John L. Shelton

Based on the font appearance, I believe the flat-bound 1990's HP-48G and HP-32SII manuals were prepared using TeX/LaTeX.

Does anyone know if this is true? The spiral-bound 1980's Voyager and Pioneer manuals look nicer, but were undoubtedly costlier to produce.

-- KS

Re: Mathematical typesetting

*Message #11 Posted by **Thomas Okken** on 8 Sept 2005, 10:50 a.m.,*
in response to message #1 by John L. Shelton

If you don't mind using a non-interactive, non-WYSIWYG system (like TeX), you could try Lout. It generates PostScript, and can be customized using PostScript macros -- powerful, and its output quality is excellent. For mathematical equations, it includes a macro package based on the old Unix "eqn" tool, which is easy to use and I find works very well.

- Thomas

Re: Mathematical typesetting

*Message #12 Posted by **Ben Salinas** on 13 Sept 2005, 5:06 p.m.,*
in response to message #11 by Thomas Okken

You might try LYX as an editor for LaTeX. I had it recommended highly by a friend just a few days ago. Though I haven't used it, I understand that it is almost WYSIWYG.

Basically, as soon as you type the LaTeX command, it appears on the screen.

Try it out (though I hear it might be borken in windows)

-Ben

Re: Mathematical typesetting

*Message #13 Posted by **Dave Shaffer** on 13 Sept 2005, 7:12 p.m.,*
in response to message #12 by Ben Salinas

Hey Ben,

Nice to hear from you again.

Have you gone off to college yet?

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HP33S TTF: missing character... My fault!

*Message #1 Posted by **Vieira, Luiz C. (Brazil) - not logged** on 5 Sept 2005, 1:03 p.m.*

Hi, all;

those of you who have already installed and tried the TTF files specifically drawn to digital devices (mainly HP calculators, LCD and keyboard) probably missed the ":" in the HP33S set. I found this potencial flaw this very weekend and I'll soon post a new TTF file replacing the earlier version.

As no one complained so far, it is going to be easier to find a new arrangement to fit the new character. Those who have already tested the HP33S TTF (or at least read about it) know that I choose two characters for dot and comma: the original tinny in-between digits set and a full-digit set.

The problem is that I choose [:] and [;] to hold the tinny "." and "," respectively. Then I choose [.] and [,] to hold the full-digit, pseudo "." and ",". Now I see I made a bad choice...

Because the fonts ara available at HPCC site, I'll provide a copy of the updated font to them as well.

And Dave, what about hosting the fonts and a short PDF explaining how to use them? I'd gladly send you a copy of them all so any contributor/visitor would access them through the MoHPC. Is there available space to host them at the MoHPC? Let me know!

At last, forgive me for the possible troubles this missing character caused.

Cheers.

Luiz (Brazil)

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HP collectables & eBay

*Message #1 Posted by **Wilson (Bill) Holes** on 5 Sept 2005, 12:47 p.m.*

Yesterday I put one of Redshift Software's few remaining HP-41 AECROM modules on eBay (see item 5805816021) to help raise funds for the victims of Hurricane Katrina. 100% of the final sale price realized in this 3-day auction will be automatically donated to the American Red Cross. Whatever the sale price is, it will be a just a "drop in the bucket," but every little bit helps.

My state, the state of Texas, is stepping up to the plate to help in every way. It occurred to me that the members of our great HP community could be inspired to do likewise.

eBay has made it relatively easy to automatically donate various percentages of your final sale price to virtually any charity you elect. I'd like to encourage everyone to give some thought to selling some of their duplicate HP collectables in this manner.

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33s backspace key

*Message #1 Posted by **Hal** on 5 Sept 2005, 11:29 a.m.*

The backspace key function doesn't seem to be working on my new 33s. According to the manual, you should be able to use backspace during any data entry mode to delete the character to the left of the cursor. When I try to do this, the backspace key doesn't appear to be active (ie, I get the little exclamation point in a triangle annunciator). I'm using the left end of the cursor control bar as the back space key. Any ideas appreciated. Thanks, Hal

Re: 33s backspace key

*Message #2 Posted by **sjthomas** on 5 Sept 2005, 4:59 p.m.,*
in response to message #1 by Hal

The backspace/erase key is the left-pointing arrow -- located between the TAN and division keys.

Edited: 5 Sept 2005, 5:00 p.m.

Re: 33s backspace key

*Message #3 Posted by **Hal** on 5 Sept 2005, 7:50 p.m.,*
in response to message #2 by sjthomas

Thanks sjthomas, They say the nut on the keyboard is the cause of many problems, and that's certainly true in this case. Best regards, Hal

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HPIB connector size?

*Message #1 Posted by **marais** on 4 Sept 2005, 5:06 a.m.*

I am not sure this question belongs here - I'd like to try to readout my Fluke 8842A multimeter (GPIB option installed) with my 9825, for which I have the reqired HPIB card (my real objective would be to hook up the DMM to my HP85, but I haven't found the HPIB card yet). I am about confused about HPIB/GPIB/IEEE488 differences; I recall IEEE488 being compatible with the older HPIB standard. However, I notice that already the connectors aren't the same size. Does anybody here know about a site where these things are explained? I suppose adapter cables can be bought somewhere? Sorry if this doesn't belong here.

Andreas

Re: HPIB connector size?

*Message #2 Posted by **Tony Duell** on 4 Sept 2005, 6:34 a.m.,*
in response to message #1 by marais

HPIB, GPIB and IEEE-488 are all much the same, and all are electrically compatible. They all use the 24 pin 'Blue Ribbon' connector, which is similar to a Centronics printer connector, but smaller.

The HP98034 HPIB interface for the 9825 certainly came with that connector on the end of the cable.

There was also something called IEC625, which had the same signals, but which used a DB25 connector (like an RS232 connector).

What are the connectors on your instrument and on your interface?

Re: HPIB connector size?

*Message #3 Posted by **marais** on 4 Sept 2005, 10:19 a.m.,*
in response to message #2 by Tony Duell

Hi Tony, the instrument has a centronics-like connector, just smaller, 24 pin, properly labelled "IEEE STD 488 port", with a second label saying "SH1 AH1 T5 L4 SR1 RL1 DC1 DT1 PP0 C0 E1". The connector on the interface is similar, only larger. Or shouldn't that be an IEEE interface? Let me check, I start having a doubt.

Andreas

Re: HPIB connector size?

*Message #4 Posted by **Eric Smith** on 4 Sept 2005, 2:53 p.m.,*
in response to message #1 by marais

There are various slightly different looking connectors in metal and plastic, but the only functional difference you should see among actual IEEE-488/GPIB/HP-IB connectors is that newer ones use metric screws but older HP-IB ones did not. On genuine HP connectors, on both the cables and instruments, they color-coded it; IIRC

the black hardware is metric.

You can use the connectors with metric and non-metric hardware together as long as you don't try to screw them together (which will damage the screws).

Why so durned many connectors??

*Message #5 Posted by **John L. Shelton** on 4 Sept 2005, 3:07 p.m.,*
in response to message #4 by Eric Smith

In some idealistic future, we will have about 5 connectors from which to choose, not millions. Things being connected will negotiate with each other before applying voltage, so no damage is ever possible.

Our connectors will include:

- very small, easily attached and detached - for providing data or power (or both) to small devices, where accidental disconnection is acceptable (and perhaps desirable, instead of breaking something.
- Small, reliable (locking) connector for data or power to small and medium devices. Designed for less-frequent use, and difficult to accidentally disconnect.
- Heavy duty - suitable for delivery of lots of power. Probably comes in several sizes: 1KW, 10KW, 100KW, etc.
- environmentally secure - watertight, gas-tight, etc.

In this ideal future, gadgets will need only one connector, but will perhaps have extras, to allow easy daisy-chaining etc. Plugging a calculator into a wall outlet would require negotiation: "I need 12VDC. I can supply data at this rate." "OK. I can give you 12VDC. Tell me more about your data; I have a refrigerator that wants to know something."

Sound far-fetched? Imagine all the effort we've spent over the years designing millions of special-purpose connectors. And all the effort wasted trying to connect dissimilar devices. And the sheer stupidity of re-using the same physical connector for incompatible (and electronics-damaging) purposes. Like the good-old DB-25 connector, used in the 1960s - 1990s as an RS-232 serial connector. Used also 1990s - 2000s for PC Parallel printers. Used also 1980s-1990s as Macintosh SCSI connector. Oops - there goes another blown chip!

Re: Why so durned many connectors??

*Message #6 Posted by **don wallace** on 4 Sept 2005, 5:40 p.m.,*
in response to message #5 by John L. Shelton

Hi all. Hi John.

I am actually working on early prototypes of the sort of connectors you seek. Amazingly, I found some information on what my products will look like. The data comes from an e-mail mistakenly sent backwards in time to me from another e-mail box I set up in 2008...

ADVANCED CONNECTORS SET NEW STANDARDS IN DEVICE CONNECTIVITY

The new connectors from WALLACE LABS offer greatly increased ease in connecting devices together. Using advances in bio-psychic hybridization as a result of using living cells (the so-called "wet chip") running a custom genome with splices of DNA from PSYCHIC LAB RATS (descended from 1960's UCLA stock) and mature breeding salmon, the hybrid electro-biological interfaces are able to morph into various shapes on contact with each other to ensure machanical compatibilty. The custom electronics then adapts on-the-fly by "sensing" the other interfaces preferred data format, protocols, voltage and current levels by "feeling the VIBES, Man! (direct quote from a reply by an interrogated

chip)".

Connector performance is excellent. There are some special considerations and drawbacks however... Early users of the new products report that the data links, while very reliable, slow down when exposed to FUNK MUSIC from the early 1970's. They are prone, due to telepathic leakage currents, to "sulking" in office environments when there are stressed or frustrated humans around and refuse to operate at all if exposed to Hip-Hop or Opera. They will tolerate Stravinski, however and run well in an ambient environment of music by Frank Zappa, Pink Floyd or loudly played Led Zeppelin.

DW

Re: Why so durned many connectors??

*Message #7 Posted by **Howard Owen** on 4 Sept 2005, 6:27 p.m.,*
in response to message #6 by don wallace

Careful with those things, Don. Don't let the blue nosed get hold of the technical details.

Gives a whole new meaning to the term "Xbox!"

Re: Why so durned many connectors??

*Message #8 Posted by **don wallace** on 4 Sept 2005, 8:04 p.m.,*
in response to message #7 by Howard Owen

Hi Howard.

IBM take on a scheme which ensured COMPATIBILITY?! With equipment from OTHER VENDORS?!

Don't worry; we're all quite safe, it will NEVER happen.

DW

P.S. An old joke:

Q. How many IBM executives does it take to change a light bulb? (I know, you all KNOW THIS ONE...)

A. 500. 1 to hold the light bulb and 499 to TURN THE COMPANY AROUND.

Re: Why so durned many connectors??

*Message #9 Posted by **Howard Owen** on 4 Sept 2005, 8:33 p.m.,*
in response to message #8 by don wallace

Hahaha!

I'll have to tell that one to my colleagues. 8)

But, I meant "blue nosed" not as in "big blue" but as in "member of the joy police." That usage, I now find after a Wikipedia and Google search, is quite rare. I only found two references to my favorite meaning of the phrase. It is swamped by the Nova Scotian schooner "Bluenose" on Google. And the London "Blue Nose Society" of poets outranks it too.

Regardless, I grew up with "blue nose" meaning "prude." It is death to a joke to have to explain its meaning, but you might try rereading my prior attempt with the correct definition in mind. 8)

Re: Why so durned many connectors??

*Message #10 Posted by **don wallace** on 4 Sept 2005, 9:23 p.m.,*
in response to message #9 by Howard Owen

Howard, I am sure that the "lab" could come up with "appropriate" firmware in the datalink products for the PC (politically correct, not personal computer)...

I am not sure that there will ever be a version which can withstand Hip-Hop or opera, though... That is just TOO MUCH to ask ;-)

DW

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42s: programming a line of -2

*Message #1 Posted by **rob** on 4 Sept 2005, 1:54 a.m.*

At Minehunt game , line 144 has me stumped. I don't know if I should enter this line as follows:

```
144 "-2"
```

or as

```
144 -2
```

I cannot figure out how to get the -2 to show up on the line for me without going to the next line automatically. There is another one of these later on, on line 249.

thanks, rob

Re: 42s: programming a line of -2

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 4 Sept 2005, 2:21 a.m.,*
in response to message #1 by rob

Hi, Rob;

to enter this program line, simply press

```
[2] [+/-]
```

The [+/-] key will change the sign of the number being currently entered, either in normal or in program mode. After the

```
[2] [+/-]
```

just press

```
[shift] [COMPLEX]
```

and go straight ahead with the next steps.

You can follow the same reasoning in step #249:

```
[1] [+/-]
```

I hope you succeed.

Luiz (Brazil)

Edited: 4 Sept 2005, 2:23 a.m.

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Your Favorite Math Program

*Message #1 Posted by **I, Claudius** on 3 Sept 2005, 10:42 p.m.*

For some time I've been a Mathematica user, have had to use MATLAB for work purposes. Just recently I started using Scientific Workplace, an outstanding math word processor coupled with the MuPAD computer algebra system. The new version 5.5 is superb, very useful, powerful, and easy to use. It made me wonder, what are others using, for what purpose, how do you rate them?

Re: Your Favorite Math Program

*Message #2 Posted by **Namir** on 3 Sept 2005, 11:52 p.m.,*
in response to message #1 by I, Claudius

I use MATLAB. There is a wealth of toolboxes and books written for and about MATLAB. Also the MathWorks toolboxes are very powerful. It took me a little while to get the hang of vector/matrix programming, but now I can think using that paradigm.

Re: Your Favorite Math Program

*Message #3 Posted by **I, Claudius** on 4 Sept 2005, 8:08 a.m.,*
in response to message #2 by Namir

Namir, did you buy any books to help you learn MATLAB? I need to know that program better, and would like any recommendations you might have.

Re: Your Favorite Math Program

*Message #4 Posted by **Howard Owen** on 4 Sept 2005, 12:12 a.m.,*
in response to message #1 by I, Claudius

I'm a mathematical dilettante. I want to push past my hazy freshman's understanding of mathematics mostly for fun. You don't often use mathematical analysis in software systems design. Statistics is another matter. For that, there is GNU R, which is S on steroids and Free software.

I started my career in computers at UCSB Physics back in 1986. There I watched Mathematica take academia by storm when it was first released. That was 1989 or so. (The Physics department was also running Macsyma on Eunice, on a VAX. If you know what all that means, I'd like to talk to you.) I stopped working in Academia in 1992, and I've never gone back. So I miss those great academic discounts, among other things.

Checking out Mackichan Software's site, I see they are priced competitively to Mathematica, but still out of my reach for the whole bundle. However, "Scientific Notebook," Which appears to be Scientific Workplace minus the LaTeX output, is reasonable, at $222.00 for a commercial license. The student proce of $100.00 is more attractive, and better fits the use I would put the software to, but alas, I don't have a student ID. But the clincher for me is the lack of Linux support. I won't embark on projects that tie me to Windows, if I can help it. And since I want to use the software for recreation/education, I can certainly help it in this case.

My other alternative is to go back to poking at MuPAD in its no-cost form. I recall the interface wasn't all that

bad.

Re: Your Favorite Math Program

*Message #5 Posted by **I, Claudius** on 4 Sept 2005, 8:06 a.m.,*
in response to message #4 by Howard Owen

$222 for Scientific Notebook is $1658 less than Mathematica, priced off Wolfram's website. Mackichan also lets you load the program on multiple computers, whereas Wolfram extorts megabucks for additional platform you want. Your pocketbook is screaming to you...

Re: Your Favorite Math Program

*Message #6 Posted by **Les Bell [Sydney]** on 4 Sept 2005, 8:09 a.m.,*
in response to message #4 by Howard Owen

Howard, check out Octave: http://www.octave.org.

Best,

--- Les

Re: Your Favorite Math Program

*Message #7 Posted by **don wallace** on 4 Sept 2005, 9:18 a.m.,*
in response to message #6 by Les Bell [Sydney]

Hi all. Hi Howard, Les. Octave is good...

DW

Your Favorite Math BUG...

*Message #8 Posted by **Tizedes Csaba [Hungary]** on 5 Sept 2005, 3:26 a.m.,*
in response to message #1 by I, Claudius

Hello Claudius,

please try to solve with the new version of your math tool my "sceptical-killer" equation:

```
3*X+1/(X-5)=15+1/(X-5)

and SOLVE for X

(X=5 is a "bad" solution!!!)
```

Thank you!

Csaba

Ps.: I use my own routines for small applications, and the Matlab 6.5 for numerical simulations and Maple 7 for my own passions... ;)

Re: Your Favorite Math BUG...

*Message #9 Posted by **Karl Schneider** on 5 Sept 2005, 4:25 a.m.,*

in response to message #8 by Tizedes Csaba [Hungary]

Tizedes' acid test of a solver is:

> Quote:
>
> 3*X+1/(X-5)=15+1/(X-5)
>
> and SOLVE for X
>
> (X=5 is a "bad" solution!!!)

Certainly, neither side of the equation can be evaluated at X = 5. However, it can be stated that

```
3*X + 1/(X-5) = 15 + 1/(X-5)    (X != 5)

=>  3*X + 1/(X-5) - [15 + 1/(X-5)] = 0    (X != 5)

    lim    {3*X + 1/(X-5) - [15 + 1/(X-5)]}
    X->5

=   lim    [3*X - 15  + 1/(X-5) - 1/(X-5)]
    X->5

=    3*5 - 15  +  lim   [1/(X-5) - 1/(X-5)]
                  X->5

=    15  - 15  +  0

=    0
```

That is, if the expressions are combined by subtracting the expressions from each other, the singular terms cancel each other out in the limit case.

Similarly, X = 0 is not a valid solution to the equation

```
sin(X)/X = 1
```

but the limit of sin(X)/X as X->0 is 1.

(Edited to rephrase the last part.)

-- KS

Edited: 5 Sept 2005, 7:23 p.m.

Re: Your Favorite Math BUG...

*Message #10 Posted by **I, Claudius** on 6 Sept 2005, 10:40 p.m.,*
in response to message #9 by Karl Schneider

Using limit laws: lim_{x->5}(3x+1/(x-5))=lim_{x->5}(15+1/(x-5))

lim_{x->5}3x+1/(x-5)-(15+1/(x-5))

lim = 0

Correct. The algebraic isolation of x=5 is also 'correct' in manipulation of the original equation but since neither x={0,5} satisfy the equation there really is no solution and to my thinking is nonsensical. Definitely something I don't see every day.

There are bugs in every CAS, and it's not hard to get one to fail, even Mathematica. I've often wondered why those who always seem to come up with odd behavior/bugs in CASs don't work for the companies who make the programs.

Our european poster has put the problem before us to show how clever he is but has not given us the benefit of his ingenious solution. The next time I come in contact with our math Ph.D I'll put this before him, try to get a formal answer.

Re: Your Favorite Math BUG...

*Message #11 Posted by **don wallace** on 7 Sept 2005, 12:53 a.m.,*
in response to message #10 by I, Claudius

Discontinuities...

Just a thought: All computational systems use either binary or BCD DISCRETE NUMBER SYSTEM APPROXIMATIONS to the "real number" line (not to mention i and the S-plane).

So all we are ever gonna get out of any program is "approximate". Our computers are dealing with "DISCRETE number system analogues" of the real mathematical "universe"...

No wonder the odd program "bombs", even if it IS Mathematica...

DW

Re: Your Favorite Math BUG...

*Message #12 Posted by **Namir** on 5 Sept 2005, 6:14 a.m.,*
in response to message #8 by Tizedes Csaba [Hungary]

You can multiply both sides of the equation by (X-5), thus going from:

3*X+1/(X-5)=15+1/(X-5)

to:

3*X*(X-5) + 1 = 15*(X-5) + 1

which also gives:

(3*X - 15)*(X-5) = 0

and then:

3 * (X-5)^2 = 0

and then solve it. The solution is X = 5.

Re: Your Favorite Math BUG...

*Message #13 Posted by **I, Claudius** on 5 Sept 2005, 9:55 a.m.,*
in response to message #8 by Tizedes Csaba [Hungary]

Are you kidding? Any schoolchild can do this one, no CAS needed:

3x+(1/(x-5))=15+(1/(x-5)) => 3x+(1/(x-5))-15-(1/(x-5))=0 => (3x+(1/(x-5))=15+(1/(x-5)))(x-5) => (x/(x-5))-(5/(x-5))-15x+3x²=15x-(5/(x-5))+(x/(x-5))-75 => (x/(x-5))-(5/(x-5))-15x+3x²-(15x-(5/(x-5))+(x/(x-5))-75)=0 => 3(x-5)²=0 => x=5

Yes, there is a singularity in the original equation, but the singularity exists on both sides of the equation, and cancels with simple multiplying through by the LCD and simplifying. All CASs I have solve x=5, and I see no bug here. Basically, you've submitted a nonsense example for what purpose?

Edited: 5 Sept 2005, 9:57 a.m.

Re: Your Favorite Math BUG...

*Message #14 Posted by **Howard Owen** on 5 Sept 2005, 10:09 a.m.,*
in response to message #13 by I, Claudius

This is much simpler:

3*X + 1/(X-5) = 15 + 1/(X-5)

3*X + 1/(X-5) - 1/(X-5) = 15 + 1/(X-5) - 1/(X-5)

3*X = 15

X=5

Re: Your Favorite Math BUG...

*Message #15 Posted by **Namir** on 5 Sept 2005, 10:52 a.m.,*
in response to message #14 by Howard Owen

There you go! My approach would have restated the equation for a SOLVER to solve. We humans have a few million years of an evolutionary headstart so we can solve it on the fly. At least for the stated equation. Give us something like:

X = Ln(X^4)

And we have to resort to a calculator/computer.

Re: Your Favorite Math BUG...

*Message #16 Posted by **John** on 5 Sept 2005, 1:13 p.m.,*
in response to message #15 by Namir

I took the initial equation to actually mean (from the context)

(3*x+1)/(x-5)=(15+1)/(x-5)

which makes a difference.

Re: Your Favorite Math BUG...

*Message #17 Posted by **Howard Owen** on 5 Sept 2005, 2:46 p.m.,*
in response to message #16 by John

Ambiguous, though, isn't it?

Re: Your Favorite Math BUG...

*Message #18 Posted by **John** on 5 Sept 2005, 3:09 p.m.,*
in response to message #17 by Howard Owen

Yes, it is!

Re: Your Favorite Math BUG...

*Message #19 Posted by **Namir** on 5 Sept 2005, 10:14 p.m.,*
in response to message #16 by John

Very elegant equation ... elegant indeed.

Re: Your Favorite Math BUG...

*Message #20 Posted by **GE** on 6 Sept 2005, 5:30 a.m.,*
in response to message #15 by Namir

x = ln(x^4) becomes, for y=-ln(x) : -1/4=y*exp(y)
and this equation can be related to the definition of the Lambert 'W' function (see V.Abillo's excellent site for more) :
z=w.exp(w) <=> w=LambertW(z)
So y=LambertW(-1/4) and the final solution is :
x=exp(-LambertW(-1/4))
If the very useful LambertW function were present on the keyboard of our beloves calcs, this kind of problem would be straightforward. I have always believed that LambertW belongs there as well as Gamma, or even Sin and log.

About Lambert's W function

*Message #21 Posted by **Valentin Albillo** on 6 Sept 2005, 6:54 a.m.,*
in response to message #20 by GE

Hi, GE:

GE posted:

" This equation can be related to the definition of the Lambert 'W' function (see V. Albillo's excellent site for more) [...] If the very useful LambertW function were present on the keyboard of our beloved calcs, this kind of problem would be straightforward. I have always believed that LambertW belongs there as well as Gamma, or even Sin and log."

Thanks for your kind comments. I do agree about Lambert's W, I think it actually belongs with the rest of usual transcendental functions. Of course, such well known functions as sin, cos, exp, and gamma do have thousands of applications where they're useful, but then they've been well known and studied for many centuries, while W's been under the limelight for only a handful of years.

Yet, more and more applications of W are being discovered continually, in a wide variety of engineering and mathematical fields, which only heightens its importance and further raises the general appreciation of its 'elementariness'.

As for it being included as a standard calculator function, I don't think this is likely to happen. Consider, for example, Bessel functions or elliptic functions. They do have tons of important applications, yet I've never seen a calculator with a built-in, keyboard elliptic sine. You get the regular 'circular' sine, and even the hyperbolic sine. But not the elliptic variety. So, Lambert's W isn't likely to make it.

That said, some HP models allow for user-defined functions that are as close as built-in in their handling as to be transparent to the user. For the HP-71B, for instance, you can enter:

```
DEF FNW(X) = FNROOT(0,10,FVAR*EXP(FVAR)-X)
```

as a program line. Then, from the keyboard, you can use W(x) as easily as sin(x). Say,to solve:

```
x^x = 5
```

you simply would key in:

```
EXP(FNW(LN(5))) [ENTER]
```

which would promptly return to the display the value:

```
 2.12937248276
```

which solves the equation. Notice that you've simply used FNW exactly as you use EXP or LN, i.e., as a built-in function, transparently to the user.

This is as near as it comes to have W directly in the keyboard.

Best regards from V.

Re: Your Favorite Math BUG...

*Message #22 Posted by **Eric Smith** on 7 Sept 2005, 7:35 p.m.,*
in response to message #20 by GE

> Quote:
>
> If the very useful LambertW function were present on the keyboard of our beloves calcs

I'd vote for built-in hypergeometric function support; I find that useful more often than the Lambert W-Function. But I don't expect a dedicated key for it.

Careful, now....

*Message #23 Posted by **Karl Schneider** on 5 Sept 2005, 7:20 p.m.,*
in response to message #13 by I, Claudius

"I, Claudius" posted,

> Quote:
>
> Are you kidding? Any schoolchild can do this one, no CAS needed:
>
> Yes, there is a singularity in the original equation, but the singularity exists on both sides of the equation, and cancels with simple multiplying through by the LCD and simplifying. All CASs I have solve x=5, and I see no bug here. Basically, you've submitted a nonsense

example for what purpose?

A long time ago, when I was around 10 years old, my retired-engineer grandfather showed me a algebraically-based "trick proof" that 0 = 1. At the time, I did not have the background to understand what the illegal step was.

I saw that example again, much later. The equations included a denominator term of X-1 that was introduced and later cancelled out. With X=1, though, a divide-by-zero had been performed, making the "proof" invalid.

Namir states in his example that x = 5 is an invalid solution to the problem. In the strictest sense, it is true that the expressions cannot be legally evaluated at x = 5. However, as I had pointed out earlier in the thread, it is true that the limit of the difference of the expressions as x-> 5 is zero.

Perhaps the CAS implementations are falling into the same trap -- performing algebraic steps without observing restrictions and without validating after-the-fact...

-- KS

Edited: 5 Sept 2005, 7:30 p.m.

Re: Careful, now....

*Message #24 Posted by **don wallace** on 5 Sept 2005, 9:30 p.m.,*
in response to message #23 by Karl Schneider

Hi all. Hi Karl.

Your replies to this thread are really cool. Limits are where it's at...

I was hoping someone would remember that "proof" that 0=1. A friend who did uni with me (both did engineering) showed me that one in high school...

Reminds me of the early part of "Hitch-hikers guide to the Galaxy" where Oolon Coluphids Theosophical blockbuster trilogy is being discussed. ("Having proved the non-existence of God, Man goes on to prove black is white and promptly gets himself killed on the next zebra crossing." [I do not believe in "God" in the conventional sense, btw.])

R.I.P. Doug, Bill and Dave... (You guys made a lt of poeple happy.)

DW

Re: Careful, now....

*Message #25 Posted by **I, Claudius** on 5 Sept 2005, 10:06 p.m.,*
in response to message #23 by Karl Schneider

Ah, yes, I remember that one, I fell for it hook, line and sinker as a kid:

Given a = b => a^2 = ab => a^2 - b^2 = ab - b^2 => (a + b)(a - b) = b(a - b) => a + b = b => a = 0 => If a = 1, then 1 = 0

While algebraically 'correct', one is lulled into forgetting that since a = b, a - b is zero, and one is dividing by zero, and is the fatal error.

Re: Careful, now....

*Message #26 Posted by **don wallace** on 5 Sept 2005, 10:58 p.m.,*
in response to message #25 by I, Claudius

There's another one, which I think Karl had in mind. I don't really remember it.

DW

Re: Careful, now....

*Message #27 Posted by **Tizedes Csaba [Hungary]** on 6 Sept 2005, 2:18 a.m.,*
in response to message #25 by I, Claudius

Hello Claudius,

I think this part is incorrect, but I see the joke in it... ;)

> Quote:
>
> a = b => a^2 = ab

Any place on Earth, any kind of mathematical education...

Thanks for response! Csaba

Re: Careful, now....

*Message #28 Posted by **I, Claudius** on 6 Sept 2005, 12:36 p.m.,*
in response to message #27 by Tizedes Csaba [Hungary]

If a = b

Then a^2 = ab

Also b^2 = ab

There is nothing incorrect here. Now I'm beginning to see why the equation you submitted earlier as an indicator of bugs in CASs didn't pan out...

This one's good, too

*Message #29 Posted by **Valentin Albillo** on 6 Sept 2005, 5:50 a.m.,*
in response to message #25 by I, Claudius

Hi all,

This one's very good too. It's based on the same principle, making people forget that you can't cross out a null factor, but here the factor's 'nullness' is even more concealed. Let's see:

Given that <u>a = b + c</u>, to try and prove that, indeed, <u>a = b</u>

1. Initially, we have:

```
a = b + c
```

2. Multiplying both sides by (b-a):

```
a * (b - a) = (b + c) * (b - a)
```

3. Expanding products:

```
a * b - a * a = b * b - a * b + b * c - a * c
```

4. Taking a * c to the other side:

```
a * b - a * a + a * c = b * b - a * b + b * c
```

5. Collecting terms:

```
a * (b - a + c) = b * (b - a + c)
```

6. Eliminating the common factor (b - a + c):

```
a  = b
```

7. Q.E.D.

The 'demonstration' is perfectly reversible, i.e., starting from "a = b" and demonstrating that actually "a = b + c", but it's simpler and more natural this way. When shown to the right people, you can leave them profoundly confused and intrigued. All the mistery goes out when you supply actual numbers, though.

Best regards from V.

... and a nice 'demonstration' that 3 = 2 !

*Message #30 Posted by **Valentin Albillo** on 6 Sept 2005, 6:22 a.m.,*
in response to message #25 by I, Claudius

Hi, all:

... and just to prove that not all fake demonstrations are based in illegally dividing by zero, have a look at this very nice 'demonstration' that 3 = 2. Let's see:

1. According to Calculus, the derivatives of f(x) = x^3 and f(x) = x^2 are, respectively:

```
D[x^3] = 3*x^2  ,  D[x^2] = 2*x
```

2. Also, we know from Calculus that the derivative of a sum of functions is the sum of the derivatives of each function being added, i.e.:

```
D[f(x) + g(x) + ...] = D[f(x)] + D[g(x)] + ...
```

3. Now, by definition, we have the identity:

```
x^3 = x^2 * x = x^2 + x^2 + x^2 + ... + x^2
                <---(x summands in all) -->
```

4. Let's take derivatives in both sides of that identity:

```
D[x^3] = D[x^2 + x^2 + ... + x^2]
```

5. As the derivative of a sum is the sum of the derivatives, we have:

```
D[x^3] = D[x^2] + D[x^2] + ... + D[x^2]
```

6. According to (1) above, we then have:

```
 3*x^2 = 2*x + 2*x + 2*x + ... + 2*x
```

```
                  <-- (x summands in all) -->

               = (2*x)*x

               = 2*x^2
```

7. So, we've got that 3*x^2 = 2*x^2, which for general, non-null x implies that **3 = 2**, Q.E.D.

Nice, uh ? And no divisions by 0 in sight ... Have your students try and pinpoint out what went wrong :-)

Best regards from V.

Re: ... and a nice 'demonstration' that 3 = 2 !

*Message #31 Posted by **Crawl** on 6 Sept 2005, 9:09 a.m.,*
in response to message #30 by Valentin Albillo

That's easy if you look carefully at

x^2 + x^2 + x^2 + ... + x^2 <---(x summands in all) -->

and would maybe be even easier if it was written in sigma notation.

The number of terms in the sum *also* depends on x, not just the terms themselves. So, you also have to differentiate with respect to that "x", which was hidden.

Another type of false proof involves applying the inverse of a function that isn't 1-to-1 on both sides of an equation, but using different branches for each side. Eg.,

(-1) = (-1) (-1)^2 = (-1)^2 = 1, so

(-1)^2 = 1

Taking squareroots cancels the square on the left, leaving

-1 = 1.

I've also seen a false geometrical proof that proves all angles are equal. The trick to that was drawing the picture slightly wrong, but so that the lines that are supposed to be congruent *look* about the same. Some steps in the "proof" were made by appealing to the picture, rather than rigorously deriving them purely through postulates.

After googling it, I found a link to it here:

http://www.jimloy.com/geometry/obtuse.htm

Getting back to calculators, I think the important thing to take from this is that calculators aren't substitutes for your brain. They really should just be used as time saving devices for problems you do understand, not as a "black box" to give you a solution that you couldn't get on your own. While the first example was for a symbolic calculation, there are tricky things that come up with purely numerical calculations. I had a book once that listed a bunch of problems that any calculator would eventually give a wrong answer for (of course, these calculations had to be long for the errors to build up). I can't remember them off the top of my head, but I do remember a different common example: Solving Schrodinger's

Equation to find an energy eigenvalue. If the energy in the equation is correct, then solving the equation should give a function that decays to zero at infinite position. Instead, if you solve it numerically (with Euler's rule, or Runge Kutta, or anything else you can think of), the function will always eventually exponentially diverge to infinity (or negative infinity). The reason is that the general solution of the equation is a linear combination of exponentially growing and decaying terms; at the proper energy only the exponentially decaying term is present. But inevitable accuracy errors will introduce the growing term, which will eventually dominate. It's not a big deal, so long as you know what's going on.

Re: ... and a nice 'demonstration' that 3 = 2 !

*Message #32 Posted by **unspellable** on 6 Sept 2005, 4:37 p.m.,*
in response to message #31 by Crawl

If you multiply both sides of the original equality you get a quadratic. If I haven't slipped up in solving the quadratic, X = +/-i*sqrt(15)

3x + 1/(x-5) = 15 - 1/(x-5)

3x(x-5) + 1 = 15(x-5) -1

3x(x-5) - 15(x-5) = 0

3x^2 - 15x -15x + 75 = 0

x^2 + 15 = 0

x = +/-sqrt(-60)/2

x = +/- i*sqrt(15)

Beware of explanations of fallacies. It's been my experience that a many of the explanations for fallacies contain fallacies themselves.

Re: ... and a nice 'demonstration' that 3 = 2 !

*Message #33 Posted by **Crawl** on 6 Sept 2005, 9:27 p.m.,*
in response to message #32 by unspellable

You made a mistake. A couple, actually.

> Quote:
>
> 3x + 1/(x-5) = 15 - 1/(x-5)

It should have been plus on both sides of the equation; however, you later cancelled those terms as though it was written correctly, so that had no effect. The bigger mistake is here.

> Quote:
>
> 3x^2 - 15x -15x + 75 = 0
>
> x^2 + 15 = 0

You cancelled the -15x - 15x terms, but they actually combine to form -30x.

Then dividing by 3 gives

x^2 - 10x + 25 = 0

(75/3 = 25, not 15)

This has the double root x = 5.

Taking squareroots ...

*Message #34 Posted by **Artur - Brasil** on 6 Sept 2005, 9:27 p.m.,*
in response to message #31 by Crawl

(-1)^2 = 1

Taking squareroots cancels the square on the left, leaving

-1 = 1.

As I remember:

sqrt(X^2) = abs(X), not X, isn't it?

Best regards! Artur

Re: Taking squareroots ...

*Message #35 Posted by **Crawl** on 6 Sept 2005, 10:08 p.m.,*
in response to message #34 by Artur - Brasil

Yes and no. That's the customary definition, but

a) It could just as easily be defined as -abs(x). That still restricts the squareroot to one branch, and would avoid the problem in the "proof".

b) It only works for real numbers. For imaginary numbers,

sqrt(z) = sqrt(abs(z))(cos(arg/2) + i sin(arg/2))

with arg limited to being between any two real numbers whose difference is 2 pi radians. (eg, it could be between -pi and pi, or 0 and 2 pi. The actual choice is arbitrary). With that restriction, you will be on only one branch of the squareroot function. If you let arg be *any* number, you can cross branches and get an error similar to the one in the "proof" (eg, let arg for -1 be 3 pi, and arg for +1 be 0).

Here's a slightly trickier version of the same "proof":

(-1)^2 = 1^2, evaluates to 1 = 1, so is obviously true.

Take logs of both sides:

log((-1)^2) = log(1^2)

Properity of logs

2*log(-1) = 2* log(1)

Divide by 2

log(-1) = log(1)

Exponentiate

-1 = 1.

Re: Taking squareroots ...

*Message #36 Posted by **Dave Shaffer** on 7 Sept 2005, 11:23 a.m.,*
in response to message #34 by Artur - Brasil

"sqrt(X^2) = abs(X), not X, isn't it?"

NOPE!

In the real world, you sometimes need to consider both the positive and negative square roots.

For example, in kinematics (the motion of bodies in physics), the relation between the acceleration of an object "a" (assumed to be constant during the problem), the displacement "x", and the initial and final velocities ("v0" and "v") is

v^2 = v0^2 + 2ax .

Consider that you are given the initial velocity, a negative acceleration, and displacement of a vehicle and then are asked to find the final velocity. There are TWO possible answers - the result of taking the + or - square root, where the sign of the answer indicates whether you are going forward or backwards at the end. The + answer corresponds to the vehicle still going forward (assuming the v0 was positive and x is positive) at position (displacement - we usually assume that you start at position x=0) x. The negative answer corresponds to the vehicle having overshot position x but continuing to slow down and finally reversing (as it continues to accelerate in the negative sense) and coming back to position x, now travelling in the negative (backwards) direction.

The square root function

*Message #37 Posted by **Karl Schneider** on 7 Sept 2005, 11:37 p.m.,*
in response to message #36 by Dave Shaffer

Dave Shaffer stated,

> Quote:
>
> *"sqrt(X^2) = abs(X), not X, isn't it?"*
>
> NOPE!
>
> In the real world, you sometimes need to consider both the positive and negative square roots.

If the absolute value were not taken, square root would not be a function in the strict mathematical sense. This is because a "function" has only one output value.

By convention, the positive value is defined as the output, even though the negative value is equally valid from a mathematical standpoint, and is often relevant.

Consider the well-known quadratic equation:

```
     a*x^2 + b*x + c = 0
==>
     x(1) =  [-b + sqrt(b^2 - 4*a*c)] / (2*a)

     x(2) =  [-b - sqrt(b^2 - 4*a*c)] / (2*a)
```

Only the positive square root is used, but it is subtracted in one case to effect the "negative" square root.

-- KS

Edited: 8 Sept 2005, 12:59 a.m.

Re: The square root function

*Message #38 Posted by **don wallace** on 8 Sept 2005, 1:09 a.m.,*
in response to message #37 by Karl Schneider

Hi all.

The square root "function' is not really a "function"...

A root of an equation is just that: a ROOT.

The square roots of 4 are 2 AND -2.

In general terms a square root of a (real natural) number is only one of two roots.

A cube root of a (RN) number is only one of three roots.

Take 8 for example:

The cube root we all know is 2...

But there are two other complex roots of 8...

Sorry Karl, but I'm with Dave on this one (fwiw)...

DW

Re: The square root function

*Message #39 Posted by **Karl Schneider** on 8 Sept 2005, 10:37 p.m.,*
in response to message #38 by don wallace

Hello, Don --

> Quote:
>
> The square root "function' is not really a "function"... A root of an equation is just that: a ROOT.

So, $f(x) = e^{0.5*\ln(x)}$ isn't really a function? It gives the positive square root of every real x > 0...

Of course, x represents a number in this context, not a symbolic expression.

> Quote:
>
> The square roots of 4 are 2 AND -2. In general terms a square root of a (real natural) number is only one of two roots.
>
> A cube root of a (RN) number is only one of three roots. Take 8 for example: The cube root we all know is 2... But there are two other complex roots of 8...

Sure, that's all undisputed. (Primary) roots can be found for complex-valued numbers as well, using built-in functions on some calculators. Try it on the 15C, 42S, or RPL models!

The Fundamental Theorem of Algrebra, if I recall, is that a polynomial of order N has N roots.

> Quote:
>
> Sorry Karl, but I'm with Dave on this one (fwiw)...

I never said that Dave was wrong, only that, by convention, the positive-valued square root is the one returned.

-- KS

Re: ... and a nice 'demonstration' that 3 = 2 !

*Message #40 Posted by **J-F Garnier** on 8 Sept 2005, 7:52 a.m.,*
in response to message #30 by Valentin Albillo

> Quote:
>
> Now, by definition, we have the identity:
>
> ```
> x^3 = x^2 * x = x^2 + x^2 + x^2 + ... + x^2
>                 <---(x summands in all) -->
> ```

I wonder how this "definition" can be applied to x=sqrt(2) for instance:

```
sqrt(2)^3 = 2 * sqrt(2) = 2 + 2 + 2 +    ...        + 2
                          <-(sqrt(2) summands in all)->
```

:-)

J-F

Edited: 9 Sept 2005, 8:07 a.m.

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42s: programming long strings

*Message #1 Posted by **Rob** on 3 Sept 2005, 8:29 p.m.*

I am looking forward to ordering the DVD set from the hpmuseum.org if I can't find my manuals at home.

I replaced my batteries on my 42s today, and started entering the mine hunt game at http://www.hp42s.com/minehunt.html

How do I enter the first character on line 99 ?

thanks, rob

Re: 42s: programming long strings

*Message #2 Posted by **Rob** on 3 Sept 2005, 9:00 p.m.,*
in response to message #1 by Rob

> Quote:
>
> mine hunt game at http://www.hp42s.com/minehunt.html
>
> How do I enter the first character on line 99 ?

Found it.

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv007.cgi?read=15589

talks about the append character.

" (Shift) ALPHA ENTER, then the text. "

I had better go find those manuals...

rob

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Version 0.6 of my "alternative HP-42S/Free42 Manual"

*Message #1 Posted by **José Lauro Strapasson** on 3 Sept 2005, 7:18 p.m.*

Hi There!

I just finished version 0.6 of my "Alternative HP-42S/Free42 Manual". Now it has "Using the Solver" and "Numeric Integration". With this almost all big subjects are now seem. It is available now at http://joselauro.com/42s.pdf

José Lauro.

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HP-67 - no battery - Bad Idea?

*Message #1 Posted by **Howard Owen** on 3 Sept 2005, 4:42 p.m.*

Should I be buying a battery pack for the 67 I just obtained before applying power? I believe I have a dead HP-45 with an equally dead battery pack. If it's not good to power the 67 without a battery installed, would a dead pack do the trick?

Thanks.

Re: HP-67 - no battery - Bad Idea?

*Message #2 Posted by **Andrés C. Rodríguez (Argentina)** on 3 Sept 2005, 5:27 p.m.,*
in response to message #1 by Howard Owen

I have no direct experience on such a case but, based on previous postings, you should have a GOOD (clean contacts AND charge keeping) battery pack, at least every time you use the card reader.

It should not be difficult to rebuilding the dead pack you have, using new AA cells. And check the contacts for oxide, corrosion, dirt, etc. which may prevent the cells to do their functions.

Re: HP-67 - no battery - Bad Idea?

*Message #3 Posted by **Howard Owen** on 3 Sept 2005, 5:47 p.m.,*
in response to message #2 by Andrés C. Rodríguez (Argentina)

Now, *this* is cool.

Your mentioning of AA cells gave me a Blinding Flash of the Obvious: I had recently rebuilt a battery pack with three AA size NiCads for one of my HP-75s! I pulled out the defunct HP-45, and sure enough, the battery pack was identical to the one I had rebuilt for the 75. So the next step was to yank that working pack out of the 75 and put it in the 67. I did that, and it worked! I had a big grin on my face until I noticed the "property of" sticker on the bottom of the calculator. My "new" 67 was pristine! What the heck??

I had put the working battery *into the "dead" HP-45!* Hee hee!

Edited: 3 Sept 2005, 5:47 p.m.

Re: HP-67 - no battery - Bad Idea?

*Message #4 Posted by **Eric Smith** on 3 Sept 2005, 6:46 p.m.,*
in response to message #2 by Andrés C. Rodríguez (Argentina)

> Quote:
>
> at least every time you use the card reader.

Actually the possibility of damage to the card reader circuitry exists regardless of whether you are actually

using the card reader. It's a matter of the unfiltered supply voltage from the adapter being wired directly to the sense amplifier chip.

The possibility of damage due to missing or bad battery packs is arguably about the dumbest thing HP did in their second-generation calculators. I can't imagine that it saved them more than $0.25 worth of components that would have prevented the damage, or $0.50 worth of components to make it actually work well without the battery.

Sigh.

Re: HP-67 - no battery - Bad Idea?

*Message #5 Posted by **Eric Smith** on 3 Sept 2005, 6:43 p.m.,*
in response to message #1 by Howard Owen

The card reader circuitry can be damaged if you run the HP-67 with no battery pack, a bad battery pack, or a battery pack making poor contact (e.g., corrosion).

Re: HP-67 - no battery - Very Bad Idea

*Message #6 Posted by **Randy** on 3 Sept 2005, 6:43 p.m.,*
in response to message #1 by Howard Owen

All the LED classics without card readers can safely be run with the wall charger only with no battery in place.

In the 65 and 67, the battery is directly connected to the card reader module to drive the motor. That also connects it to the sense amplifier chip. Without a battery, the open circuit voltage reaches 16 volts, more than enough to do some damage. There are cautions about this in the manuals.

The best solution is to test with a dc power supply capable of at least 1 amp. Actual operation is less than 300 ma but the c/r motor is a real current hog.

Many thanks to Tony Duell for pointing out this difference in a thread awhile back.

HP-67 - not a happy camper

*Message #7 Posted by **Howard Owen** on 3 Sept 2005, 11:31 p.m.,*
in response to message #1 by Howard Owen

Well, the 67 worked fine off my rebuilt battery pack, but when I plugged in the AC, a indicator "dot" appeared in the lower right of the display. (Low battery indicator?) After I removed the battery pack and reinserted it, the calculator again worked fine on battery alone, but would not turn on at all with AC plugged in. Flexing the machine slightly brought back the old behavior of the machine up with warning indicator lit.

I plugged the AC transformer into the (suddenly resurrected) HP-45, and it worked fine. The battery pack also works fine in the HP-45. And the combination of transformer and battery pack also is just fine in the 45. So I suspect a poor/intermittant connection somewhere in the external power circuit(s) of the 67. There's no obvious sign of corrosion either in the battery compartment, or on the three external power pins.

There is no service manual for the 67 on the museum DVD. It would be nice to have some kind of road map before opening this one up. Does the HP-67 service manual exist, and if so, does anyone have it in digital form? If not the latter, is someone on the North American continent (or a very patient South American, European, African, Asian or Australian) willing to send me the manual so I can scan it? (Micronesians and Antarcticans shouldn't feel left out, either. 8)

Re: HP-67 - not a happy camper

*Message #8 Posted by **Tony Duell** on 4 Sept 2005, 6:38 a.m.,*
in response to message #7 by Howard Owen

I've never seen a service manual for the 67, although one must have existed at HP service centres. There are basically 3 sources of information :

1) The HP97 service manual on the MoHPC CD-ROMs. The machines are similar, although obviously the 67 has no printer or PIK chip, and the PSU circuit is quite different

2) My HP67 Notes on the articles forum here

3) The HPCC schematics CD-ROM contains a hand-drawn schematic for the 67.

happy up

*Message #9 Posted by **db (martinez, ca.)** on 4 Sept 2005, 12:06 p.m.,*
in response to message #7 by Howard Owen

Here's my take: a)your 67 works fine on battery power, b)you have two battery packs with two safe units to charge them in, and c)plugging an ac adapter into the 67 can be dangerous just because you don't know if a connection is good or bad at that moment.

Why not just run it on battery only? Save peeling up the (pristine?) back plate and taking apart a calc that works just to run it on ac; one unlucky speck of dust on the contacts and that can kill it even if you fix the present problem. I'm assuming that you don't need to do a gummy wheel repair anyway.

A note: I was having trouble with the battery connection on a 67 and the contacts looked clean but i lightly scotch brited both the ones on the calc and the battery anyway. It works fine now. I guess there was some invisible poop there.

Re: happy up

*Message #10 Posted by **Howard Owen** on 4 Sept 2005, 12:47 p.m.,*
in response to message #9 by db (martinez, ca.)

Good thoughts, thanks.

However, the card reader *does* need the gummy wheel repair. It isn't urgent, however. I'll leave it be for now. I've just ordered to extra batteries so I can run two 75's, the 45 and the 67 on batteries. And I can charge in the 45. I will give the power posts a quick sanding and see if that helps. Thanks for the suggestion.

Re: HP-67 - no battery - No Danger !

*Message #11 Posted by **Bernhard** on 4 Sept 2005, 8:00 p.m.,*
in response to message #10 by Howard Owen

Hi folks,

the Classics HP wall charger (three pins) has a voltage regulator circuit which will absolutely prevent any damaging circuit EVER to appear on the calculator - as long as the regulator circuit has no failed component by itself.

The HP67, despite of being a Woodstock, uses a Classics wall charger.

So it is safe to use the HP67 without battery, running from its HP provided wall charger. When the calc is switched OFF, the output voltage is around five Volts - it will certainly NOT damage any chips.

The only problem is that the wall charger is too weak to run the card reader motor. From my reverse engineering work on these calcs I do see a remote possibility that the attempt to use the card reader without inserted battery might overload and damage the wall charger itself. And then, overvoltage might occur which damages the calculator.

But just using the HP67 (without attempting to use the card reader) from the wall charger - even without inserted battery - is safe.

On all of the other Woodstocks - HP21, 25, 27, 29 - with the two pin wall chargers, any attempt to run them without properly working battery and good battery contacts leads to overvoltage and killed chips in the calc.

best regards, Bernhard

Danger Will Robinson! Danger!

*Message #12 Posted by **Randy** on 4 Sept 2005, 9:56 p.m.,*
in response to message #11 by Bernhard

Bernhard,

There is a reason why HP warns of use without a good battery in place in both the 65 and 67 manuals.

Please see http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=71828#71828 for a recent discussion and explaination of the dangers.

(Sorry for the 1970's USA TV reference in the title)

Edited: 4 Sept 2005, 9:57 p.m.

Danger Will Robinson! Danger!

*Message #13 Posted by **Bernhard** on 5 Sept 2005, 9:56 a.m.,*
in response to message #12 by Randy

Hi Randy,

as far as I have guessed out the 1826-0322 innards, the unswitched battery voltage (which indeed may go to +15V if no battery is inserted and the wall charger used) just goes to a series power transistor which is part of the card reader motor speed control circuit. As long as this transistor is able to withstand the +15V, no damage will be caused. Typical 1970's bipolar process technologies were able to handle that (see the +/- 15V supply voltage on opamps of this time), and it is fair to assume HP engineers knew what they did when they designed the 1826-0322 and took the required precautions.

IMHO the danger of damage lurks in the charger circuit itself. They have a current source circuit which limits the charging current (and hence, the motor isn't able to pull a card through, as it is current starved), but the activated motor acts much like a short circuit. Then, the series transistor in the charger's current source circuit has to sustain significantly more power loss (heat) than during charging, where the battery consumes much of the power. It is

known that overheated bipolar transistors may break through, and then the current limiting gets lost, and whoever knows which component will give up next.

So there is certainly a danger involved when running a HP67 from a charger without any battery inserted, but as long as no attempt is made to use the card reader, IMHO it should be safe. I ran my own HP67 for years just on the charger without battery (and did not use the card reader) when I was fed up to pay HP's exaggerated prices for replacement batteries, and used it until I bought a HP15C years later. A while ago I rediscovered my HP67 (and some other LED HPs I used during school and university) and after fixing the gummy wheel problem the card reader still worked.

However, there is a proverb which says "Better safe than sorry". If anyone who has read my post feels uncomfortable about the alleged or presumed risk of blowing out the 1826-0322, then go the safe way and always use a battery.

I prefer to keep these acid - spitting beasts out of my valuable HPs whenever possible and charge them only in my least valuable (worn / corroded) calculators, and never in the good ones.

For the HP65, I can't give any testemonials as to the danger of damaging its card reader sense amplifier / motor control chip, as it is different from the chip used in the HP67 and I don't have a HP65 to experiment with.

best regards, Bernhard

Re: Danger Will Robinson! Danger!

*Message #14 Posted by **John L. Shelton** on 5 Sept 2005, 2:10 p.m.,*
in response to message #12 by Randy

Sorry to butt in, but "Lost in Space," from which you quoted, was USA 1960s.

Re: Danger Will Robinson! Danger!

*Message #15 Posted by **don wallace** on 5 Sept 2005, 6:36 p.m.,*
in response to message #14 by John L. Shelton

True John! That's where those DNA splices ultimately came from too! (From those psychic lab rats...)

DW

Re: Danger Will Robinson! Danger!

*Message #16 Posted by **bill platt** on 6 Sept 2005, 2:12 p.m.,*
in response to message #14 by John L. Shelton

God, was it that long ago?

Re: HP-67 - no battery - No Danger ! -- Oh yes there is!

*Message #17 Posted by **Tony Duell** on 5 Sept 2005, 9:47 a.m.,*
in response to message #11 by Bernhard

I disagree with you! There is a danger.

The classic-series (3 pin) adapter/charger has 2 outputs. One is a constant voltage of about 4.2V. The other is a constant current (about 50mA) to charge the NiCd cells. The voltage of that second output is unregulated and will rise to 16V or so if there's no load.

The 3 pins on the classic calculator connector are ground (in the middle), the +ve side of the NiCd battery, and the +ve supply to the on/off switch and thence to the logic. The last 2 pins are connected by a spring contact in the plug on the calculator, allowing the battery to supply power to the calculator. When you plug the charger in, the spring contact is forced aside, the battery pack is charged from the constant-current supply, the constant voltage supply feeds the logic.

BUT on the card reader models -- the 65 and 67, the card reader sense amplifier chip, the one on the card reader PCB itself, is powered from the battery pack directly. When you plug the charger in, it's effectively fed from the constant current supply. If the battery pack is in place, the battery effectively clamps that voltage to about 4.2V. If the battery is missing, dead, open circuit, etc, then the card reader sense amplifier gets 16V across it.

The sense amplifier was redesigned between the 65 and 67 (the latter chip is also used in the 97 and 82104 (HP41 card reader). The 2 chips have the same pinouts, and seem to be interchangeable. I conjecture that one of the changes was to make the chip less likely to be damaged if the battery back is missing (the 65 manual has a large warning about this, the 67 manual doesn't). However, I don't like risking it. This is a custom chip, spares are very hard to find.

There is no danger in running the 35, 45, 55, 70, 80 from the charger with no battery in place.

Re: HP-67 - no battery - Bad Idea?

*Message #18 Posted by **don wallace** on 5 Sept 2005, 3:45 a.m.,*
in response to message #1 by Howard Owen

For what it's worth I definitely agree with Randy.

I stayed out of the thread as it has been 25 years plus since I heard these warnings and I dodn't have time to look at any documentation I MAY have (I just rxed a DVD on HP stuff but haven't looked at it much yet; so many chips to solder, so little time...)

Randys warnings all sound perfectly logical to me. They match my recollections of what an HP65 (67?) owner I knew found out the hard way...

Nasty design flaw if you ask me... Oh well, nobody's perfect.

DW

Re: HP-67 - no battery - Bad Idea?

*Message #19 Posted by **don wallace** on 5 Sept 2005, 10:14 a.m.,*
in response to message #18 by don wallace

Randy and Tony are right.

Be warned, Howard. (Long live your hp65 /67, whatever...)

DW

Re: HP-67 - no battery - Bad Idea?

*Message #20 Posted by **Howard Owen** on 5 Sept 2005, 10:47 a.m.,*
in response to message #19 by don wallace

Based on the discussion here, I have refrained from running the machine without a good battery installed.

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HP-65, ser. no. 1608S 02204

*Message #1 Posted by **langdon mcaninch** on 3 Sept 2005, 2:57 p.m.*

While cleaning out my garage, I found a box marked "engineering stuff" which contained a second black and blue box marked HP-65. Much to my suprise, it contained my HP-65 along with the whole anchalada, sales slip and all. It was purchased in June, 1976, and used until 1982 when I replaced it with a HP-16C.

It appears to be in excellent condition, and the battery pack holds a charge (3.96V, unloaded). However, when I try to download a program I feel opposition to the mag card and the card reader motor makes a loud squealing sound likes it needs to be lubricated. Can anyone send me a set of maintenance instructions including the type of lubricant and the lubricating points? Once I correct the problem, I will run a full diagnostic. I think there is a very good possibility that its fully functional.

Re: HP-65, ser. no. 1608S 02204

*Message #2 Posted by **Palmer O. Hanson, Jr.** on 3 Sept 2005, 8:16 p.m.,*
in response to message #1 by langdon mcaninch

There is a discussion of the repair of HP-65 and HP-67 card readers at Viktor Toth's site at http://www.rskey.org/hp67reader.htm but I don't see anything which specifically addresses lubrication.

Re: HP-65, ser. no. 1608S 02204

*Message #3 Posted by **don wallace** on 3 Sept 2005, 8:19 p.m.,*
in response to message #1 by langdon mcaninch

Check the card path for froeign objects (!)

DW P.S. Happy to repair item. If interested, write to me:

donwallace63@yahoo.com.au

HP65 lubrication

*Message #4 Posted by **Randy** on 3 Sept 2005, 10:29 p.m.,*
in response to message #1 by langdon mcaninch

Chances are actually rather *poor* that it is fully functional...

Squealing is usually the ball socket at the end of the drive lead screw in need of lubrication. HP typically used a dry graphite lubricant. A drop of penetrating oil on the end of the screw is all that is needed. It could also be a slipping clutch on the drive lead screw.

But - chances are that lubrication is just the tip of the proverbial iceberg. You'll most likely find a gooey mess on the magnetic side of the card once it has been through the reader. If so, you'll need to first replace the card reader drive wheel. It is/was originally latex tubing and it has long since decomposed into a gooey mess. It is a legendary problem with HP card readers and has been well documented. It's easy enough to fix, it just takes a

bit of electromechanical talent and some persistence.

For your reading pleasure:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=179

and

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=111

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HP-75 Docs

*Message #1 Posted by **Howard Owen** on 3 Sept 2005, 10:54 a.m.*

I'm trying to write a filter to convert HP-75 BASIC files directly into text. (Sort of an external TRANSFORM INTO TEXT command.) While a certain amount of reverse engineering of the file format and BASIC tokenisation is fun, a lot of it is pretty tedious. I was reading CHHU V1N2, and came across an article by Michael Markov entitled "Synthetic Programming on the HP-75". In it, he refers to documents I had seen other references to, the "HP-75 Description" or "HP-75 NOMAS". I already suspected that this could be helpful to me, and this CHHU article specifically mentioned "The HP-75 Byte Table (The Token Table)" on pp 24-30 of the NOMAS. The NOMAS documents aren't on the museum DVD. Does anyone have digital copies? If not, can someone lend me physical copies to scan and make available?

Thanks,

Re: HP-75 Docs

*Message #2 Posted by **Tony Duell** on 3 Sept 2005, 2:12 p.m.,*
in response to message #1 by Howard Owen

I have the NOMAS stuff, on paper. Alas I have no scanner...

Anyway, I sort-of looked into to doing what you want to do. Be warned that it's not that simple -- it's not just a simple tokenisation. From what I remember, it's almost reverse-polish in places.

The table has some examples, and working out how they translated them is not at all obvious!

Re: HP-75 Docs

*Message #3 Posted by **Howard Owen** on 3 Sept 2005, 4:23 p.m.,*
in response to message #2 by Tony Duell

Thanks for the response, Tony.

That's sort of what I figured, which was why I was hoping I could get the NOMAS stuff in digital form. Just looking at the bits, I've figured out a little. I have the following program:

```
0010 ! Just a bang comment
0020 REM This one is a rem
0030 I=1 ! i=1
0040 I$="1" ! i$="1"
0050 DIM A(20) ! dim a(20)
0060 DIM A$(20) ! dim a$(20)
0070 DIM B$[20] ! dim b$[20]
0080 J=1 @ I=2 @ K=J+I ! j=1@i=2@k=j+i
0090 DISP K ! disp k
0100 GOTO 10
0110 GOSUB 10
0120 IF A=1 THEN GOTO 10
0130 END
```

I've decoded part of the BASIC75 file like so:

```
?0000  05 86 c5 00  fe 42 a4 4a  a7 0a  header
 000a  77 6f 72 6b 66 69 6c 65           filename "workfile"
?0012  00 00 00 00 00 00  00 00 00 00   10d nulls. Padding?
 001c  10 00                            line number 10 (little endian 16 bit bcd )
 001e  17                               Distance to next instruction.
*001f  8b 06 13                         Token for bang comment
!0022  4a 75 73 74 20 61  20 62 61 6e   Comment text 'Just a bang comment'
!002c  67 20 63 6f 6d 6d 65 6e 74
 0035  0e                               End of line 10
 0036  20 00                            Line number 20
 0038  15                               Distance to next instruction.
*0039  83 06 11                         Token for rem comment
!003c  54 68 69 73 20 6f 6e 65  20 69   Comment text 'This one is a rem comment"
!0046  73 20  61 20 72 65  6d
 004d  0e                               End of line 20
 004f  30 00                            Line number 30
 0051  0f                               Distance to next instruction.
*0052  11 20 49 1a 01 00 00             Tokens for "I=1!"
*0059  08 8b 06 03
!005c  69 3d 31                         Comment text "i=1"
 005f  0e                               End of line 30
 0060  40 00                            Line number 40
 0062  11                               Distance to next instruction.
*0063  13 20 49 05 01 31                Tokens for 'I$="1"!'
*0069  07 8b 06 06
!006d  69 24 3d 22 31 22                Comment text 'i$="1"'
 0073  0e                               End of line 40
 0074  50 00                            Start of line 50
 0076  16                               Distance to next instruction.
*0077  88 02 20 41 1a 20 00 00 0b       tokens for "dim a(20)!"
*0080  8b 06 09
!0083  64 69 6d 20 61 28 32 30 29       Comment text 'dim a(20)'
 008c  0e                               End of line 50
 008d  60 00                            Start of line 60
 008f  1d                               Distance to next instruction.
*0090  88 b4 65 40 1f 20 41 1a          Tokens for 'dim a$(20)
*0098  20 00 00 b4 65 40 23 8b 88 03
!00a2  64 69  6d 20 61 24  28 32 30 29  Comment text 'dim a$(20)
 00ac  0e                               End of line 60
 00ad  70 00                            Start of line 70
 00af  17
*00b0  88 03 20 42 1a 20 00 00 1d 8b    Tokens for "dim b$[20]"
*00c4  06 0a
 00c6  0e
 00c7  80 00                            Start of line 80
 00c9  2e
*00ca  11 20 4a 1a 01 00 00 08 40       Tokens for 'J=1@'
*00d3  11 20 49 1a 02 00 00 08 40       Tokens for 'I=2@'
*00dc  11 20 4b 01 20 4a 01 20 49       Tokens for 'K=J+I'
*00e5  2b 08 8b 06 0d
```

First column is '*' for BASIC tokens, '!' for comment text and ? for stuff I'm not sure of. The next four columns are hex offset from the beginning of file. Next come an arbitrary number of hex digits representing the bytes at the indicated addresses, followed by a discussion of what I think they mean.

I could continue in this vein, modifying the source to illuminate particular points. I'd stand half a chance if I could stay awake! It just seems easier to ask the world if there isn't a shortcut. I *like* shortcuts. 8)

Edited: 3 Sept 2005, 4:24 p.m.

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Even more hex tables: 29C and 34C

*Message #1 Posted by **Eric Smith** on 2 Sept 2005, 9:17 p.m.*

- HP-29C hex table
- HP-34C hex table

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HP 41 emulator card maual

*Message #1 Posted by **Renee** on 2 Sept 2005, 11:28 a.m.*

I am looking for a manual for the HP 41CV emulator card that I have in my HP48SX. If you have one or if you can tell me the full name of the manual so that I can do a more productive search on the web please e-mail me. rhoneycutt21@hotmail.com. Thanks so much!! Renee

Re: HP 41 emulator card maual

*Message #2 Posted by **Vassilis Prevelakis** on 2 Sept 2005, 2:57 p.m.,*
in response to message #1 by Renee

The manual is called the "HP82210A HP41CV Emulator Application Card for the HP48SX"

Its actually in the MoHPC DVD-ROM collection and the file is called 82210a.pdf

Re: HP 41 emulator card maual

*Message #3 Posted by **Renee** on 6 Sept 2005, 10:31 a.m.,*
in response to message #2 by Vassilis Prevelakis

Thanks for the information although I do not know what the "MoHPC DVD-ROM collection" is nor where I can find it. Can you give me a link to this? Thanks

The manual is called the "HP82210A HP41CV Emulator Application Card for the HP48SX"

Its actually in the MoHPC DVD-ROM collection and the file is called 82210a.pdf

[/quote]

Re: HP 41 emulator card maual

*Message #4 Posted by **Renee** on 6 Sept 2005, 10:35 a.m.,*
in response to message #3 by Renee

Never mind I think I found it!! Thanks

Thanks for the information although I do not know what the "MoHPC DVD-ROM collection" is nor where I can find it. Can you give me a link to this? Thanks

The manual is called the "HP82210A HP41CV Emulator Application Card for the HP48SX"

Its actually in the MoHPC DVD-ROM collection and the file is called 82210a.pdf

[/quote]

[/quote]

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HP 15C problem

*Message #1 Posted by **Ulf Røgeberg** on 2 Sept 2005, 8:30 a.m.*

Hi, A small c is showing on my display. And my calculator does not give me the right answers trying to work out angles by using e.g. tan-1.

Does anyone have a clue??

Thanks

Ulf

Re: HP 15C problem

*Message #2 Posted by **Nelson M. Sicuro (Brazil)** on 2 Sept 2005, 9:06 a.m.,*
in response to message #1 by Ulf Røgeberg

Your HP-15C is in "Complex" mode, and in this mode all trig functions are in radians. All functions can accept complex numbers in this mode (IIRC). To exit from this mode, clear the flag number 8, pressing this key sequence:

g CF 8

("g" is the blue key, "CF" is the blue label from "5" key)

[]s

Nelson

Re: HP 15C problem

*Message #3 Posted by **Ulf Røgeberg** on 2 Sept 2005, 10:17 a.m.,*
in response to message #2 by Nelson M. Sicuro (Brazil)

Thanks a lot Nelson, great.

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HP 35 CPU

*Message #1 Posted by **Tom Bagdas** on 1 Sept 2005, 1:35 p.m.*

Would anyone know of a source for a CPU for the HP 35. My 35 has some sentimental value and I would like to get it repaired. Also is there a source for the battey/ foil strip for the 41C/Cv/CX?

Re: HP 35 CPU

*Message #2 Posted by **Eric Smith** on 1 Sept 2005, 4:40 p.m.,*
in response to message #1 by Tom Bagdas

Since these chips haven't been made in almost 30 years, the only source is another 35, 45, 46, 55, 65, 70, 80, 81, 9805, or 1722 oscilliscope.

The CPU consists of two chips, the CTC and the ARC. Which one are you trying to replace, and how do you know that it has failed? There is also a clock driver, three ROMs, an anode driver, and a cathode driver.

Re: HP 35 CPU

*Message #3 Posted by **Tony Duell** on 2 Sept 2005, 3:39 p.m.,*
in response to message #2 by Eric Smith

I'd love to see you extract the individual A&R and C&T chips from an HP65!.

For those who don't realise the problem, the other classic-series machines have the A&R chip in a 16 pin DIL package, the C&T chip in a 28 pin one. They are easy to desolder from the PCB. The HP65 contains a multi-chip module (44 pins IIRC), containing 6 silicon dice, believed to be the A&R, C&T, clock buffer, card reader controller and 2 RAMs. The ROMs are certainly external, apparently so the firmware could be updated without replacing the multi-chip module.

I believe my notes on these machines (giving pinouts and testpoints) are in the articles forum here. There are schematics on the HPCC CD-ROM, but there's no data on the _internals_ of the multi-chip module.

Re: HP 35 CPU

*Message #4 Posted by **Eric Smith** on 2 Sept 2005, 3:57 p.m.,*
in response to message #3 by Tony Duell

If you send me a hybrid, I'd be happy to extract the A&R and C&T chips from it for you. I'll do that for free (just pay the postage both ways), but if you want them bonded out in ceramic DIP packages, that will cost a few hundred dollars.

Re: HP 35 CPU

*Message #5 Posted by **Randy** on 2 Sept 2005, 4:38 p.m.,*
in response to message #4 by Eric Smith

> Eric, I've got an intermittant one if you want it. I haven't decapped it but I suspect it is nothing more than a failed wire bond. I also have some Pioneer's (10B/20S) and a 10Bii for the project if you're still looking.

Re: HP 35 CPU

*Message #6 Posted by **don wallace** on 1 Sept 2005, 5:24 p.m.,*
in response to message #1 by Tom Bagdas

Hi Tom. Eric is right, the CPU is a somewhat primitve two chip chipset.

I would suggest that you consider sending me your calc for repair. Unless the calc has been subjected to "abuse", disassembly and fiddling with the electronics, the actual devices are fine and it's an interconnect or cracked board problem.

I am pretty seasoned at digital (and analogue) electronics repairs. I built my first "computer" from chips according to my own design in 1984, so I know what I am doing ;-)

I worked for Canon Auistralia in my first full-time job in 1985, repairing calculators (all kinds!) and desk-top computers.

If you want me to repair your machine, please write to me at:

donwallace63@yahoo.com.au

stating in as much detail as possible what is wrong (won't turn on, strange display, crashes when running a program, bad keys, etc...) and how it got that way (got wet, dropped, on charger without battery pack inserted or battery leaked, etc...)

Only trying to help.

Best wishes,

Don Wallace

Re: HP 35 CPU

*Message #7 Posted by **don wallace** on 2 Sept 2005, 7:45 p.m.,*
in response to message #1 by Tom Bagdas

There are no sources for the interconnects for the 41C series. The products are long dead.

Some people like myself can repair the flexible pcb's. I have an aging 41C fullnut silverbird (one of the first non buggy ones out of the U.S.A.) and have done extensive repairs on it a number times, including repairs to the flexible interconnect you are talking about. My 41CV is 100% functional, although 24 years old.

If interested, write to me.

Don W

donwallace63@yahoo.com.au

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HP 27s

*Message #1 Posted by **ken** on 1 Sept 2005, 11:26 a.m.*

well these things appear to be a dying breed.

Is there another calculator which could solve like this one.

I would first create a formula using the calculator interface and it would be stored indefinitely (key feature)

P=I*E

when I would press calc I could solve for any value (key feature) I could press a number and select variable p soft button and then press value for I and then solve for E just by not typing a value. it would also solve any direction. Place any 2 values and get the third.(key feature

Is there a current calculator made by HP or anyone else which has a solver as flexible as the 27s. If so please do tell because I still cant find one.

Re: HP 27s

*Message #2 Posted by **Mike H** on 1 Sept 2005, 12:33 p.m.,*
in response to message #1 by ken

The 27s uses an algebraic solver. It is very easy to use and quite handy. Other HP models that used the algebraic solver were the 18C, 17B, 28C, 28S, and 19B. The new 17BII+ calculator also has this feature.

The 33S also has an algebraic solver that works very well, but it is not as intuitive as the 17B

More information about solvers can be found here: Solver

Edited: 1 Sept 2005, 1:44 p.m.

... and HP-17BII; -22S; -32SII

*Message #3 Posted by **Karl Schneider** on 1 Sept 2005, 11:02 p.m.,*
in response to message #2 by Mike H

> Quote:
>
> Other HP models that used the algebraic solver were the 18C, 17B, 28C, 28S, and 19B. The new 17BII+ calculator also has this feature.

The discontinued HP-17BII carrid over the HP-17B algebraic solver, and "Let" and "Get" work properly in all respects (unlike in the 17BII+).

> Quote:

> The 33S also has an algebraic solver that works very well, but it is not as intuitive as the 17B

The HP-33S algebraic solver is the one from the discontinued HP-32SII and HP-22S. The 33S also will perform a "direct solution" (instead of numerically iterated) in some cases. Unfortunately, it will always return the direct solution when possible, no matter what solution range the user provides...

-- KS

Re: ... and HP-17BII; -22S; -32SII

*Message #4 Posted by **GE** on 2 Sept 2005, 6:22 a.m.,*
in response to message #3 by Karl Schneider

The solvers of the plamtop line can be used too : HP95LX, 100, 200... Maybe these are easier to get nowadays, and you get a nice DOS-capable device with a full keyboard.

Re: ... and HP-17BII; -22S; -32SII

*Message #5 Posted by **Gene** on 2 Sept 2005, 7:25 a.m.,*
in response to message #3 by Karl Schneider

I dont' believe that's true. It will return the direct solution if the equation is entered as "X^2-4", but if you put "X^2-0*X-4" as the equation, it will not directly solve it but will allow the user to give estimates that guide what the solver finds.

33S solver: We've discussed this before.

*Message #6 Posted by **Karl Schneider** on 3 Sept 2005, 3:42 a.m.,*
in response to message #5 by Gene

Gene stated,

> Quote:
>
> I dont' *[sic]* believe that's true *(that the 33S solver will always return a direct solution when its decision rules say it can)*. It will return the direct solution if the equation is entered as "X^2-4", but if you put "X^2-0*X-4" as the equation, it will not directly solve it but will allow the user to give estimates that guide what the solver finds.

Gene, I know that you have a vested interest in that you prepared the Learning Modules for the HP-33S, but we've covered this topic before.

Ading the superfluous term "+0*X" provides a second occurrence of the solution variable in the equation, precluding the 33S by its own strategem from attempting to find a direct solution.

Granted, this offers a workaround, but what rational user would include "+0*X" in an equation? It's just wrong that the calc cannot return -2.0 as a solution to "X^2-4 = 0, given an initial search range of -2.1 to -1.9.

I outlined quite clearly in this space how I thought the 33S' SOLVE decision tree was flawed, and I remember that you agreed. Shall I dig up the thread?

-- KS

Re: 33S solver: We've discussed this before.

*Message #7 Posted by **Gene** on 3 Sept 2005, 9:23 a.m.,*
in response to message #6 by Karl Schneider

Hi Karl.

Oh, I don't disagree about the solver. It's just that in THIS thread, no mention was made about how to force the 33S to avoid the direct solve. That's all I was attempting to do here. Sometimes the only information people might have about a model is the current thread/discussion.

And, I would hope I'm not that biased in most posts. :-) Gene

"Algebraic" 17/19/27 solver: Same problem!

*Message #8 Posted by **Karl Schneider** on 4 Sept 2005, 8:38 p.m.,*
in response to message #7 by Gene

Gene --

The issue about the HP-33S solver, when in Equation mode, always returning the direct algebraic solution when its logic determined that it could, got me thinking about the vaunted "Algebraic" solver from the 17B/19B/27S models.

Same problem! The 27S and 17BII will always return X = 2.00 as the solution to "X^2-4" or "SQ(X)-4", even when -2.00 is pre-stored in X.

So, KinHPo apparently didn't put a lot of new work (of questionable value) into the SOLVE algorithm for the 33S, by adding an algebra-performing "direct solution" method in Equation mode. Instead, they just copied those algorithms -- warts and all -- from the 17BII, which then was still in production when the new-model efforts were initiated.

I should have suspected as much...

-- KS

Re: ... and HP-17BII; -22S; -32SII

*Message #9 Posted by **Ken** on 2 Sept 2005, 8:36 a.m.,*
in response to message #3 by Karl Schneider

Well I bought the 32S yesterday. Returned it today. I guess I am just spoiled but the interface was a far cry from the 27s.

if I am going to go through all that work then I will stick to my 3 dollar TI calculator:)

I will still need to lay hands on the 19BII but have not found one on the shelf yet.

Re: ... and HP-17BII; -22S; -32SII

*Message #10 Posted by **Ron Ross** on 2 Sept 2005, 8:54 a.m.,*
in response to message #9 by Ken

And you won't unless you are extremely lucky. The Hp19Bii hasn't been made for about 5 years now. Ebay is where you will find this creature. You can buy the cheaper Hp19 (w/o RPN over the newer Hp19Bii which has RPN).

If you don't need trig, the Hp17Bii+ is very similiar aside from its being a business calculator w/o precidence in its algebraic mode. It has the same solver (aside from perhaps an unreliable Let and Get function) and has 32K of RAM vs 7K on your Hp27s. Or buy an older Hp17B or Hp17Bii (and get the Let and Get functions).

You might also consider an Hp38G or an Hp39G+. They only hold 10 equations at a time, and only allow single letter variable names (pathetic, I know). But they have an equation solver list which is functionally similiar to your Hp27s. Actually, if you can buy the new Hp40G series (overseas model), you get an equation writer that is compariable to the Hp48/49 and a nice algebraic calculator. But it is a graphics and not a pocket calculator like the Hp27s.

Re: HP 27s

*Message #11 Posted by **bill platt** on 1 Sept 2005, 12:55 p.m.,*
in response to message #1 by ken

The new 17bii+ has the same interface, but alas it has no trigonometric functions :-(

I like this solver interface a lot, too!

If you have a 49g+ or a 48g or any of the 48-49 models, you can build essentially the same interface quite easily, complete with soft menu keys and all. It even has more features. It does have a slightly different operating paradigm but it is not too terribly difficult to get used to and is more versatile to boot.

BTW, this is the sort of thing that the 48 series has that the classic RPN machines do not--a clean, direct interface for solving equations for any unknowns.

Re: HP 27s

*Message #12 Posted by **Jan (CH)** on 1 Sept 2005, 3:03 p.m.,*
in response to message #11 by bill platt

HP 27 S is truly an excellent machine. Particularly the solver is most useful, powerful and still easy to use. HP 27S are seldom and very difficult and expensive to get second hand. When my 27S was stolen, I bought a used HP 19BII. It should be much easier to find an used 19BII; may be even a new one. They are not so old.

19BII has almost the same capabilities as 27 S, even some extra goodies. It has algebraic and RPN logic, not implemented on 27S.

The solver has some implementation differences to 27S, but this has no consequences in practical life.

19BII was sold as “business consultant”, which is a bit misleading. It contains all the math functions available on 27S, such as trigonometric functions.

All in all 19BII is an excellent replacement for 27S

Jan

Re: HP 27s

*Message #13 Posted by **Ken** on 1 Sept 2005, 3:27 p.m.,*
in response to message #12 by Jan (CH)

Well thank you all for your assistance. I am now confronted by a new problem who carries a line of

HP's.

I visited compusa, office max, Circuit city, office depot, I want to hold one and push a button before I find a fitting replacement for my deceased friend the 27s.

Re: HP 27s

*Message #14 Posted by **Charlie O.** on 1 Sept 2005, 3:51 p.m.,*
in response to message #13 by Ken

Walmart and Fry's Electronics both carry hp's. Walmart is easier to find but Fry's is more likely to have the calc you seek.

Re: HP 27s

*Message #15 Posted by **bill platt** on 2 Sept 2005, 9:27 a.m.,*
in response to message #13 by Ken

Hi Ken,

(Is your 27s still in existence? Many here can make good use of a "deceased" machine.)

You need to buy a *used* machine--forget the retailers. The models you are really going to appreciate:

27s, 19b, 19bii ,and I think the 18c will be good, too---check the description of it in the museum or at craig finseth's hpdatabase.

are no longer manufactured, so look in or post to the classified ad section of this forum, or go to ebay....

All you can get new from hp in your interest bracket (direct from HP via online interface):

17bii+ (no trig maths)

48gII (really a 49g+ with less memory and no expansion) 49g+ (current "top dog" of hp graphing) 39g+ ("high school" formula interpretive interface version of the 48gII)

note that the 39/49/48gII listed above all have "issues" with the reliability of the keyboard....search comp.sys.hp48 and you'll see what I mean.

You will get more for your money going used.

There are no scientifics with that hp27s interface anymore. The *only* scientific in current production is the 33s which has the less than optimum solver interface, though I use it and find it quite acceptable, though I like my 27s solver more.

If you need a solver with trig more than anything, then you can adjust to the 33s and because it has full RPN and Algebraic programming capability, you can in fact do more with it htan the 27s in terms of programming power; it is just that the equation interface is not so graphically cool. Do be sure to understand that there are a couple of bugs with the 33s (which one of these days I expect they will iron out) all of which can be worked aroundwithout to great trouble. The most serious generally are the rectangular to polar conversiosn bug, and hte h.ms to dec hrs conversion (for negative numbers ther eis a problem but ok in positive range). Both of these are easy to fix with simple short programmed routines.

I hope this helps you.

Regards,

Bill

Edited: 2 Sept 2005, 9:32 a.m.

Re: HP 27s

*Message #16 Posted by **Ed Look** on 3 Sept 2005, 2:45 a.m.,*
in response to message #15 by bill platt

What was the solver used in the old 34C?

Original HP solver [was: HP 27s]

*Message #17 Posted by **Karl Schneider** on 3 Sept 2005, 3:08 a.m.,*
in response to message #16 by Ed Look

Ed said,

> Quote:
>
> What was the solver used in the old 34C?

The original one, ported virtually without changes to the 15C and the 41C Advantage module and subsequently (with modifications to the interface) to the 32S and 42S and their successors.

The solver on the models specifically mentioned work only with an RPN program defining the mathematical equation.

The 34C/15C/41C-Advantage do not directly support multi-variable equations. However, more than a year ago, I posted a work-around for this limitation, using the indirect storage register.

-- KS

Edited: 3 Sept 2005, 3:10 a.m.

Re: Original HP solver [was: HP 27s]

*Message #18 Posted by **Ed Look** on 19 Sept 2005, 1:12 a.m.,*
in response to message #17 by Karl Schneider

Ah, the i register! What an ingenious idea!

I wish I had the nerve to use my 34C again! It shows signs of advanced age. I'm not sure that one more power on will not kill it!

But I find that the 32SII is just as pleasurable to use, except that after all these years, I still know the 34C layout by heart (you know what they say about college sweethearts)... and believe it or not, I've found the 33S to be quite a joy to use, too! I use it the most these days (to spare the 32SII extra wear), much more than the more advanced 48G,

48G+, or 49G+. I had originally guessed that the 49G+ would be my workhorse; it turned out to be the much maligned, and undeservedly so, 33S!

If I have to do a similar program for the 33S, I will keep your brilliant idea in mind... if you don't mind!

Re: Original HP solver [was: HP 27s]

*Message #19 Posted by **bill platt** on 19 Sept 2005, 10:19 a.m.,*
in response to message #17 by Karl Schneider

Karl,

Back when you originally posted your multivariable method, I printed it out and I consider it a must-have AND must-know for the 15c.

I think it really should have been in the manual. The question is, had nobody at HP thought of it?!!

regards,

Bill

[15/34/41] SOLVE/INTEG with selected variable

*Message #20 Posted by **Karl Schneider** on 21 Sept 2005, 2:22 a.m.,*
in response to message #19 by bill platt

Bill --

You as well as Raul Lion and others (several years ago) complimented the workaround I posted for using selecting a variable for SOLVE or INTEG on a 15C, 34C, or 41C (with Advantage module).

My original post at

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv011.cgi?read=29015#29015

was not particularly explicit. I will follow through shortly on my promise to write a better and more comprehensive one.

-- KS

SOLVE/INTEG with MISO functions on HP-15/34/41

*Message #21 Posted by **Karl Schneider** on 24 Sept 2005, 2:19 a.m.,*
in response to message #20 by Karl Schneider

Note: This is a first draft of material developed for an MoHPC Article that I announced an intention about 30 months ago to write. Comments are welcome and encouraged. If anyone can suggest a more practical equation for illustration, please suggest. The equation should be both solvable and integratable with reasonable calculation times.

==========

Using SOLVE and INTEG with MISO functions on HP-15C, HP-34C, and HP-41C/CV/CX

BACKGROUND OF "SOLVE" and "INTEG":

Numerical rootfinding ("SOLVE") and numerical integration ("INTEG") of single variables were built-in or made available as sophisticated machine-coded functions on seven RPN-based Hewlett-Packard scientific calculator models.

SOLVE and INTEG are present on the following models:

- HP-34C
- HP-15C
- HP-41C/CV/CX with Advantage Pac

- HP-32S
- HP-42S
- HP-32SII
- HP-33S

(Excluded from this list are the RPL-based models, the algebraic-entry models, and the HP-71B with Math ROM.)

The SOLVE and INTEG functions were introduced in their original paradigm on the HP-34C in 1979, and later carried over to the HP-15C in 1982. For the HP-41C/CV/CX, the same functions were adapted with only slight modification in the Advantage Pac introduced in 1985.

Two fine articles regarding SOLVE and INTEG on the HP-34C appeared in *HP Journal* in 1979 and 1980, respectively. These are available on CD Volume 3 and the DVD-ROM from the MoHPC.

This original paradigm requires that the function to be solved or integrated, be programmed as an RPN routine. The routine must be designed to accept an input value of the variable to be solved or integrated in the stack x-register, and to return the calculated value of the function to the x-register. This user program is executed repeatedly by the SOLVE or INTEG function in order to calculate the desired result. Moreover, the program may include a SOLVE or INTEG instruction, thus allowing INTEG to be executed within SOLVE, or vice versa. This capability, incidentally, was not provided on the successor Pioneer-series models HP-32S and HP-32SII, or on the present HP-33S.

STORAGE OF VARIABLES; MISO AND SISO FUNCTIONS

Storage registers for variables on the HP-32S, HP-32SII, and HP-33S are designated by single letters. The Pioneer-series HP-42S allowed alphanumeric identifiers for variables. SOLVE and INTEG on all four of these models require the user to specify (by letter or name) the root variable to SOLVE or the dummy variable of integration to INTEG. This feature is well-suited for multiple-input, single-output (MISO) functions.

The 34C, 15C, and 41C/CV/CX, however, provided only numbered and "indirect" storage registers. The paradigm of SOLVE and INTEG on these models was designed primarily for single input, single-output (SISO) functions.

It does not require that the input variable even be stored to a register.

TO USE 34C/15C/41C "SOLVE" AND "INTEG" WITH MISO FUNCTIONS:

Assume that a MISO function is to be programmed as an RPN routine on a HP-34C, HP-15C, or HP-41C/CV/CX. A user may wish to use SOLVE or INTEG successively for any selected "focus" variable with all others held constant, and without having to edit the RPN routine. Here is a simple procedure for this purpose:

1. Designate a numbered storage register for each variable in the function.

2. On the 41C/CV/CX, designate another numbered register as the indirect storage register. (Do not use a stack register, as it will be overwritten by SOLVE or INTEG.)

In PROGRAM mode:

3. Program the function as an RPN routine that meets the basic requirements and, also, always retrieves each variable from its designated storage register the first time it is used. (On the 41C/CV/CX, the label beginning the routine must be an external label.)

4. The second instruction of the routine (after LBL) should be "store to indirectly-referenced register". This is "STO (i)" on the 34C and 15C; "STO IND nn" on the 41C/CV/CX.

In RUN mode:

5. Store the desired constant values of the fixed-value variables to their storage registers.

6. Store the *register number* containing the floating variable to the indirect storage register.

7. Invoke SOLVE or INTEG in the usual manner.

This procedure utilizes indirect storage to make the RPN program more flexible. SOLVE and INTEG feed the each value of the floating variable as input to the user program, which immediately stores the value indirectly to its designated register. Each variable in the function is then recalled for use in calculations, so the user program need not be structured to receive any particular variable from the stack.

EXAMPLES:

```
f(x, y, z) = 2*x - ln y + 1/z


x in R1; y in R2; z in R3
indirect in R00 (HP-41 only)


HP-15C/HP-34C program:      HP-41C/CV/CX program:


LBL A                        LBL "AA"
STO (i)                      STO IND 00
RCL 1                        RCL 01
2                            2
```

```
*                           *
RCL 2                       RCL 02
LN                          LN
-                           -
RCL 3                       RCL 03
1/x                         1/x
+                           +
RTN                         RTN
```

In RUN mode, solve for x such that f(x, y=15.1, z=5.3) = 0

```
HP-15C/HP-34C:              HP-41C/CV/CX:

15.1                        15.1
STO 2                       STO 02
5.3                         5.3
STO 3                       STO 03
1                           1
STO I                       STO 00
0.5                         0.5
ENTER                       ENTER
5                           5
SOLVE A                     "AA"  (enter AA in alpha mode)
                            XEQ "SOLVE"
```

(Answer is 1.263007749)

Next, solve for y such that f(x=0.7, y, z=3.3) = 0

```
HP-15C/HP-34C:              HP-41C/CV/CX:

0.7                         0.7
STO 1                       STO 01
3.3                         3.3
STO 3                       STO 03
2                           2
STO I                       STO 00
0.5                         0.5
ENTER                       ENTER
6                           6
SOLVE A                     "AA"  (enter AA in alpha mode)
                            XEQ "SOLVE"
```

(Answer is 5.490560270)

Finally, integrate f(x=1.7, y=4.1, z) over z = 1.0 to 6.0.
Specify 5 decimal-digit absolute function accuracy:

```
HP-15C/HP-34C:              HP-41C/CV/CX:

FIX 5                       FIX 5
1.7                         1.7
STO 1                       STO 01
4.1                         4.1
STO 2                       STO 02
3                           3
STO I                       STO 00
1                           1
ENTER                       ENTER
6                           6
INTEG A                     "AA"  (enter AA in alpha mode)
                            XEQ "INTEG"
```

(answer is 11.73682)

Edited: 28 Sept 2005, 2:48 a.m.

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Can anyone tell me about the "41CY"?

*Message #1 Posted by **don wallace** on 31 Aug 2005, 5:50 a.m.*

Hi all.

I am curious about the capabilities of the "souped up" 41CV, the 41CY.

Can anyone enlighten me about the specs of these machines? And who did the soup-up? How far did they go? When was it done?

Thanks

Don W

Re: Can anyone tell me about the "41CY"?

*Message #2 Posted by **Meindert Kuipers** on 31 Aug 2005, 6:26 a.m.,*
in response to message #1 by don wallace

The HP41 CY is basically an HP41CX with the guts of the W&W Rambox built inside. It was done by W&W in Germany. The RAMBOX electronics are on a custom PCB (actually just the memories and an Asic) that is mounted between the keyboard PCB and the bridge PCB in the 41CX. I had the opportunity of looking at the insides when I visited W&W earlier this year.

They are very very rare and if one is available on ebay the price is really high.

Meindert

Re: Can anyone tell me about the "41CY"?

*Message #3 Posted by **don wallace** on 31 Aug 2005, 8:04 a.m.,*
in response to message #2 by Meindert Kuipers

Hi Meindert!

Thanks for the response.

What are the specs? RAM size, etc...?

Cheers,

Don W

Re: Can anyone tell me about the "41CY"?

*Message #4 Posted by **Raymond Del Tondo** on 31 Aug 2005, 8:38 a.m.,*
in response to message #3 by don wallace

Hi Don,

the CY Turbo has 64K (2* 32K) RAM,
as well as a turbo switch for CPU clock speedup,
I think it was about 1.7x .

You can switch between the two 32K blocks via software.

There also existed a W&W HP-41CW,
which was a CV with a 32K RAM 'box' built-in.
The latter is even rarer than a CY.

Regards

Raymond

BTW: Your module is on its way to you;-)

Re: Can anyone tell me about the "41CY"?

*Message #5 Posted by **bill platt** on 31 Aug 2005, 1:10 p.m.,*
in response to message #4 by Raymond Del Tondo

Hi Raymond,

Do you have either of these delightful creatures? :-)

Regards,

Bill

Re: Can anyone tell me about the "41CY"?

*Message #6 Posted by **don wallace** on 31 Aug 2005, 4:45 p.m.,*
in response to message #5 by bill platt

Hi all. Thanks for your reply and looking forward to hacking my module. You were really patient with me (busy and disorganized at this end) and very easy to do business with. Thanks... (I never knew international bank transfers were so expensive).

I am looking at building one or two of these (41CW)babies, Bill. If you want one let me know. There's (quite) a bit of work (and reading) to do first...

BTW, does anyone know WHERE in the systems address space they stick a 32 kB block of RAM? And how do you access it from a system programming point of view? I am aware you can't use the "operating system" adddress pointer on the whole lot, as it's only 12 bits wide (giving 1024 registers maximum which can be "pointed to")? Meindert?

Don W

Don Wallace donwallace63@yahoo.com.au http://donwallace.customer.netspace.net.au

Re: Can anyone tell me about the "41CY"?

*Message #7 Posted by **don wallace** on 31 Aug 2005, 4:49 p.m.,*
in response to message #6 by don wallace

WHOOPS!

Sorry Raymond!

My previous post omitted: "Hi all. Hi Raymond." Thanks for the precise informative reply, Ray.

Don W (I am sometimes a bit "scattered" at 6:30 a.m. before I have my SECOND CUP of coffee. My g/friends a shift worker :-)

Where's the RAM??

*Message #8 Posted by **DavidY** on 31 Aug 2005, 7:50 p.m.,*
in response to message #6 by don wallace

Hi Don,

Quick answer is the W&W Rambox -- in its various versions -- simulates ROM Module memory so, by using a RAMbox you are giving up the ability to use ROM modules.

The "system memory" of the 41 consist of 16 4K x 12bit blocks: 0,1 & 2 are the main 12K system ROMS. Blocks 3 & 5 are reserved for the Time Module and the Extended Funcitons ROM (extended functions RAM registers are mapped into the "user" memory). Block 4 is special: it's designed to map a "takeover ROM" taking control from the OS ROMS. Block 6 is used by the Printer ROMS and Block 7 for the HPIL ROM. Finally Blocks 8-F are for "normal" ROMS. In use the 32K Rambox maps over Blocks 8-F: 4k * 8blocks = 32K. The 64K Rambox is simply 2 banks of 32k which can be switched with custom code.

Of course, it's not quite that limiting--you could map out blocks of RAM to allow space for ROM modules, map RAM to system blocks 3,4,5,6 & 7,etc.

Take a look at Diago's Clonix/NoVRAM and Meindert's MLDL2000. The MLDL is the Rambox on rocket power thanks to modern high density chips (and Meindert's hard work)--lots and lots of memory banks, very flexible mapping, the ability to load ROM module images -- think the entire 41 module library in a card reader case.

Re: Where's the RAM??

*Message #9 Posted by **don wallace** on 1 Sept 2005, 5:28 a.m.,*
in response to message #8 by DavidY

Thanks for the quick reply David.

Very interesting...

There certainly are a few talented people doing work in this area. I like Meindert's effort and am amazed at what Diego has already done and what Monte is doing...

At the moment I am interested in doing a FORTH41 module and a PPC module in one plug in ROMPACK. I am planning to use the quad flat pack version of a PIC chip which is backward compatible to the chip Diego was using, an 18LF2520. I have some pictures on my website, if anyone is curious.

Later I want to rewrite the code (if possible) to drop the PIC clock speed and lower the power consumption. It will be a while before I am ready to do that, though. I am far

from sure if it can be done. I like a challenge though.

Considering it's age, the 41 machine is very well designed. I don't have any other HP calcs (or other gear), but I remember when I first bought my CV in early 1981 it just mesmerized me... I still get a kick out of playing with it and use it to do simple project management using the TIME module I bought in 1985 from a guy who had upgraded to the CX, then brand new.

Since then my calculator has suffered some four different hardware failures, so I am not sure how much longer it will last, but it's an amazing, functional, beautiful relic from a bygone age. I am certainly getting good at fixing them... ;-)

Don W

Re: Can anyone tell me about the "41CY"?

*Message #10 Posted by **Meindert Kuipers** on 1 Sept 2005, 5:13 a.m.,*
in response to message #6 by don wallace

Don,

I do not know too many details about the Rambox operation. Probably the manuals are available on a DVD or downloadable from TOS. As I understand there are some possibilities with special key combinations, but I am not really certain. I think that the speed switching is with a key combination. The MLDL2000 operates in a totally different way, module assigment is best done for the outside with the USB interface under control of a PC.

Meindert

Re: Can anyone tell me about the "41CY"?

*Message #11 Posted by **don wallace** on 1 Sept 2005, 5:31 a.m.,*
in response to message #10 by Meindert Kuipers

Hi Meindert.

Thanks for the reply. You are a bit of a wizard...

I forgot stick up my website url:

http://donwallace.customer.netspace.net.au

On the softwar side, I am really chuffed at Warren Furlows V41. It is really cool!

Don W P.S. Great forum you got here, guys...

Re: Can anyone tell me about the "41CY"?

*Message #12 Posted by **Christoph Giesselink** on 1 Sept 2005, 1:02 p.m.,*
in response to message #10 by Meindert Kuipers

> Quote:
>
> I think that the speed switching is with a key combination.

Sorry that's wrong, It's a seperate red switch on the left side of the calculator.

Calculator speed changing is only allowed in calculator off state.

Cheers

Christoph

Re: Can anyone tell me about the "41CY"?

*Message #13 Posted by **Klaus** on 3 Sept 2005, 9:37 a.m.,*
in response to message #12 by Christoph Giesselink

I think I also read something about switching speed via keyboard. If I am not wrong, it was the "W&W cursor" on TOS where I read it.

Re: Can anyone tell me about the "41CY"?

*Message #14 Posted by **Christoph Giesselink** on 4 Sept 2005, 2:14 p.m.,*
in response to message #13 by Klaus

> Quote:
>
> I think I also read something about switching speed via keyboard. If I am not wrong, it was the "W&W cursor" on TOS where I read it.

Maybe, the working CY Turbo I have seen, has the manual switch.

But there were other companies which sold speed doublers for the 41. W&W also sold the Turbo option for normal calculators. They maybe different from the CY one.

AFAIK all 48 speed doubler use a key combination at startup?

Cheers

Christoph

Re: Can anyone tell me about the "41CY"?

*Message #15 Posted by **don wallace** on 4 Sept 2005, 9:43 p.m.,*
in response to message #14 by Christoph Giesselink

Overclocking the 41CV due to the generous margins in the basic design, is quite simple. A timing capacitor is reduced in value or another one is put in series, dropping the capactiance.

From memory, in 1982 I used a 47 pF capacitor in series with the original which roughly doubled the machine speed. Anyone interested can write to me for details. Shorting my added capacitor with some fine wire restored normal operation without resoldering anything. I found the faster CAT display annoying and didn't need the extra speed anyway. I also disliked the "sped up beep" tone...

Switching a capcitor into and out of circuit while the oscillator is running

(calc powered up) generates a timing glitch kind of similar to what grounded Columbias (first space shuttle) maiden flight, (for different reasons). This glitch could perhaps cause some odd behaviour in the (memory access performance of) system.

It is possible that a keystroke sequence allowed special hardware to switch an extra timing capacitor into and out of circuit, but with such glitches... Maybe the people who thought this up had trouble and went back to a hardware switch which worked when the calc was off? Anyone?

DW

what

Re: Can anyone tell me about the "41CY"?

*Message #16 Posted by **Christoph Giesselink** on 5 Sept 2005, 7:07 a.m.,*
in response to message #15 by don wallace

The TURBO switch is also mentioned in the German W&W CY/Rambox II manual, so the switch is original W&W.

Cheers

Christoph

Re: Can anyone tell me about the "41CY"?

*Message #17 Posted by **don wallace** on 4 Sept 2005, 9:45 p.m.,*
in response to message #14 by Christoph Giesselink

From what I have read here the 48 speed doubler is a "software hack" so no hardware glitches...

DW

Re: Can anyone tell me about the "41CY"?

*Message #18 Posted by **Raymond Del Tondo** on 5 Sept 2005, 3:52 p.m.,*
in response to message #17 by don wallace

Hi Don,

at least my HP-48GY+ Turbo uses a hardware pcb
to hold the speed-up electronics and the additional RAM.
The speed-up is activated by holding the ON key
for some seconds longer than normally needed.

Maybe you meant the HP-28S and the HP-42S where
you could temporarily speed up the machine
by poking a different delay value at a certain RAM location.

Regards

Raymond

Re: Can anyone tell me about the "41CY"?

*Message #19 Posted by **don wallace** on 5 Sept 2005, 6:42 p.m.,*
in response to message #18 by Raymond Del Tondo

Hi Raymond. Yes you are right of course. My mistake.

DW

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HP 33s low battery warning problem

*Message #1 Posted by **KC** on 31 Aug 2005, 2:46 a.m.*

Hello,

This post referred back to an older thread in which I posted up a question of the HP 33s displaying flashing "Memory Clear" message and doesn't respond to keystokes. After changing the batteries everything is fine again. So it is a matter of the fact that the 33S doesn't warn us to replace batteries. Just to remind all those who are using the calculator to keep in mind of that to prevent data loss. One way to check is to run a long program or a program that loops for say, 500 times. The battery warning sign would still come up in those case (but not in normal calculator operation).

Regards, KC

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33s serial no production dates

*Message #1 Posted by **david bowers** on 30 Aug 2005, 8:17 a.m.*

hi my cousin in hatboro pa couldnt make sense of the manufature date on hp33s i called walmart from taiwan, the guy said it had hp 2003 on the packet . he said he couldnt find the 05 numbers to signify the 2005 year it was made, so i could get the pixel fix model. can someone enlighten me on what to look for, is the no. on the calculator or the packaging, can it be read easily or do you have to open up the blister pack or box to investigate and confirm cheers david

Re: 33s serial no production dates

*Message #2 Posted by **bill platt** on 30 Aug 2005, 8:59 a.m.,*
in response to message #1 by david bowers

You can turn the machine on through the blister pack--you just have to push hard through the plastic packaging.

Re: 33s serial no production dates

*Message #3 Posted by **david bowers** on 30 Aug 2005, 9:04 a.m.,*
in response to message #2 by bill platt

my cousins not so inlcined to tell the good from the bad, somebody had mentioned the year of ma. date on the pack thanks david

Re: 33s serial no production dates

*Message #4 Posted by **Ron Ross** on 30 Aug 2005, 9:31 a.m.,*
in response to message #3 by david bowers

I have an earlier model and while the decimal is not great, with the FIX function, the sorry Deciamal point does show and it is a usable calculator. I don't consider it on par to an older Hp 32sii for quality, but it is close.

My biggest gripe is that it is a FAT Glittery eye magnet, and not a true pocket calculator. It is much smaller than a graphics, but is still to big to fit in most shirt pockets. It is wider than the Hp32sii and I feel even the Hp32sii series was a bit too tall. I liked the size of the older Hp11c line best.

But hey, its a $50 RPN calculator that is the best available. That it isn't the size of the Casio FX250/260 or Hp6s line is too bad, but I am glad it is available.

I used mine extensively for 2 months (needed for an exam) and don't mind using it further, but I like the features of the Hp48/49G series on my desk. If I did field work, I would grab the Hp33s in a heartbeat (it is my least valuable Hp RPN calculator).

tests

*Message #5 Posted by **bill platt** on 30 Aug 2005, 1:48 p.m.,*
in response to message #4 by Ron Ross

Hi Ron,

So you passed your test? :-)

Do you have an original Walmart release, or the 1st batch that came out after the hiatus just before full release? I have a 1st Walmart and it has the "swap" in Algebraic which switches the order of the x and y registers. Do you have the newer "parallel algebraic stack" version? The newest one I checked, with big decimals, also has the parallel algebraic stack.

Regards,

Bill

My email is still the same.

Re: tests

*Message #6 Posted by **Ron Ross** on 30 Aug 2005, 2:33 p.m.,*
in response to message #5 by bill platt

Why, thanks for asking, and YES, I did!!!

I did have a difficult time just getting to take the exam. It seems they held a low regard for my BA degree and wanted to see an ABET accredited degree. I had to provide an extensive amount of references and work experience. It was a proverbial mountain to climb for me just to take the exam. After all that baloney, I certainly couldn't afford to fail (they would then get a second chance to change their minds).

Re: tests

*Message #7 Posted by **Ron Ross** on 30 Aug 2005, 2:44 p.m.,*
in response to message #5 by bill platt

I bought my 33s from Erik at Hpcalc.org back in January of 05. It has the small decimal place and I only used it in RPN mode. Never bothered to check the algebraic mode to any great extent. Now that I passed my exam, I tossed the Hp33s into the back of a drawer and use other Hp's for day to day use. If I still did field service, it would be a main calculator, for sure!

Re: 33s serial no production dates

*Message #8 Posted by **bill platt** on 30 Aug 2005, 1:44 p.m.,*
in response to message #3 by david bowers

Hi David,

Are you in Taiwan? Your cousin is in hatboro? You need hjim to buy it for you and send it? You cannot buy in Taiwan? What is the situation? (Maybe we can help).

Re: 33s serial no production dates

*Message #9 Posted by **david bowers** on 30 Aug 2005, 5:53 p.m.,*
in response to message #8 by bill platt

hi yes, my cousin is an accountant, hmmm, anyway as i lost the 11c last week, i will want to use the 33 in the field, i have a 48gx with cogo, 2x 32s2 and 2x 48g,and the 42s but on construction sites i crawl in and out of holes,up steel beams and cover so much ground, if i put it down i forget where, my rodman tires at times of finding my stuff, and its always half dark inside these places so i would find the smaller decimal point a bother as i do onsite calcs, i have since bought a better pouch as i have a feeling the 11c flipped out when i was walking. yes i would appreciate any help locating maybe 2 of the new ones. i dont want to shell out a few hundred for another 11c, its the second time i have lost a calc in 30 years, the other 42s i have, i had returned after it fell 10 metres and a chinese guy picked it up after i posted a 50usd reward, both on this construction site in taiwan thanks david

Re: 33s serial no production dates

*Message #10 Posted by **brian b** on 2 Sept 2005, 8:24 a.m.,*
in response to message #9 by david bowers

has HP fixed the display so that you can distinguish the decimal point from the 2, and have they done something to improve the shadows in the lcd display? My 33s has a serial number of 44204310, and it is very difficult to distinguish the decimal point when it is next to the number 2. Fixing the display would go a long way to improving this calculator, but in terms of user interface I still won't consider it on par with the 32SII. I really don't like the small ENTER key or its location.

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ANSWERS to "Quiz: HP Voyagers"

*Message #1 Posted by **Karl Schneider** on 30 Aug 2005, 1:57 a.m.*

Here are my answers to the quiz I posted earlier today (subject: "Quiz: HP Voyagers", 29 Aug 2005, 10:21 p.m.)

The are correct to the best of my knowledge, and I do have a working unit and manual for each model in front of me. I have no excuse for any mistakes here!

I may not have stated several of the questions quite specifically enough, but declined to edit the quiz after posting.

1. Which model(s) provide all twelve conditional tests?

Answer: The 15C.

By "conditional tests", I refer only to those six possible comparisons of a full *floating-point value* against 0.00 or another floating-point value, for a total of twelve conditional tests. I did not intend to include flag comparison, bit comparison, or loop-counter functions (which also perform a comparison when invoked).

The complete set is x<0, x<=0, x=0, x!=0, x>=0, x>0, x<y, x<=y, x=y, x!=y, x>=y, x>y.

The 12 tests were provided by placing only two tests on the keyboard, then giving access to the remaining ten via the function TEST, followed by a one-digit code 0-9. This setup used only three keyboard positions.

2. Which model(s) provide only eight conditional tests?

Answer: The 11C and 16C.

The set of eight comparisons is identical to that in the HP-34C, omitting x<=0, x>=0, x<y, and x>=y from the complete set of 12.

The challenge of adding to the 15C these four tests missing from the 11C was ironically re-visited nine years later when the Pioneer HP-32SII was created from the HP-32S.

3. Which model(s) provide only two conditional tests?

4. Which model(s) do not provide insert/delete program editing?

5. Which model(s) do not provide a "delete digit" function?

6. Which model(s) do not provide any loop-counter functions?

Answer to 3, 4, 5, and 6: The 10C and 12C.

These two models had the rudimentary programming paradigm that was introduced in the short-lived HP-55 of the 1970's. Only overwriting of programmed instructions was allowed -- no insertions or deletions that make programming useful.

Not provided on the 10C and 12C were loop-counter functions (called DSE and ISG on the 11C and 15C; DSZ and

ISZ on the 16C). Only two condtional tests (x<=y and x=0) were provided on the 10C and 12C.

These models also lacked the convienient "delete digit" function and introduced on the predecessor HP-41C. "delete digit" is denoted as a backarrow on the 41C, 11C, and 15C; it is denoted as as "BSP" (backspace) on the 16C. In program mode, "delete digit" serves as "delete line".

In my opinion, this limited programming paradigm ought to have been abandoned, rather than carried forward on new lower-end models. The 10C might have found a niche as a non-programmable with more functions.

7. Which model(s) provide Solve, Integrate, matrix functions, and functions using complex-valued inputs?

Answer: The 15C.

Addition of this functionality to the already-capable 11C was the main design objective of the 15C. Solve and Integrate had already been introduced on the 34C, but the robust matrix and complex-number functionality was unprecedented.

To add all this capability, in the same package and hardware of the 11C (whose keyboard positions were already fully-occupied) was an impressive achievement. With some sharp thinking, all the functionality was added, even as the keyboard layout was slightly improved!

An excellent HP Journal article from 1983 (available on the MoHPC CD/DVD set) describes the development of the 15C.

8. Which model(s) provide an "exchange with memory register" function?

Answer: The 11C, 15C, and 16C.

The 11C and 16C offered x<>(i) and x<>I, which exchanged x direclty with the I register or indirectly with the numbered register referenced in I. The 15C offered an open-ended "x<> ", that could be completed with I, (i), or any numbered register 0-9 or .0-.9 This gave more functionality, saved one keyboard position, and improved keyboard layout.

9. Which model(s) do not provide trigonometeric functions?

Answer: The 12C and 16C.

HP's philosophy has been not to include unnecessary functionality in any model designed for a particular purpose. Trig functions are rarely needed in basic finance and computer-science tasks.

10. Which model(s) do not provide logarithmic or exponential functions?

Answer: The 16C.

These are provided on the 12C, however, because natural logarithms, base-e exponentials, and the related power function y^x [= e^(x ln y)] have a solid place in finance. A principal P, compounded at annual rate r for one year in n periods yields a final value F:

```
F = P*[1 + r/n]^n
```

As n gets ever-larger (infinite compounding),

```
F = P*e^r
```

11. Which model(s) provide a "modulo division" function?

Answer: The 16C.

It is called "RMD", and not "MOD" as on the other HP calculators.

12. Which model(s) allow "F" as a program label?

Answer: The 16C.

To provide its hexadecimal-representation capability, the letter "F" was required. So, F is also made available as a program label. The 16C has this in common with the Pioneer-series HP-20S. (Of course, "F" is also available as a label on HP's alphanumeric or quasi-alphanumeric models.)

13. Which model(s) provide a y-estimator regression function?

Answer: The 10C and 12C.

Ironically, for all the other features these models lacked (see questions 3-6), only these Voyager models offered y-estimator!

This was probably due to lack of available keyboard space on the 11C and 15C, which also included regression-analysis functions.

Hope you enjoyed the quiz, but sorry -- no prize for a perfect score.

-- KS

Edited: 30 Aug 2005, 3:03 a.m. after one or more responses were posted

Re: ANSWERS to "Quiz: HP Voyagers"

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 30 Aug 2005, 2:32 a.m.,*
in response to message #1 by Karl Schneider

(I missed two...)

Thanks, Karl; I had my memory cells tested for sure.

I hope you are not mad because I actualy posted an answer right after you post the quiz; somehow a lucky moment of mine.

I'd add that the HP16C is actually the only Voyager that shows labels from [A] to [E] (plus [F]) as alphabetic characters. The HP11C and HP15C use [11] to [15], instead. BTW, this is something I accepted with some reluctance because the HP15C has the matrix identifiers A to E, so it could show these labels as well. Anyway, if we consider the many resources the HP15C has that are completely equivalent to the ones found in the HP11C, leaving [11] to [15] as identifiers for labels [A] to [E] would help understanding programs in one or in the other without much confusion.

Best regards.

Luiz (Brazil)

Edited: 30 Aug 2005, 2:43 a.m.

Re: ANSWERS to "Quiz: HP Voyagers"

*Message #3 Posted by **Karl Schneider** on 30 Aug 2005, 2:57 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Luiz --

Thanks for your helpful replies. No, I'm not displeased at all that a quick response was posted. You might have prevented me from making a mistake, because I forgot that the 12C had y-estimator.

I also noticed that the 16C used A-F as keycodes, but those legends are on the keys, like 0-9.

In a way, I wish that the 15C did the same. It would make more sense for progam labels and matrices, but might be a bit confusing for the mathematical functions on keys 11-15, and for USER mode. There were also the issues of changing tried-and-true derivative 11C code and the limited ROM space.

It may seem kinda silly to be contemplate the quirks of a 23-year-old product, but it is an enlightening exercise to revisit the thinking of the first-class engineers who designed it.

-- KS

11C's SCI 8, SCI 9, ENG 8 and ENG 9 (was: ANSWERS to "Quiz: HP Voyagers")

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 30 Aug 2005, 3:28 a.m.,*
in response to message #3 by Karl Schneider

Hey, Karl;

you see, after 23 years we have still been surprised with the features of these little beasts. God bless the first-class engineers who worked on their design, development and production line. Amen!

I still feel compelled to comment these four HP11C not-programmable, yet valid entries, keystroke sequences. This is, as far as I know, the only case in all voyagers. If you try entering any of these as a program line, you'll always get [f][SCI]7 or [f][ENG]7. And there is no error message, neither [f][SCI][8], [f][SCI]9, [f][ENG]8 nor [f][ENG]9 can be coded as program lines in the HP11C. The HP10C accepts them, the HP15C accepts them, the HP11C doesn't. I guess that if we count all programmable keystroke conbinations plus these four ones in the HP11C repertoire, we'll reach 259 instead of 255. Anyway, if we consider the rounding factor, what if there is actualy no [f][SCI][8], [f][SCI]9, [f][ENG]8 nor [f][ENG]9 internally defined in the HP11C? Who can tell, except anyone from the project team? I mean, has anyone tested if there is any visible change in the display if we set [f][SCI][8] or [f][SCI]9 insstead of [f][SCI]7? Or if we set [f][ENG]8 or [f][ENG]9 instead of [f][ENG]7?

Maybe it also has to do with the limited ROM space... Or maybe this is old issue and I'm just talking about yesterday's news.

Cheers.

Luiz (Brazil)

Edited: 30 Aug 2005, 6:04 a.m.

Hmm, you're right [update!]...

*Message #5 Posted by **Karl Schneider** on 30 Aug 2005, 10:22 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

... interesting tidbit, Luiz!

The 11C apparently converts a requested 8 or 9 significant digits to 7 in [SCI] and [ENG] because that's all the Voyager display can handle. The 10C and 15C just accept the overambitious demand, but display only what is possible.

There apparently is no difference in how, e.g., "SCI 8" and "SCI 7" appear. Checking and changing the precision does add a bit of ROM code, which was an issue in the development of the 15C.

I believe that much of the HP-34C's ROM was used in the 11C. It turns out, in fact, that the 34C also changes "ENG 8" to "ENG 7", as well as the other three cases.

The 34C and the 11C share virtually the same storage setup for programming and numbered registers, the same automatic memory allocation, the same 8 conditional tests, the same programming paradigm, and other things. Since the 56-bit BCD number precision is identical, the mathematical algorithms are also probably the same ones.

The small quirk that Luiz pointed out is further indication of the product development strategies that were undertaken 25 years ago.

-- KS

Edited: 31 Aug 2005, 2:24 a.m.

Re: Hmm, you're right [update!]...

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 31 Aug 2005, 3:21 a.m.,*
in response to message #5 by Karl Schneider

Hey, Karl; I, again!

One small spot: the RAN# 'register' in the HP11C. Is it actually a register? If we go ahead and actually count, the permanent program steps in the HP11C are counted 63 only and go to a maximun of 203, against the 70 permanent stpes in a maximun of 210 available in the HP34. So, it seems that the RAN# uses these borrowed seven bytes to exist, what actually cause both calculators to precisely match the amount of available memory each one has when compared to the other.

I also remember that Valentin once brought to us a short and sweet quiz where a number could be stored in the HP15C and retrieved to its mantissa x 10^(-1). The HP15C not only allows [STO][RAN#] as a valid programmable keystroke sequence, it goes further and accepts [RCL][RAN#], too (they are coded as [STO][ENTER] and [RCL][ENTER], being the [f] prefix ommited). The HP11C accepts [STO][RAN#] as a valid instruction, but it does not allow [RAN#] contents to be retrieved. So, anytime you need a random number, you must generate a new one in the HP11C, you cannot recall the last one unless you store it somewhere else. The HP15C allows such retrieval, but it cuts out the exponent of ten.

As you said:

> Quote:
>
> (...)further indication of the product development strategies that were undertaken 25 years ago.

Indeed!

Cheers.

Luiz (Brazil)

Edited: 31 Aug 2005, 3:25 a.m.

Spice, Coconut, and Voyager math routines

*Message #7 Posted by **Eric Smith** on 31 Aug 2005, 7:07 p.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

The 34C uses the Woodstock CPU architecture (but not an actual ACT chip). The CPU contains the A, B, and C working registers, of which A and B together form the user X stack register. The CPU also contains the Y, Z, and T registers of the stack, and two temporary registers called M and N (or M1 and M2). The 34C has 64 RAM locations. The solve and integrate functions use dedicated RAM that is not available for other uses.

The 41C, 11C and 15C use the Nut processor. It has the A, B, and C registers, and M and N, but does not contain the stack, so the stack is stored in the "status registers" (RAM external to the processor).

The 11C contains one R2D2 chip (ROM/RAM/Display Driver), which provides eight storage registers (intended for use as "status registers" as in the 41C), two bitmapped display registers, one hardware control register (possibly a timer), and 32 general registers. Thus there are a total of 40 registers available outside the CPU. The "status registers" include the stack, program pointer, partition pointer, return stack, flags, random number, etc.

The 15C contains two R2D2 chips, but in the second chip the display driver is not used, so the two display bitmap registers are available for general-purpose use. Thus the 15C has 18 "status registers" and 64 general registers. The status registers are used for basically the same purposes as in the 11C, and additionally for pointers and dimensions for the matrices, and pointers to the solve, integrate, and imaginary stack registers. Unlike the 34C, in the 15C solve and integrate do not have dedicated registers, but instead allocate registers out of the "free pool" between the user program and data registers.

The arithmetic, logarithmic, exponential, and trigonometric functions of the Spice series, 41C, and Voyager series are nearly identical. The Nut CPU introduced a few new instructions that could be used to optimize the math routines slightly. The 41C ROM source code (VASM listings) point out some of the places that optimizations could be made, but generally the optimizations were not actually used. In the Voyagers most of those optimizations were put into practice. However, I don't think there was any significant reduction in execution cycles as a result. Note that the Voyagers use a lower clock frequency than the 41C, so in generally they are significantly slower.

Eric

Re: Spice, Coconut, and Voyager math routines

*Message #8 Posted by **Karl Schneider** on 1 Sept 2005, 12:08 a.m.,*
in response to message #7 by Eric Smith

Thank you, Eric, for the insights.

> Quote:

> The 41C, 11C and 15C use the Nut processor.
>
> Note that the Voyagers use a lower clock frequency than the 41C, so in generally they are significantly slower.

I've often wondered whether HP deliberately "de-clocked" the Voyagers so that they did not outshine their flagship 41C. I've noticed that the 41's are about twice as fast as Voyagers. If expandability, I/O, advanced RPN programming, and time functions are not of concern, the 15C is arguably a far superior calc to any 41, and much less expensive. If only it were at least as fast...

Your link to a short article (which I had actually read before) provided more clues:

11C/15C speedup

-- KS

Re: Spice, Coconut, and Voyager math routines

*Message #9 Posted by **Eric Smith** on 1 Sept 2005, 12:56 a.m.,*
in response to message #8 by Karl Schneider

> Quote:
>
> I've often wondered whether HP deliberately "de-clocked" the Voyagers so that they did not outshine their flagship 41C.

No. The 41C contains a switching power supply so that the voltage to the digital chips is constant even though the battery voltage declines. The Voyagers don't have a switching power supply; they operate directly on the three cells that may be as low as 1V each near end of life. Because of the lower supply voltage, the CMOS chips can't run as fast.

Re: Spice, Coconut, and Voyager math routines

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 1 Sept 2005, 3:11 a.m.,*
in response to message #7 by Eric Smith

Indeed, a concise, complete, helpful set of compiled information about the Voyager series.

Thanks, Eric. This is not the kind of information easily found anywhere.

Luiz (Brazil)

Re: 11C's SCI 8, SCI 9, ENG 8 and ENG 9 (was: ANSWERS to "Quiz: HP Voyagers")

*Message #11 Posted by **J-F Garnier** on 1 Sept 2005, 7:06 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Hi Luiz,

> Quote:

> what if there is actualy no [f][SCI][8], [f][SCI]9, [f][ENG]8 nor [f][ENG]9 internally defined in the HP11C? Who can tell, except anyone from the project team? I mean, has anyone tested if there is any visible change in the display if we set [f][SCI][8] or [f][SCI]9 insstead of [f][SCI]7?

There is at least one usage of the SCI 8 setting: to round the mantissa to 9 digits with SCI 8 RND. This actually works from the keyboard. It can be used to get rid of the 10th digit during calculations to simulate a kind of guard digit.

> Quote:
>
> I guess that if we count all programmable keystroke conbinations plus these four ones in the HP11C repertoire, we'll reach 259 instead of 255

I counted 254 programmable keystroke combinations for the HP-11C, so your hypothesis may be right. Maybe missed I one combination? Anyhow, there was no room for synthetic programming...

Regards.

J-F

Re: 11C's SCI 8, SCI 9, ENG 8 and ENG 9 (was: ANSWERS to "Quiz: HP Voyagers")

*Message #12 Posted by **Valentin Albillo** on 1 Sept 2005, 7:34 a.m.,*
in response to message #11 by J-F Garnier

Jean François Garnier posted:

"I counted 254 programmable keystroke combinations for the HP-11C, so your hypothesis may be right."

Same for the HP-34C, it also had 254 programmable keystroke combinations, but you could also enter the one unused keycode ('poor man's synthetic programming') in a number of ways.

It's quite remarkable that the HP-15C, in the very same form factor and external appearance as the HP-11C, does in fact manage to cater for more than twice as many (700+) programmable keystroke combinations, i.e., programmable operations. People not acquainted with both models would likely think they would be more similar.

Best regards from V.

Re: 11C's SCI 8, SCI 9, ENG 8 and ENG 9 (was: ANSWERS to "Quiz: HP Voyagers")

*Message #13 Posted by **bubba** on 1 Sept 2005, 10:59 a.m.,*
in response to message #12 by Valentin Albillo

i thought the 15c was an 8 bit machine too. did it get over the 256 limit by using multibyte instructions like the 41c?

Re: 11C's SCI 8, SCI 9, ENG 8 and ENG 9 (was: ANSWERS to

"Quiz: HP Voyagers")

*Message #14 Posted by **Vieira, Luiz C (from Brazil)** on 1 Sept 2005, 2:57 p.m.,*
in response to message #13 by bubba

Hi, Bubba;

yes, the HP15C has a set of many 2-byte instructions. As it has no ALPHA capabilities, it would be enough to add many 2-byte instructions in order to access its new, powerfull resources. I am not sure about which ones are the two-byte instructions, but I remember that most of them seem to be chosen because are not too much used as program lines. If I'm home later and no one else posts about it, I'll add a list of the 2-byte programmable instructions available in the HP15C repertoire.

Cheers.

Luiz (Brazil)

Edited: 1 Sept 2005, 3:07 p.m.

HP15C's 2-byte instruction set

*Message #15 Posted by **Vieira, Luiz C. (Brazil)** on 2 Sept 2005, 12:03 a.m.,*
in response to message #13 by bubba

Hi, all;

this is the main set of 2-byte instructions in the HP15C's repertoire (from the "HP15C Owner's Handbook", Appendix C):

```
[f][LBL]. (0 to 9)              [f][MATRIX] (0 to 9)
   [GTO]. (0 to 9)              [f][x<>] (2 to 9, .0 TO .9)
[g][CF] (0 to 9, I)             [f][DSE] (2 to 9, .0 TO .9)
[g][SF] (0 to 9, I)             [f][ISG] (2 to 9, .0 TO .9)
[g][F?] (0 to 9, I)             [STO]([+], [-], [×], [÷])
[f][FIX](0 to 9, I)             [RCL]([+], [-], [×], [÷])
[f][SCI](0 to 9, I)             [STO][MATRIX]([A] to [E])
[f][ENG](0 to 9, I)             [STO]([A] to [E], (i)) in USER mode
[f][SOLVE]                      [RCL]([A] to [E], (i)) in USER mode
[f][integral]                  [STO][g](i)    [RCL][g](i)
```

I hope this gives you extra info.

Cheers.

Luiz (Brazil)

Re: 11C's SCI 8, SCI 9, ENG 8 and ENG 9 (was: ANSWERS to "Quiz: HP Voyagers")

*Message #16 Posted by **Eric Smith** on 1 Sept 2005, 4:57 p.m.,*
in response to message #11 by J-F Garnier

There are 255; did you count "STO RAN#"?

Here's the HP-11C Hex Table.

By comparison, the HP-16C Hex Table has thirteen spare codes. The 12C uses all 256 codes, but I don't yet have the hex table online. I haven't yet investigated the 10C and 11C.

The techniques for mapping the hex tables are left as an exercise for the reader. :-)

Speculation time (Voyager hex codes)

*Message #17 Posted by **Cameron Paine** on 2 Sept 2005, 12:19 a.m.,*
in response to message #16 by Eric Smith

Those tables are fascinating Eric. I've thought about the internal representation of the 16C a *lot*. The comments/questions that follows may not apply to other Voyagers (but I don't see why not).

Consider the implementation of the set/clear/test bit functions which take the bit position parameter from the stack. Contrast this with the flag set/clear/test functions in which the flag number is implied by the low-order nybble of the opcode.

Since these two groups of functions could have been implemented in a substantially similar manner and since the bit functions are programmatically more flexible why were the flags implemented as they are?

On more than one occasion I've mapped the flags to bits and back to open up the range of logical operations (typically for branch determination). This chews up valuable keystrokes and (with the benefit of hindsight) the trade-off was seldom worth it. However had the flags (on all models) been like the bit functions the conversion overhead would never have been incurred.

As illustration, consider:

```
; if F0 AND F1 then do something else return
F? 0
GTO f0_is_set
RTN
LBL f0_is_set
F? 1
GTO do_something
RTN
LBL do_something
stuff
RTN
```

Contrasted with

```
; if F0 AND F1 then do something else return
RCL flags_stored_in_a_register
[3]
AND
X=0?
RTN
stuff
RTN
```

The latter saves three keystrokes (about 1.5% of total) and three labels (18.75% of total). The conservation of labels sometimes made this approach worth the effort.

One drawback of the flags-as-register approach is the stack management overhead which is not possible to illustrate in a trivial example. I concede that you also lose the keystroke storage that holds the flags in "user space" but had the architecture allowed this approach to the flags that storage would have been in "system space".

Now that I've posed a few (hopefully interesting) questions, what do all of you think?

Cameron

PS: which method of flag manipulation do the RPL calculators support?

Re: Speculation time (Voyager hex codes)

*Message #18 Posted by **Vieira, Luiz C. (Brazil)** on 2 Sept 2005, 1:21 a.m.,*
in response to message #17 by Cameron Paine

Hi, Cameron;

I think something like this could do the job:

```
[0]
F? 0
1
F? 1
1
×
x=0?
RTN
stuff if flags 0 and 1 are set
RTN
```

No labels, no registers. The price: stack registers contents. One thing I do not like in this approach is that only x-register contents is known after these program steps are executed: x-register = 1 if both flags are set, x-register = 0 if at least one of them is cleared.

> Quote:
>
> PS: which method of flag manipulation do the RPL calculators support?

As for UserRPL manipulations, flags can be handled as a set, as separated memory space. You can retrieve flags status to stack level 1 by evaluating [RCLF], almost the same way it was done with the 41C/CV with X-functions, or an HP41CX, by using [RCLFLAG]. The main difference is that [RCLF] returns a list with two binary numbers: one reflecting system flags status, and another reflecting user flags status. Major problem is that extra manipulation must be performed to have access to any of them in this approach. But if you need to know flag status, like flags 1 and 2 (no flag numbered as '0' in RPL-based calculators), and want to handle their state, I think it's easier because RPL tests return flag status as 1 (true) or 0 (false) to the stack.

```
IF 1 FS? 2 FS? AND
THEN stuff if both flags are set
END
```

Optionally:.

```
IF 1 FS? 2 FS? AND
THEN stuff if both flags are set
ELSE stuff if at least one of them is cleared
END
```

I like programming in RPL because of many reasons, and as I prefer using stack registers instead of regular memory registers (as long as it does no sacrifice performance neither stretches program lenght), RPL stack allows some maneuvers like handling flags status without loosing current contents. In the examples above, each FS? instruction removes the flag identificator and returns its status as 1 or 0. So, the AND operation will always find at least two arguments to combine and leave the result in stack level 1. Hence, the IF...THEN...(ELSE...)END structure removes the combined flag status left in stack level 1, and whatever existed in the remaining stack levels is left untouched. Based on these facts, the IF...THEN...(ELSE...)END structure needs something in stack level 1

prior to decide for THEN and opetionaly for ESLSE, so the flag manipulation may happen prior tho the structure itself. Like this:

```
1 FS? 2 FS? AND
IF
THEN stuff if both flags are set
END
```

Or:

```
1 FS? 2 FS? AND
IF
THEN stuff if both flags are set
ELSE stuff if at least one of them is cleared
END
```

This is something I like very much in RPL programming: you actually must keep track of what you leave in the stack registers. Trash must be removed, otherwise it will be left in the stack and if you have cyclic operations leaving trash, the stack may grow too fast and a Low Memory warnning is most likely to appear...

Hope this gives you a glimpse of what can be done.

Cheers.

Luiz (Brazil)

(BTW, Cameron, I think I lost the e-address to your HP16C page; would you post it, please?)

Edited: 2 Sept 2005, 12:18 p.m.

38C and 12C hex tables

*Message #19 Posted by **Eric Smith** on 2 Sept 2005, 12:50 a.m.,*
in response to message #16 by Eric Smith

My web site now also has the HP-38C Hex Table and the HP-12C Hex Table. Neither have any spare codes.

Before I compiled these, I wasn't aware that the HP-38C had storage arithmetic on R0 through R6, but the HP-12C only has storage arithmetic on R0 through R4. That allowed HP to add eight more programmable functions to the 12C:

- Depreciation: SL, SOYD, DB
- Bonds: PRICE, YTM
- BEGIN, END (was slide switch on 38C)
- RCL g R/S

Edited: 2 Sept 2005, 2:05 a.m. after one or more responses were posted

Re: 38C and 12C hex tables

*Message #20 Posted by **Vieira, Luiz C. (Brazil)** on 2 Sept 2005, 1:47 a.m.,*
in response to message #19 by Eric Smith

Hi, Eric;

[RCL][PSE] is the instruction that forces the IRR calculation to go beyong the Error 3 warnning (multiple roots). It is explained in Appendix B, under 'More about IRR'. In the

HP12C Owner's Handbook, [RCL][PSE] is coded as [RCL][g][R/S], and I think this is just a strategic way of calling the operation.

Either if invoked through the keyboard or through a program instruction, [RCL][PSE] takes x-register contents as a guess for [IRR] and tries to find an answer close to this guess. Once, some(how long) time ago, I wanted to investigate this particular case. I simulated a cash flow with a peculiar arrangement and by simply pressing [IRR] the calculator returned Error 3. I forced a wrong guess, too far from the possible answer, pressed [RCL][g][R/S] ([RCL][PSE]) and no Error 3 warnning occur, neither Error 7. The HP12C [IRR] routine ran for about an hour and I decided to stop the search with [R/S].

Just for the records...

Cheers.

Luiz (Brazil)

Edited: 2 Sept 2005, 1:49 a.m.

Re: 38C and 12C hex tables

*Message #21 Posted by **Eric Smith** on 2 Sept 2005, 2:09 a.m.,*
in response to message #20 by Vieira, Luiz C. (Brazil)

OK, I edited my posting and the hex table web page and the list to use HP's "RCL g R/S" designation rather then "RCL PSE". Either way it seems like a pretty obscure sequence. "STO g R/S" would have made slightly more sense to me, i.e., "store a new guess and continue the IRR calculation".

I'm still not completely convinced that it would be useful in a program.

HP-12C: RCL g R/S in a program

*Message #22 Posted by **Valentin Albillo** on 2 Sept 2005, 4:16 a.m.,*
in response to message #21 by Eric Smith

Hi, Eric:

Eric posted:

"... to use RCL g R/S" designation rather then "RCL PSE". Either way it seems like a pretty obscure sequence. [...] I'm still not completely convinced that it would be useful in a program."

You can find a very useful (if unexpected) use of **RCL g R/S** as a program line in the HP-12C program featured in this article of mine (see line 22).

Best regards from V.

Re: 11C's SCI 8, SCI 9, ENG 8 and ENG 9 (was: ANSWERS to "Quiz: HP Voyagers")

*Message #23 Posted by **J-F Garnier** on 2 Sept 2005, 7:11 a.m.,*
in response to message #16 by Eric Smith

> Quote:
>
> There are 255; did you count "STO RAN#"?

The one I forgot was RCL Sigma+.

Thanks again, Eric, for sharing all these valuable informations!

J-F

Re: ANSWERS to "Quiz: HP Voyagers"

*Message #24 Posted by **Thibaut.be** on 30 Aug 2005, 6:59 a.m.,*
in response to message #1 by Karl Schneider

> Quote:
>
> A principal P, compounded at annual rate r for one year in n periods yields a final value F:
>
> ```
> F = P*[1 + r/n]^n
> ```

Hi Karl,

Congratulations for this exhausted explanations.

A very quick comment on your formula. Yours is correct if the rate r is the american APR. But it is mathematically approximate.

If the period in n is not the same of the period of the rate (which is in most cases true, typically rate being annual and payment monthly), you need to convert the monthly rate to get the "true" annual rate, which turns out to be higher than expected.

For example, a 6% APR gives a .5% monthly rate. Compund the latter and you'll see that your rate is not 6% but 6.17%

In other words, unless we are talking about an APR and monthly payments, where n is always 12, the rate should not be divided by the number of periods (m) in the rate but "anti-coumpunded" by the formula ((1+i)^(1/m)-1).

An explanation

*Message #25 Posted by **Karl Schneider** on 30 Aug 2005, 9:29 p.m.,*
in response to message #24 by Thibaut.be

Thibault --

There may be differences in convention for reporting interest rates, but it's not really that complicated:

> Quote:
>
> A principal P, compounded at annual rate r for one year in n periods yields a final value F:
>
> ```
> F = P*[1 + r/n]^n
>
> As n gets ever-larger (infinite compounding),
> ```

```
F = P*e^r
```

The "annual rate r" is indeed intended as the simple-interest, uncompounded Annual Percentage Rate (APR), but it doesn't have to be annual -- it can be for any period of time. "n" is the number of equal-length compounding periods.

The equation simply illustrates that

```
 lim     [1 + r/n]^n  =  e^r
n->inf
```

showing the use for e^x, ln, and y^x in a financial calculator.

Your example is correct: $[1 + 0.06/12]^{12} = 1.06168$; a 6% simple-interest rate becomes a 6.17% "effective" interest rate, in our parlance.

-- KS

Edited: 30 Aug 2005, 11:01 p.m.

Cool aproximation for simple calculators

*Message #26 Posted by **Namir** on 31 Aug 2005, 2:20 a.m.,*
in response to message #25 by Karl Schneider

Karl,

Your approximation is very interesting. It reminded me of a method I devised in the late 70s to calculate e^x on requglar calculators using:

e^x = (1 + x / 2048)^2048

1) Divide x by 2048 2) Add 1 3) Square the result 11 times (press the sequence [x][=] 11 times) 4) You get e^x to a good approximation

Likewise you can calculate ln(x) using a calculator with a square root function:

ln(x) = 2048 * [x^(1/2048) - 1]

1) Take 11 successive square roots of x 2) Subtract 1 3) Multiply by 2048 4) You get an approximation of ln(x)

This approximation allowed a calculator with a square root to approximate ln(x). Sotring 2038 in a memory reguster helps some.

Re: An explanation

*Message #27 Posted by **Thibaut.be** on 31 Aug 2005, 3:50 a.m.,*
in response to message #25 by Karl Schneider

Thanks Karl.

I'm not an engineer nor a mathematician, but I've had the opportunity of learning all these financial concepts (and a few others more), and be reassured, I'm (hopefully) aware of all you're writing.

This is all a parlance issue. I just wanted to emphasize that the formula you used is appropriate in US mortgage calculation, but not in other countries. For example, Canadian mortgages are compounded semi-annually. In Europe, we use the effective rate.

And last but not least, I also wanted to demonstrate that one should be careful when taking in consideration an APR : the effective rate is always higher.

Re: An explanation

*Message #28 Posted by **don wallace** on 31 Aug 2005, 4:35 a.m.,*
in response to message #27 by Thibaut.be

Interesting thread (I have a layman's interest in maths agorithms).

Karl, your comments reminded me of a calculator I begged my father to buy me in 1973 when I was ten. It was a SHEEN, with very limited functions (sixteen keys on the keybaord).

The "interesting feature" was an unusual implementation of a constant memory SHEEN called a RAM (! ;-).

The ram key (in the display filter-!) enabled you to add and multply, etc. using the constant so stored. Big deal...?!

BUT (<-- big "but")... the manual (yes it had one) had a really interesting little chapter on higher mathematical functions you could manually do by (very) creative use of the four function constant memory. There were (paper) algorithms for square root, using Newtons Method of iterative approximation, calculation of "e" and a few other things I've forgotten. I THINK you could do basic trigs (man, that was involved...)

Very off-topic but I thought I would share this little oddity...

Don W

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Quiz: HP Voyagers!

*Message #1 Posted by **Karl Schneider** on 29 Aug 2005, 10:21 p.m.*

Fans of the HP-10C/11C/12C/15C/16C:

Here is a modest quiz about functionality of the five Voyager models. If you're interested, see how many you can answer without downloading the MoHPC's photos...

Answers with background and insight will be provided shortly in a separate post.

1. Which model(s) provide all twelve conditional tests?

2. Which model(s) provide only eight conditional tests?

3. Which model(s) provide only two conditional tests?

4. Which model(s) do not provide insert/delete program editing?

5. Which model(s) do not provide a "delete digit" function?

6. Which model(s) do not provide any loop-counter functions?

7. Which model(s) provide Solve, Integrate, matrix functions, and functions using complex-valued inputs?

8. Which model(s) provide an "exchange with memory register" function?

9. Which model(s) do not provide trigonometeric functions?

10. Which model(s) do not provide logarithmic or exponential functions?

11. Which model(s) provide a "modulo division" function?

12. Which model(s) allow "F" as a program label?

13. Which model(s) provide a y-estimator regression function?

Good luck!

-- KS

Edited: 29 Aug 2005, 10:23 p.m.

Re: Quiz: HP Voyagers!

*Message #2 Posted by **Vieira, Luiz C (from Brazil)** on 29 Aug 2005, 10:33 p.m.,*
in response to message #1 by Karl Schneider

Hi, Karl;

1. Which model(s) provide all twelve conditional tests?

HP15C

2. Which model(s) provide only eight conditional tests?

HP11C and HP16C

3. Which model(s) provide only two conditional tests?

HP10C, Hp12C and Platinum (should it be considered?)

4. Which model(s) do not provide insert/delete program editing?

HP10C and HP12C and Platinum

5. Which model(s) do not provide a "delete digit" function?

HP10C and HP12C and Platinum

6. Which model(s) do not provide any loop-counter functions?

HP12C and Platinum

7. Which model(s) provide Solve, Integrate, matrix functions, and functions using complex-valued inputs?

Hp15C

8. Which model(s) provide an "exchange with memory register" function?

HP15C (if we consider x<>(i) and x<>(I), HP11C and HP16C)

9. Which model(s) do not provide trigonometeric functions?

HP16C, HP12C and Platinum

10. Which model(s) do not provide logarithmic or exponential functions?

HP16C

11. Which model(s) provide a "modulo division" function?

HP16C

12. Which model(s) allow "F" as a program label?

HP16C

13. Which model(s) provide a y-estimator regression function?

HP12C and Platinum

Any prize? (kidding...)

(one edition...)

Edited: 29 Aug 2005, 10:35 p.m.

Re: Quiz: HP Voyagers!

*Message #3 Posted by **Howard Owen** on 29 Aug 2005, 10:59 p.m.,*
in response to message #2 by Vieira, Luiz C (from Brazil)

My 15C only has x=0, x<=y and F? on the keypad, but the TEST key gives you ten more. Tricky. That's thirteen if you don't count ISG and DSE.

My 16C appears to have ten. x<=y, x<0, x>y, x>0, x#y, x#0, x=y and x=0. That's eight, then there's F? and B?, the last unique to the 16C. But if you count ISG and DSE, that's twelve.

My 11C looks like it has nine, not counting the loop tests. All nine are the same as the 16C's, just leaving out B?.

I wouldn't know about the 10C, darn it!

My 12C is still in the mail.

Edited: 29 Aug 2005, 11:02 p.m.

Re: Quiz: HP Voyagers!

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 30 Aug 2005, 12:03 a.m.,*
in response to message #3 by Howard Owen

Hi, Howard;

I was leaving the University when I saw the quiz, so I just follow my memory. Yeap, no calculator in hands, no HoHPC site checking; I`m a teacher, cannot give a bad example, so, no cheating... I edited my first answer just because I forgot that the HP12C has [LN] and [e^x].

I took 'Conditional Tests' as described in the HP manuals. [F?] is named a 'flag test', and manuals do not exactly count it as conditional test, although I agree with you that it conditionally allows execution of (if flag set) or skips (if flag cleared) the instruction in the program step that follows it.

ISG and DSE (ISZ and DSZ in the HP16C) are mainly used as loop control instructions, and I also agree with you that there is a conditional test embeeded on both of them (four of them, if we count ISZ and DSZ inthe HP16C). Each of these instructions may be used as conditional tests, but as they perform three operations (change the register contents, tests the register contents in a very particular way, and perform or skips next program step), I think that they go beyond the single conditional test, probably the reason they are considered separately.

[B?] is a bit test instruction, and 'conditionally' skips or executes the next step if the flag (x-register) is set or cleared (in the binary number in y-register), respectively.

As the quiz was so precise mentioning the 12 conditional tests (found in the HP15C), the ten conditional test (also found in the HP11C and HP16C), I did not think twice. I agree with you, your answers are more precise when we consider the very instructions structure, and I must confess that if the figures were the ones you mention, I'd probably miss the answers.

Actually, I think I missed (I surely missed) the question about "no loop-counting", because I do not remember seeing such DSE or ISG in the HP10C. I do not even recall seeing the I register on it, neither the (i) indexer. In fact, thanks to a good soul (Hi, E.V.), I was able to complete my Voyager set some months ago with the addition of an HP10C to the other ones. I naver had an HP10C and actually could

touch one and test it in the mid 80's.

Maybe I'm just justifying my answers and trying to earn my prize... <8^)

Thanks and best regards.

Luiz (yet with no calcs at hand, just counting on memory)

Edited: 30 Aug 2005, 12:09 a.m.

Re: Quiz: HP Voyagers!

*Message #5 Posted by **Howard Owen** on 30 Aug 2005, 12:44 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

You did a lot better than I did, even without a calculator to manipulate. I knew I had no chance from memory, since I've only had the machines a short time. But my legalistic mind was at work again. He said "no checking the pictures on the museum site" and honest your honor, I didn't look at any pictures. 8)

Actually, I was enjoying the survey of quirky Voyager calculator features and matching your answers against what I saw in front of me. I agree about ISG and DSE being enough different to be classed seperately from the other conditionals. (I did *not* know that the 16C's loop tests were different. Interesting.) And I think you could argue that F? should be seperate since it is testing a quantity outside the X and Y registers. (And HP makes that distinction, as you noted.) But in order to exclude B? from the list of conditional statements, you would have to extend the definition of those statements. In the 15C manual, a ".. *conditional test* compares a number in the X-register either to zero or to the number in the Y register." (Italics in original.) I think you'd have to add "entire" like this: "the entire number in the Y register" in order to exclude B?. In the 16C manual, bit tests and the other conditional tests are in sperate sections, but the index has:

```
Conditional tests,88-89
 for bits,50-51
```

I therfore submit, ladies and gentlemen of the jury, that the prosecution has *not* proven beyond a reasonable doubt that my client, the B? test, is not, or should not be considered, a member of the elite group of Voyager calculator conditional tests. Your honor, the defense rests.

8)

Re: Quiz: HP Voyagers!

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 30 Aug 2005, 2:26 a.m.,*
in response to message #5 by Howard Owen

Hey!

> Quote:
>
> I therfore submit, ladies and gentlemen of the jury, that the prosecution has not proven beyond a reasonable doubt that my client, the B? test, is not, or should not be considered, a member of the elite group of Voyager calculator conditional tests. Your honor, the defense rests.

Does it mean I may not earn my prize? <*^C (BHWAA!)

(What else to say? I see no way out... Although it tests a single bit, [B?] indeed compares... Aha! It does not compare the contents of x- against y-register! It solely compares the state of bit #*n* (*n* is defined by x-register contents) that is actually located in word stored in y-register! Where is the jury? Oh, yeah; there!

So, ladies and gentlemen, members of the jury, distinctive attorney, your honor; I want to show exhibit #1 where we can clearly see [B?] comparing nothing but uniquely testing the status of a bit, where x-register contents was acting only a blind pointer, not a co-author. As my distinctive colleague mentioned in his clever defense:

> Quote:
>
> a ".. conditional test compares a number in the X-register either to zero or to the number in the Y register."

This characterizes a second flaw: the main number being tested is in y-register, not in x-register. So, as [B?] by itself cannot compare the contents of x- against y-register, [B?] is guilty as charged!

The state definitely rests.

(I don't know about the others, but I've been having as much fun going ahead with this discussion than I had answering the quiz... Hey, Howard, this is what I call a significant brainstorm! Cheers!)

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Double speed 15C?

*Message #1 Posted by **Gerson W. Barbosa** on 29 Aug 2005, 11:00 a.m.*

Was there a double-speed 15C?

Tony (Anton), a German collector, claims one of his 15C's ran his performance index at twice the speed compared to another unit.

I've just run his test on my Voyagers and have obtained the following results:

11C's:	Performance Index
2711B***** : 21.9 s	1.6
2521B***** : 22.4 s	1.5
2540B***** : 23.5 s	1.5

15C's:

2547B***** : 24.3 s	1.4
2343B***** : 25.6 s	1.3

Tony's 15C, 2605A***** : 12.5 s , performance index = 2.7 !

(I have noticed the tests take up to 10% longer when using old battery sets. I used new battery sets when testing)

His performance index method may be found at:

http://www.thimet.de/CalcCollection/CalcPerformance.html

Here is the version for the 15C of his program, just in case someone want to check it out:

```
f LBL A
  10
  STO 0
f LBL B
  1
  +
  4.567
  EEX
  CHS
  4
  -
  70
  +
  69
  -
  7
  *
  11
  /
  RCL 0
  1
  -
```

```
  STO 0
g TEST 0 (x<>0)
  GTO B
  Rv
g LOG
  SIN
  SQRT
  SQRT
g RTN
```

Edited: 29 Aug 2005, 12:25 p.m. after one or more responses were posted

Re: Double speed 15C?

*Message #2 Posted by **Thibaut.be** on 29 Aug 2005, 11:03 a.m.,*
in response to message #1 by Gerson W. Barbosa

> Quote:
>
> Tony's 15C, 605A*****

There is an issue with this S/N : all 15C should in theory have S/N that start with 22 to 29. Unless the S/N of this peculiar 15C is 26 and not 6 ?

Re: Double speed 15C?

*Message #3 Posted by **Gerson W. Barbosa** on 29 Aug 2005, 12:31 p.m.,*
in response to message #2 by Thibaut.be

Sorry, I had skipped a number:

It's serial number begins with 2605A.

Regards,

Gerson.

Edited: 29 Aug 2005, 1:06 p.m.

On the 33S

*Message #4 Posted by **Mike H** on 29 Aug 2005, 11:32 a.m.,*
in response to message #1 by Gerson W. Barbosa

Since it was not listed, I did a quick test on my 33s Resulting times ranged between 1.15 to 1.22 seconds (using a stop watch)

Re: On the 33S

*Message #5 Posted by **Gerson W. Barbosa** on 29 Aug 2005, 1:03 p.m.,*
in response to message #4 by Mike H

That gives a performance index of 29 (34/1.19), only 16% greater than the 32SII index. I suspect the 33S actual index should be greater than this. Once a noticed the 33S is 40% faster than the 32SII, but the program I tested did not use transcedental functions.

Tony's complete benchmark program includes the following routine, to add more loops. This may reduce

measurement errors when testing faster calculator:

```
LBL C
GSB A
RCL 3
1
-
STO 3
x<>0?
GTO C
RTN
```

The number of loops should be entered in register 3 before executing C. The performance index is calculated as

P=34/(T/n),

where T = execution time n = number of loops

It is interesting to notice the indeces for the HP-55 and HP-49G+: 1.0 and 258. Only 25700 % (not so great as it should be expected).

Regards,

Gerson.

Edited: 29 Aug 2005, 2:19 p.m.

Re: On the 33S

*Message #6 Posted by **M** on 29 Aug 2005, 6:02 p.m.,*
in response to message #5 by Gerson W. Barbosa

> Quote:
>
> It is interesting to notice the indeces for the HP-55 and HP-49G+: 1.0 and 258. Only 25700 % (not so great as it should be expected).

The test is not being fair. For pure speed, a proper compiled language should be used - not an emulated, threaded language. The HP49 also uses BCD for floating point. BCD is a very, very poor choice for benchmarks.

I recompiled the provded C++ code for the calculator. It does 100,000 loops in ~26 seconds. This gives a rating of 130,770.

```
/*This program takes ~26 seconds to run 100000 loops*/

#include <hpgcc49.h>

static void test() {
  const int loops=100000;
  double x, r0;
  int i;
  for (i=0; i<loops; i++) {
    r0=10;
    do {
      x=r0;
      x+=1;
      x-=4.567E-4;
```

```
      x+=70;
      x-=69;
      x*=7;
      x/=11;
      r0-=1;
    } while (r0>0);
    x=log(x);
    x=sin(x);
    x=sqrt(x);
    x=sqrt(x);
  }
  printf("%f\n",x);
}

int main(){

        clear_screen();
        printf("Press ON to test");
        while(!keyb_isON());
        sys_slowOff();
        test();
        printf("\nDone, press Left Shift");
        sys_slowOn();
        while(!keyb_isLS());
        return 0;
}
```

Re: On the 33S

*Message #7 Posted by **Gerson W. Barbosa** on 29 Aug 2005, 6:18 p.m.,*
in response to message #6 by M

> Quote:
>
> The test is not being fair. For pure speed, a proper compiled language should be used - not an emulated, threaded language. The HP49 also uses BCD for floating point. BCD is a very, very poor choice for benchmarks.

You're not wrong, although C++ is not a language most 49G+ users are familiar with. But the index should be computed with the programming language primarily available to the user. This index could be much better if the 49G+ firmware had only native ARM code, though not so good as the index you achieved with the compiled C++ program. I think the 49G+ emulating the Saturn processor on the ARM is one of its weakness. By what I've been told, the batteries don't last long enough, perhaps because of this. That's why, among other reasons, I have preferred the 49G as a replacement for the 48GX, I don't like replacing batteries too often. (Sorry if I am wrong, this is just a conjecture).

Regards

Edited: 29 Aug 2005, 6:51 p.m.

Re: On the 33S

*Message #8 Posted by **Gerson W. Barbosa** on 29 Aug 2005, 6:32 p.m.,*
in response to message #5 by Gerson W. Barbosa

Running time on the 33S:

10.5 s, 10 loops.

Index: 32, 35% faster than the 32SII (14.2 s, 10 loops)

BTW, the program returns 0.264577498

Re: Double speed 15C?

*Message #9 Posted by **Eric Smith** on 29 Aug 2005, 1:19 p.m.,*
in response to message #1 by Gerson W. Barbosa

Does he know the provenance of the calculator? Possibly some installed a speedup modification?

Re: Double speed 15C?

*Message #10 Posted by **Gerson W. Barbosa** on 29 Aug 2005, 3:44 p.m.,*
in response to message #9 by Eric Smith

He doesn't say much in his site. He just says he acquired it in 2002. Most likely this is a modified unit. I just thought later Voyagers might be a little faster.

My newer 15C has the 1LM2 processor, so in theory it could run as fast as the 12C Platinum, or half the 42S speed. But I don't see any reason to speeding it up. Besides, it computes trigs in less than one second! :-)

Re: Double speed 15C?

*Message #11 Posted by **Tizedes Csaba [Hungary]** on 31 Aug 2005, 2:37 a.m.,*
in response to message #1 by Gerson W. Barbosa

Hello,

My 15C (SN: USA 2809A.....) produced 25.52s/25.42s/25.41s, so it's average time is 25.5s

If you want step-by-step builded Benchmark programs, see my post at My benchmarks - Message#25

Csaba

Re: Double speed 15C?

*Message #12 Posted by **Gerson W. Barbosa** on 31 Aug 2005, 12:28 p.m.,*
in response to message #11 by Tizedes Csaba [Hungary]

Hello,

Thanks for the interesting link. Your results match mine, which are a mean of three measurements too. For a while I thought there might have been a faster 15C but Tony's turbo 15C appears to be just a modified calculator. The only calculator I'd like to occasionally run at double speed is the 42S (ROM version B). However, as far as I know, with that ROM version this can be done only manually, by means of a somewhat cumbersome procedure.

Regards,

Gerson.

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Double speed 15C?

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THERMAL PRINTER 82143A battery voltage=?

*Message #1 Posted by **don wallace** on 29 Aug 2005, 7:15 a.m.*

Hi all.

Wondering what the voltage of the rechargeable battery pack for the little thermal printer for the hp41 is supposed to be. I got one off ebay without a battery and don't want to muck with it without feedback from someone who actually has one...

Thanks!

Don Wallace

Re: THERMAL PRINTER 82143A battery voltage=?(few corrections...)

*Message #2 Posted by **Vieira, Luiz C (from Brazil)** on 29 Aug 2005, 8:25 a.m.,*
in response to message #1 by don wallace

Hi, Don;

the original pack is an assembly with four regular NiCad 1.2V battery connected in series, i.e., about 4.8Vcc. I rebuilt a battery pack to be used with an HP97 (same pack works with the Topcats - HP9X series - and some HPIL peripherals, like the cassette drive) with four NiMH batteries taken from a Motorola® mobile phone battery. In fact, the mobile battery pack had a bad cell (originally five cells) and I used the four good ones. It is working perfectly fine after almost two years. I'm lazy enough having the carcass of two other packs and enough batteries to rebuild them, so I can power the 82143A, the HP97 and have a spare, fully charged pack to be used anytime I need.

I scanned the final package and the Motorolla® batteries to give an idea of how the rebuilt pack looks like, but I had my images removed from the address they where (wiped out by some freak cracker...), but I still have it in one of my hard disks. If you believe it is sort of additional information, let me know and I'll upload the image again. In fact, there is a thread about this somewhere in the forum archive...

Best regards.

Luiz (Brazil)

Edited: 29 Aug 2005, 10:02 a.m. after one or more responses were posted

Re: THERMAL PRINTER 82143A battery voltage=?

*Message #3 Posted by **don wallace** on 29 Aug 2005, 9:18 a.m.,*
in response to message #2 by Vieira, Luiz C (from Brazil)

Hi Luiz. Thanks very much for the info...

Don W

Re: THERMAL PRINTER 82143A battery voltage=?

*Message #4 Posted by **Doug Wilder** on 29 Aug 2005, 9:21 p.m.,*
in response to message #1 by don wallace

Just for reference, mine is hooked to a 6V jel pack and never have problem. Those batteries drove me crazy so i soldered leads to a 7AH battery with a trickle charger.

Best, Doug

Re: THERMAL PRINTER 82143A battery voltage=?

*Message #5 Posted by **don wallace** on 30 Aug 2005, 5:11 p.m.,*
in response to message #4 by Doug Wilder

Hi all.

Well, my printer works. Just had to clean up the print head drive screw and now fix a problem with reluctant paper feed roller and I am in business. Thanks Luiz!

Yeah those gel batteries are a real tricky beast to charge. An italian friend of mine uses one for his robot (Sumo Wrestler) and told me what they need to be properly charged. What a drag...

Don W

Thank you for the good news and congrats! (N.T.)

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 30 Aug 2005, 5:41 p.m.,*
in response to message #5 by don wallace

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Great HP-97 value. :-)

*Message #1 Posted by **Mike** on 28 Aug 2005, 12:39 p.m.*

Get your red hot HP-97 Manual. Only $225.00 for an average condition manual.
http://www.msdsite.com/images/smile.gif

Oh! And if you like that deal, you'll really like the great shipping charge. Only $25 shipping.

HP-97 Manual

.

Re: Great HP-97 value. :-)

*Message #2 Posted by **Namir** on 28 Aug 2005, 2:42 p.m.,*
in response to message #1 by Mike

At this prrce, does it come with a gasoline tanker????

Re: Great HP-97 value. :-)

*Message #3 Posted by **blurdybloop** on 28 Aug 2005, 8:25 p.m.,*
in response to message #1 by Mike

Note as well that he keeps his feedback comments private.

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Srvice and repair of HP 35 & HP 21

*Message #1 Posted by **James W. Mar** on 27 Aug 2005, 9:20 p.m.*

Is there a company, like HP, that will service / repair my HP 35 and HP 21 calculators?

Re: Srvice and repair of HP 35 & HP 21

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 28 Aug 2005, 12:59 a.m.,*
in response to message #1 by James W. Mar

Hi;

try fix that calc.

Success.

Luiz (Brazil)

Re: Srvice and repair of HP 35 & HP 21

*Message #3 Posted by **Jeff O.** on 29 Aug 2005, 12:34 p.m.,*
in response to message #1 by James W. Mar

James,
Are you having specific problems with your 35? Many problems that tend to afflict the 35 are easy for even a relatively unskilled person to address. If you post your problems, perhaps one or several of the many knowledgeable visitors to this Forum could guide you through a repair procedure.
Although there are a couple of simple problems that afflict the 21, it is subject to some relatively more serious problems that require expert attention. However, it couldn't hurt to also describe its problems for the community to comment on.

Re: Srvice and repair of HP 35 & HP 21

*Message #4 Posted by **don wallace** on 31 Aug 2005, 5:12 p.m.,*
in response to message #3 by Jeff O.

Happy to fix your 35 if you don't mind sending it to Australia...

I first repaired calcs and desktop computers (at the component level) for Canon Australia in 1985...

If interested write to me (detailing the fault and how it got that way)

at:

donwallace63@yahoo.com.au

Don W

Re: Srvice and repair of HP 35 & HP 21

*Message #5 Posted by **don wallace** on 31 Aug 2005, 5:24 p.m.,*
in response to message #3 by Jeff O.

Happy to fix the 21 too. If it can be fixed, I'll do it... May not be economical to repair though..

Jeff is dead right about the help you get here. Great bunch of ppl.

Luiz was able to tell me about the battery voltage for a printer I got off ebay (believe it or not the service docs I had didn't mention what it was). I thought it should be 6V based on the the charger output voltage but although I have 20 years plus experience in repairs, I did not want to GUESS when there are poeple here to ASK. Luiz wrote back in 90 minutes...

I now have my thermal printer running fine (still gotta do that paper feed roller, though...)

THE MAIN THINGS YOU SHOULD KNOW: If you want to fix it (35) yourself, (1) get advice on disassemby first and (2) get advice on and take steps to AVOID DAMAGING the CIRCUITS WITH STATIC ELECTRICITY.

Cheers,

Don W P.S. I had a friend in high school in the late 1970's who disassembled his 34C (then kinda state-of-the-art). On that machine the chips are pressure connected (no soldering...[dumb]!) and when he got the case apart all the chips flew in different directions... He never got it working again... He then bought a 41C...

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Srvice and repair of HP 35 & HP 21

*Message #1 Posted by **James W. Mar** on 27 Aug 2005, 9:20 p.m.*

Is there a company, like HP, that will service / repair my HP 35 and HP 21 calculators?

Re: Srvice and repair of HP 35 & HP 21

*Message #2 Posted by **don wallace** on 6 Sept 2005, 1:04 a.m.,*
in response to message #1 by James W. Mar

I started out in 1985 repairing desktop computers (NOT PCs) and calculators for Canon. I have repaired my HP41CV extensively over the years (five repairs).

Happy to have the opportunity to repair your 35 and 21.

What's wrong with them?

Write to me if interested.

You can try fixthatcalc but I believe they are rather backlogged? The guy is a plastics engineer and does repairs part time with his wife.

Don Wallace

donwallace63@yahoo.com.au http://donwallace.customer.netspace.net.au

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Swap Command

*Message #1 Posted by **Will** on 27 Aug 2005, 1:37 p.m.*

On my 48SX I can swap a number that has not been entered onto the stack with a number already on the stack just by using the swap key.

On the 49g+ I have to go through "tools", "stack", then "swap", or enter the number on the stack with the number to be swapped and then hit the right arrow key.

Is there another way to make the 49g+ swap like the 48SX without having to go through all this?

Re: Swap Command

*Message #2 Posted by **John** on 27 Aug 2005, 1:49 p.m.,*
in response to message #1 by Will

Is it really so difficult to press ENTER and then right arrow? You make it out like it takes an extra hour each time you do it.

You could of course create a custom menu with the command listed in it.

You could also create a user key assignment in user mode and then press that key each time you wish to swap.

But, it's not that big a difference.

Re: Swap Command

*Message #3 Posted by **Will** on 27 Aug 2005, 2:00 p.m.,*
in response to message #2 by John

No it's not that much more to push enter, it's just seems asinine to add an extra keystroke to such a common application. Maybe you aren't calculating nearly as much as I am. I guess I will just define a key.

Re: Swap Command

*Message #4 Posted by **James M. Prange (Michigan)** on 27 Aug 2005, 9:13 p.m.,*
in response to message #3 by Will

But on the 48 series, with the command line open, you have to use LeftShift to invoke the SWAP command. So on the 48, I could use either LeftShift CursorRight or ENTER CursorRight, but on the 49, only ENTER CursorRight works for this. It's different, but I don't see an extra keystroke.

Regards,
James

Re: Swap Command

*Message #5 Posted by **James M. Prange (Michigan)** on 27 Aug 2005, 9:43 p.m.,*
in response to message #4 by James M. Prange (Michigan)

P.S.

Of course, on the 49 series, you could also invoke SWAP from the menu (TOOL NXT STACK SWAP), but unless the STACK menu is already open, that seems clumsy.

Note that on the 49 series, with the command line open, LeftShift CursorLeft or LeftShift CursorRight mean "move the cursor to the left or right edge of the current display, or if already at that edge, move one more screen in that direction". Whether the extra editing operations are worth losing GRAPH or PICTURE and SWAP as shifted keys is rather subjective.

Regards,
James

Edited: 27 Aug 2005, 9:53 p.m.

Swap Command on Classic RPN...

*Message #6 Posted by **Karl Schneider** on 28 Aug 2005, 2:43 a.m.,*
in response to message #5 by James M. Prange (Michigan)

... is the "x<>y" key, *always* plainly labeled and *never* shifted or menued.

This thread has been rather amusing for at least one "Classic RPN" fan. :-)

-- KS

are you sure, karl??

*Message #7 Posted by **Hans Brueggemann [GER]** on 28 Aug 2005, 3:31 a.m.,*
in response to message #6 by Karl Schneider

in fact, on an HP-41C it is a perilous [XEQ] [ALPHA] [X] [SHIFT] [I] [SHIFT] [J] [Y] [ALPHA] that does the SWAP!
that's what makes the 48SX modern and the 41C antique ;o)

cheers, hans

Re: are you sure, karl??

*Message #8 Posted by **Mark Hardman** on 28 Aug 2005, 11:03 p.m.,*
in response to message #7 by Hans Brueggemann [GER]

I hope this posting is tongue-in-cheek...

The HP-41 has a x<>y key in row 2 column 1 (just above the gold shift key.)

Mark Hardman
Houston, TX

(Thank Goodness I'm not in New Orleans!)

Hans' post was indeed tongue-in-cheek [NT]

*Message #9 Posted by **Karl Schneider** on 29 Aug 2005, 9:15 p.m.,*
in response to message #8 by Mark Hardman

(See subject line)

Re: Swap Command on Classic RPN...

*Message #10 Posted by **James M. Prange (Michigan)** on 28 Aug 2005, 3:57 a.m.,*
in response to message #6 by Karl Schneider

> Quote:
>
> ... is the "x<>y" key, always plainly labeled and never shifted or menued.

That's certainly convenient, but I don't think that it would be feasible to provide a separate key, or even shifted key, for every operation available on an RPL model.

Regards,
James

Re: Swap Command on Classic RPN...

*Message #11 Posted by **don wallace** on 29 Aug 2005, 4:08 a.m.,*
in response to message #10 by James M. Prange (Michigan)

ROFLMAO...

DW

Re: Swap Command on Classic RPN...

*Message #12 Posted by **Andy** on 31 Aug 2005, 8:42 a.m.,*
in response to message #11 by don wallace

You have no idea how long it took me to discover the left arrow key can be used for x<>y. It really should be labelled!

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REPAIR FOR HP 11C

*Message #1 Posted by **LISA** on 27 Aug 2005, 12:37 p.m.*

WHERE CAN I SEND MY HP 11C CALUCALATOR TO FOR REPAIR? OR SHOULD I JUST BUY ANOTHER ONE?

Re: REPAIR FOR HP 11C

*Message #2 Posted by **Vieira, Luiz C (from Brazil)** on 27 Aug 2005, 4:16 p.m.,*
in response to message #1 by LISA

Hi, Lisa;

HP itself no longer saupports the HP11C. You can try fix that calc.

About buuying another unit, e-bay sems to be the only place you'll find another HP11C. Beware of high prices... It will not be cheap.

If you consider a newre model, the only one that gets close to the HP11C is the HP33S. You should at least have a look at it prior to buy one; it is not like the HP11C at all.

Anyway, give Fix That Calc (and your HP11C) a chance...

Success!

Luiz (Brazil)

Re: REPAIR FOR HP 11C

*Message #3 Posted by **Dave Shaffer** on 27 Aug 2005, 5:18 p.m.,*
in response to message #1 by LISA

And if you don't repair it - DON'T THROW IT AWAY!

It almost certainly has parts which would be useful for rescueing other calculators.

Somebody here (or ebay) would buy it.

speaking of the 11c

*Message #4 Posted by **david bowers** on 29 Aug 2005, 8:34 a.m.,*
in response to message #3 by Dave Shaffer

hi i am the surveyor who drops his 42s, retired it once i lost and found it, then bought an 11 c off randy then lost that after 3 months ownership in the mud onsite last friday in taiwan, have asked a rellie in the states to send the 05 serial numbered 33s, at leat i will only drop 60 bucks this time life could be worse, it doesnt revolve around calculators cheers david

Re: REPAIR FOR HP 11C

*Message #5 Posted by **don wallace** on 29 Aug 2005, 7:02 a.m.,*
in response to message #1 by LISA

Hi Lisa.

If you like, give me a go. I am mainly into the HP41. Have done a few repairs. But Fixthatcalc are really good, I think. Plastics engineer, I think. Nice guy.

My specialty is electronics design and repair (20 years experience) but I also know a bit about materials science and have experience in building and repairing all sorts of equipment and in the use of special glues, epoxies and composites.

If you want to send it to me, first write to me, describing the problem and how it happened. For example, was it dropped? Is the display black? Does it work but some keys are dead? etc...

Happy to help you if I can.

Don Wallace donwallace63@yahoo.com.au

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Was the HP48 once made in America?

*Message #1 Posted by **Eddie Shore** on 27 Aug 2005, 11:27 a.m.*

In fact, has HP made any calculator in America? I am currently looking for a calculator Made in America to add to the collection.

Re: Was the HP48 once made in America?

*Message #2 Posted by **Randy** on 27 Aug 2005, 12:06 p.m.,*
in response to message #1 by Eddie Shore

Only the early S and SX's were made in the USA. You can verify by the letter A in the fifth position of the serial number. Later units were made in Singapore and finally Indonesia.

Some early Pioneers (17B/22S/27S/32S/42S) were made in USA.

All 10/11/15C Voyagers were made in the USA.

Almost all classic LED machines where made in the USA with the later units (67 and 97 come to mind) built in Singapore.

Edited: 27 Aug 2005, 12:10 p.m.

Re: Was the HP48 once made in America?

*Message #3 Posted by **Frank Boehm (Germany)** on 27 Aug 2005, 1:08 p.m.,*
in response to message #2 by Randy

Starting with the 35 V2 and ending with the 97 (?), HP manufactured the machines in USA *and* Singapore. There might be exceptions (maybe the 70), but I doubt it.

Re: Was the HP48 once made in America?

*Message #4 Posted by **Karl Schneider** on 27 Aug 2005, 4:49 p.m.,*
in response to message #2 by Randy

Randy posted,

> Quote:
>
> All 10/11/15C Voyagers were made in the USA.

And all 16C's as well. Also, early 12C's, probably until 1988 or so, when the first Pioneers were made in the USA. 12C production shifted to Singapore afterward, although Brazil was also a manufacturing center in 1990.

The earliest 41C models (1979-80) were US-made, and probably the first 41CV's from 1980.

-- KS

Re: Was the HP48 once made in America?

*Message #5 Posted by **Vassilis Prevelakis** on 27 Aug 2005, 5:45 p.m.,*
in response to message #2 by Randy

I have an 2012B.... HP-97, so Brazil was used in the early 80s as well

**vp

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r u 4 real, "NA"?

*Message #1 Posted by **K** on 27 Aug 2005, 2:17 a.m.*

"NA" --

Regarding the thread you started: "your opinion of the HP49G"

Are you for real, or just some troll? What country or text-messaging subculture are you from?

Only a nitwit would repeatedly post insulting and idiotic garbage such as the following, after people have attempted to provide information.

> Quote:
>
> wat do u think? i think its an amazing calc.
>
> Quote:
>
> it has RPN u idiot. u no mabey u should use it before u talk!!
>
> Quote:
>
> some what new.. yes. but i have had my calc since it came out.
>
> Quote:
>
> there is something called a manual and trial and error. after a while u get used to using the calc and then its like a piece of cake.

Don't indulge this twit, folks...

Re: r u 4 real, "NA"?

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 27 Aug 2005, 3:10 a.m.,*
in response to message #1 by K

Hi.

I somehow had my own concerns after reading some of NA's answers. BTW, who are you, K? Not J's fellowmate from M.I.B., I suppose! Would that be true?

Yeap, us from downhere also have our own sort of foreign cultural experiences...

Except in some exceptional circumstances where spicy but harmfull short answers may seem fun enough to deserve anonymous funny credit, I always use my own name and origin ID. Now with the new MoHPC Forum

policy and being a registered member, I see no reason being unidentified. In any way, doing monkey busines in front of serious people like the world abroad, brainy guys found here, seems major waste of time. Mainly their time.

I believe some guys get used to participate in forums where actual identity should be preserved in order to be aware of accidental agressions from casual participants that are not bound to the main forum subject, instead are there only to annoy. When these guys mannage to get here without knowing about our main concerns, their behavior follow previous deffensive patterns. I myself have had about enough of this sort of subject.

Luiz (Brazil)

Edited: 27 Aug 2005, 3:22 a.m.

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[LONG] Signed integers: HP-16C vs. "the rest"

*Message #1 Posted by **Karl Schneider** on 27 Aug 2005, 1:07 a.m.*

Fellow calculator enthusiasts --

Recently, I was using Microsoft Word macro, when a Microsft Visual Basic error message came up:

"Run-time error 80004005 (-2147467259) ....."

I fixed the problem, but the simple math exercise intrigued me. It clearly looked like an eight-digit (32-bit) hexadecimal code converted to a signed decimal-integer equivalent. This task is basically the extraction of a typical C-language "long int" variable. How efficiently can various calculators with *built-in* binary ("base") conversions obtain the desired result? My findings may be disconcerting to the reader...

First up: the "gold standard"

HP-16C

The user hits DEC, enters "32" and hits WSIZE to set a 32-bit word. Then, the user can choose "2's" complement, and verify these settings using STATUS. Then, the user hits HEX, enters "80004005", hits DEC to convert and reads,

```
-47467259 .d   (in Window 0)
-21        d.  (in Window 1)
```

for a complete value of -2,147,467,259 -- the correct result.

Granted, it's a minor annoyance that the output is displayed in two parts. However, eight digits is a digestible size for "chunks" of long integers, and the user is given exacting control over the format of data. The "DEC" mode offers a true integer range up to 19 digits.

VERDICT: Rigorous and trustworthy.

Pioneer models:

On a 32SII, keying in "80004005" after selecting HEX, then converting with DEC yielded 2,147,500,037. That's the correct unsigned integer, but not the correct (2's complement) signed integer.

Experimentation (or RTFM) reveals that the Pioneer models use a 36-bit 2's-complement integer representation. This makes perfect sense with the 12-digit display, allowing full 12-digit octal and 9-digit hexadecimal. Decimal conversions return to normal floating-point mode (not decimal integer), but the results will not exceed 11 digits. Up to 36 binary digits can be entered or converted, displayable by scrolling 12-digit chunks.

However, 36 bits is not the same as 32 bits. To properly represent this particular complemented, signed integer requires that the hex value be preceded by an "F". This provides a sign bit and three leading complemented bits in the correct positions.

HEX, "F80004005", DEC yields -2,147,467,259.00 on the 20S, 27S, 32S, 32SII, and 42S (and probably the 22S?).

The 33S performs the same way.

VERDICT: The approach is not unreasonable, but the user must take caution to avoid incorrect results.

RPL-based models

I tried the 28C, 48G, and 49G.

The user can set word sizes from 1 to 64 bits using "STWS", but the values are treated only as unsigned. Thus, the RPL-based models cannot automatically handle signed integers. Also, these calculators will accept extra input digits beyond the word boundaries, then simply discard the superfluous high-order bits. The HP-16C and Pioneers do not accept invalid input.

After entering/selecting "HEX" and setting the word size if desired, the user must precede the entered value by a "#" and enter it onto the stack from the input buffer.

Even after setting the word to 32 bits, entering "#80004005" in HEX mode, then entering/selecting "DEC" gives the incorrect result of "#2147500037d" due to unsigned-integer representation.

The HP-48 and HP-49 models allow the user to do a "change sign" on a binary integer to get a 2's-complement conversion, but the HP-28C doesn't -- the user must do a "NOT", then add 1. Either of these approaches will give the result "#2147467259d", which is correct except for the missing sign.

The user would have to write an RPL program to automate this type of conversion.

VERDICT: Awful! Some simple problems are made complicated -- the functionality is there, but it's not implemented thoughtfully.

Non-HP "cheapos"

I also have several low-end calc's with base conversions built in -- a Casio fx-115MS and a Texas Instruments TI-36X. Both of these models are NCEES-approved for standardized EIT/FE and PE exams.

Each of these calculators limits the size of arguments in the respective bases by their 10-digit display length, not by bit count. So, on both calculators, base-2 binary integers are 10 bits, and base-8 octal integers are 30 bits. Base-16 hexadecimal integers are 32 bits on the Casio, and 40 bits on the TI. Integers are represented as signed 2's-complement on both.

Observing the 40-bit word length, the TI returned the correct -2147467259 when provided "FF80004005" as HEX-mode input, converted to floating-point using DEC.

Almost by happenstance, the Casio handled this particular problem most adroitly of any unit I tried. Its fixed 32-bit hexadecimal, 2's-complement signed integers and 10-digit display made it ideally suited for the task. "80004005=" entered in HEX mode and converted with DEC yielded -2147467259. Other values (e.g., 32-bit unsigned integers or shorter signed integers) would not be converted as conveniently; adjustments to input or output would be required.

The different word sizes can produce curious results. For example, -1 decimal on these units displays as octal "7777777777" or binary "1111111111", suggesting that a string of 30 bits can be represented as a string of 10 bits! Another consequence: what is representable on these calculators as hexadecimal might not be representable as octal, decimal, or binary. Attempts to convert "downward" a hexadecimal number within the uppermost range of representable values can produce a non-recoverable and bogus message of "Math Error" (Casio) or "Error" (TI).

One more thing: the Casio will simply return "Math Error" upon buffer entry after blithely accepting superfluous input digits.

VERDICT: The unwitting schoolkids and testees could be flummoxed.

In summary, let's acknowledge the fine and distinctive HP-16C, which also recognizes unsigned and 1's-complement signed integers (which were not yet antiquated in the 1980's).

Comments, experiences?

-- KS

Edited: 27 Aug 2005, 3:17 p.m. after one or more responses were posted

(a bit long) Re:[LONG] Signed integers: HP-16C vs. "the rest"

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 27 Aug 2005, 2:51 a.m.,*
in response to message #1 by Karl Schneider

Hi, Karl;

first of all, thanks for the so well written post. It is complete and allows us to see the 'great picture'.

The only actual addition of mine would be the following. One of the subjects I`m (gladly!) teaching again is 'Scientific Computing', that mainly deals with representing and handling floating point numbers with computer programs. Number representation (BCD and IEEE 754), error handling, transcendental functions calculation and specific math-related programs are in the menu.

Precisely this week I was showing them what do 1`s and 2`s complement representation are, and the first idea I brought to their minds was `How to represent a negative quantity by using binary numbers?`. Some of them ususaly ask me: `Is it possible to add a minus sign in a binary number?`, then I begin by defining word size, most- and least-significant bit, then binary addition and the concept of a negative representation. The single binary complement allows one representation for zero and another representation for its complement, hence the `-0` decimal equivalent. So, by using the 2`s complement representation, the system gives us one representation for zero and one 'extra' negative representation. Anyway, by using 2`s complement representation we can easily `see` negative quantities represented by binary numbers after subtracting.

Yes, I know that all of these facts are well known by those who deal with binary arithmetic and the like, but what I`d add as an experience of mine is that I use the HP16C User's Guide contents and examples as the main text for these particular classes, and I show both calculator and user's guide to the students (it always happens that someone tells `I was not known about this version of the HP12C! Where can I buy one like this?`. Not that tears come to my eyes when hearing this kind of question, but I actually feel sad for them...). And I also let clear to them that 1`s and 2`s complement representations are specific decimal representations that allow us, humans, to actually `see` negative numbers where there are only ones and zeroes, and that the HP16C actually holds internal binary representation even when showing the decimal negative complement, i.e., the binary number is not changed, only the decimal representation follows the negative complement convention. Neither binaries, nor octals nor hex numbers are shown with a minus sign, instead they must contain all leading bits till the MSB when they represent negative quantities when using 1`s or 2`s complement representation.

It is not too often that some students take some extra, significant time and many questions to be 'clicked on' to these concepts.

Just my 2¢.

Cheers.

Luiz (Brazil)

Re: (a bit long) Re:[LONG] Signed integers: HP-16C vs. "the rest"

*Message #3 Posted by **John L. Shelton** on 27 Aug 2005, 5:09 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

It's important to remember that the various internal representations were done many many years ago, when both computing power and memory were vastly more expensive. Would we use the same representations if we were starting from scratch today?

IBM's (and others) use of BCD in hardware suggests not. Even when computing was expensive, some thought that the internal representation should be closer to the way humans think about numbers. Modern languages give us support for arbitrary precision integers, fractions, etc. Perhaps modern hardware should do the same as well.

Despite the clear efficiency of using 2's complement binary math, we could do better today, trading some performance for more representative numbers.

Still, a great post! Thanks for the education.

Re: (a bit long) Re:[LONG] Signed integers: HP-16C vs. "the rest"

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 27 Aug 2005, 6:56 a.m.,*
in response to message #3 by John L. Shelton

Hi, John;

your question:

> Quote:
>
> Would we use the same representations if we were starting from scratch today?

I think I cannot dare answering such question because of some reasons I see right now.

As for what I know about today, computers usage differ from what they were mainly designed for: an aid for science and business in such a way problems in these fields could be faster and reliably solved. Now we have so many fields where computers are more than an aid, instead are the main reason for their existence, that it is somehow hard for me to think of a straight answer.

In fact, if we do not think of any particular development fields, binary arithmetic is faster than floating point. Anyway, in applications were building 3D images in real time with high resolution is the main concern, like 'games and fun', then we can count on about 8GHz core processors commercialy available, and I can't imagine any software that would be slow if running in these machines (add a low-cost 2-GByte RAM and we're done, here). So, your question is pertinent, and daring to answer goes to the hands of todays digital designers.

Any reading these posts?

Cheers.

Luiz (Brazil)

Re: (a bit long) Re:[LONG] Signed integers: HP-16C vs. "the rest"

*Message #5 Posted by **John Limpert** on 27 Aug 2005, 9:03 a.m.,*
in response to message #3 by John L. Shelton

IBM had a very good reason for using BCD on their business-oriented computers. Think of a typical job, payroll. It reads in a sequential file of punch cards containing employee ID and hours worked, computes wages and deductions, updates a master file, and prints thousands of checks. All I/O is fixed-record-length with data fields in EBCDIC or Hollerith code. Hardware multiply/divide, if present, is slow and avoided whenever possible. By using BCD, input and output format conversions are limited to conversion between a character code (EBCDIC or Hollerith) and BCD, which is simple and can be implemented in hard-wired logic. The system is optimized for very fast and efficient I/O, not number crunching. Throwing binary integers into the mix requires expensive conversions between strings in character code and binary integers for every record that is read or written. All of the peripherals are dumb by modern standards, relying on hard-wired logic, not microprocessors. They are incapable of converting between binary and character codes. Besides efficiency, BCD arithmetic avoids problems with errors introduced by using binary numbers to represent decimal numbers.

Re: [LONG] Signed integers: HP-16C vs. "the rest"

*Message #6 Posted by **Vassilis Prevelakis** on 27 Aug 2005, 5:41 p.m.,*
in response to message #1 by Karl Schneider

I know I am going to be flamed, but here it is:

You can use the Apple OSX calculator (which has an RPN programmer option!)

The wordsize is 64bits so you can either enter 0xFFFFFFFF80004005 in HEX mode and press DEC to see -217467259, or press the decimal number and then press HEX to see the 0xFFFFFFFF80004005

You can even select a binary display to see the binary representation of the number in addition to the HEC/DEC/OCT display

**vp

Re: [LONG] Signed integers: HP-16C vs. "the rest"

*Message #7 Posted by **Karl Schneider** on 27 Aug 2005, 6:10 p.m.,*
in response to message #6 by Vassilis Prevelakis

Vassilis --

No, certainly no flame from me...

I'm sure there exists much more-capable computer-based software to perform computer-science computations. It's probably why the full functionality of the 16C was never provided in any replacement HP calculator (as my comparison aptly showed).

The Mac OS-X calculator in an Apple desktop or laptop is not very portable, and the word size and complement may be fixed.

Is there any capable computer-science software for a PDA? Such a software package should also be able to convert text in various formats.

-- KS

Easily the best for the money!

*Message #8 Posted by **Palmer O. Hanson, Jr.** on 28 Aug 2005, 10:12 p.m.,*
in response to message #7 by Karl Schneider

I was in Wal-Mart today and checked the calculator display. I'm waiting and hoping for a sale price on the HP-33S but it hasn't happened yet. Then I spotted the LeWORLD Scientific Calculator priced at $4.23 ! At 2.75"x5"x0.5" thick it is truly shirt pocket size. It has all the usual scientific functions including hyperbolics. And, it has a base conversion capability with a forty bit hexadecimal display. To do the conversion discussed in this thread one simply has to press 2ndF HEX, enter FF80004005, press 2ndF DEC and -2147467259 appears in the display. No messing around with two's complement or word length commands. What could be easier than that? Back in the early sixties when we did conversions using a Friden we would have sold our soul for a capability such as that.

One entry in the thread asks "Would we use the same representations if we were starting from scratch today." Absolutely. Without the benefit of fifty years of development I can't see how we could do anything differently.

Here's a question related to a frequently discussed subject in the Museum. If LeWorld can deliver that much power in a scientific calculator for less than five dollars today then how long will it be before they can offer the capability of an HP-15C for less than twenty dollars?

You may have missed my point ... [HP-16C]

*Message #9 Posted by **Karl Schneider** on 28 Aug 2005, 11:48 p.m.,*
in response to message #8 by Palmer O. Hanson, Jr.

Palmer stated,

> Quote:
>
> And, it *(the LeWORLD Scientific Calculator priced at $4.23)* has a base conversion capability with a forty bit hexadecimal display. To do the conversion discussed in this thread one simply has to press 2ndF HEX, enter FF80004005, press 2ndF DEC and -2147467259 appears in the display.

That sounds just like the TI-36X I described in my original post, or even a modern TI-30. I'll bet that it has the same limitations and pitfalls, too...

The user (probably a secondary-school student) must know that the hexadecimal word size is a fixed 40 bits, and must pre-pend enough "F"'s to fill out the word, *if and only if* the hex code represents a signed integer *and* the first hexadecimal digit is >= 8. Otherwise, *don't* "F-bomb" the input. ;-)

> Quote:
>
> No messing around with two's complement or word length commands. What could be easier than that?

Well, suppose that the input is <u>not</u> a 2's-complement, 40 bit word. The mathematical or logical operations might be erroneous, or the user could enter invalid input (e.g., too many digits).

> Quote:
>
> Back in the early sixties when we did conversions using a Friden we would have sold

> our soul for a capability such as that.

That I can imagine. However, 20 years later (in 1982), one could have obtained the excellent capabilities of the HP-16C for less than $150, and *retained* his mortal soul... ;-)

-- KS

After the Friden and before the HP-16C

*Message #10 Posted by **Palmer O. Hanson, Jr.** on 29 Aug 2005, 11:05 p.m.,*
in response to message #9 by Karl Schneider

Karl wrote "... 20 years later (in 1982), one could have obtained the excellent capabilities of the HP-16C ..." In 1977, five years before the advent of the HP-16C the TI Programmer had provided many of the same functions. I couldn't afford a TI Programmer but by 1979 I was using a Programmer Simulator which would provide the same capability on the TI-59. Hexadecimal operations were tortured since the TI-59 didn't have an alphanumeric display. That wasn't a big problem for me because most of the work I was doing at the time used octal not hexadecimal.

A historical note: Mier-Jedrzejowicz's Guide to HP Handheld Calculators and Computers notes on page 46 that the HP-16C was "...intended at least in part to compete with the TI Programmer calculator ..."

Re: After the Friden and before the HP-16C

*Message #11 Posted by **Eric Smith** on 31 Aug 2005, 4:15 p.m.,*
in response to message #10 by Palmer O. Hanson, Jr.

And before the TI Programmer, in 1973 TI introduced the SR-22, a desktop calculator that offered binary, octal, decimal, and hexadecimal modes. It did not have logical operations (e.g., OR, AND, XOR, NOT) though. But it did have floating point in all four bases, which the Programmer and HP-16C did not have.

Re: After the Friden and before the HP-16C

*Message #12 Posted by **Palmer O. Hanson, Jr.** on 2 Sept 2005, 3:07 a.m.,*
in response to message #11 by Eric Smith

I found some old correspondence with Gene and with Viktor Toth on the subject of base conversions. They told me that the HP-65 had a built-in conversion capability and that the HP-67 had a conversion capability in Math Pak 1. I don't have either the HP-65 or the Math Pak 1 in my collection so I can't confirm that.

Re: After the Friden and before the HP-16C

*Message #13 Posted by **Gene** on 2 Sept 2005, 7:23 a.m.,*
in response to message #12 by Palmer O. Hanson, Jr.

The hp65 had built in decimal to octal and octal to decimal.

There were many programs written for the hP67 to allow fairly arbitrary base conversions from any base to any base. Some were even small routines that showed up in the HP Key Notes magazine.

Re: After the Friden and before the HP-16C

*Message #14 Posted by **Eric Smith** on 4 Sept 2005, 2:29 a.m.,*
in response to message #13 by Gene

> Quote:
>
> The hp65 had built in decimal to octal and octal to decimal.

The engineers developing it may have put it in because they would find it useful themselves; octal was the base used in HP's internal calculator development tools from the HP-35 through the HP-41C and Voyager series. They only started using hexadecimal with the Saturn architecture introduced with the HP-71B, though most of the people outside HP that worked on reverse-engineering the HP-41C and writing their own microcode for it used hexadecimal.

The first-generation processor used in the HP-65 could only deal with BCD digits (0 through 9) and did not have any pure binary mode, so the only way they could have worked with hexadecimal and displayed it would have been as two-digit groups ("00" through "15").

Re: After the Friden and before the HP-16C

*Message #15 Posted by **Palmer O. Hanson, Jr.** on 4 Sept 2005, 2:53 a.m.,*
in response to message #14 by Eric Smith

One of the more improbable places to have found a hexadecimal conversion capability was in the Radio Shack Color Computer which came out in 1980. In it's extended BASIC the user simply entered PRINT HEX$(n) where n was a decimal number between 0 and 65535 and the machine responded with a hexadecimal number between 0 and FFFF .

Re: After the Friden and before the HP-16C

*Message #16 Posted by **don wallace** on 4 Sept 2005, 3:13 a.m.,*
in response to message #15 by Palmer O. Hanson, Jr.

The processor for the Tandy Colour computer was a Motorola MC 6809. Very nice little 8/16 bit CPU for it's time. The 6809E was a true MULTIPROCESSING oriented CPU. Very interesting piece of hardware which didn't go all that far, but was used quite a bit in Japanese (CANON) electronic typewriters (built-in full function word processor with graphical layout tools anbd spell checker in system ROM, circa 1985.)

The 6809E was also used in a video game by Taito in 1983, called QIX. One could easily write high level compilers (like PASCAL, C)for the 6809 due to the really nice addressing modes in the instruction set. There was also a disk OS, "OS9".

DW

Re: After the Friden and before the HP-16C

*Message #17 Posted by **Wayne Brown** on 6 Sept 2005, 11:34 a.m.,*
in response to message #14 by Eric Smith

> Quote:
>
> ...octal was the base used in HP's internal calculator development tools from the HP-35 through the HP-41C and Voyager series.

It also was the base used in the HP3000 minicomputers, which were stack-based machines too. I remember using my HP-16C in octal mode many times while poring through HP3000 stack dumps.

Re: After the Friden and before the HP-16C

*Message #18 Posted by **Eric Smith** on 7 Sept 2005, 3:57 a.m.,*
in response to message #17 by Wayne Brown

> Quote:
>
> [octal] also was the base used in the HP3000 minicomputers

And also the HP-2116/2100/21MX/1000 family of 16-bit minicomputers, which were not stack-based the way the 3000 was. It appears that the 21xx/1000 family was heavily used for calculator development into the early 1980s, after which 3000 (MPE) and 9000 (HP-UX) systems were used.

The world needs the 16C again.

*Message #19 Posted by **John Baldwin** on 10 Sept 2005, 9:47 p.m.,*
in response to message #18 by Eric Smith

I remember drooling over the 16C when it first came out, but couldn't afford it on my meagre student's budget.

Now here it is, years later, when I really need one, I ***still*** cannot afford a (real) HP-16C! **:-)**

I'm a software engineer writing network code and looking at bits in the debugger. I've got several calculator emulators and other tools on the PC; I've got several calculators accessible to me on my desk or from co-workers, and it would STILL be probably a lot easier if I just had the 16C. What a tribute to the HP way!

PS: Aside from spending all my birthday money for the next 3 years at eBay, what are my other options? How hard would it be to do an RPL emulation of the basic binary operations, either on the HP-28S or the HP-48G? (It's a "G" not a "GX" or "G+" so memory is limited.)

-- john b

Re: The world needs the 16C again.

*Message #20 Posted by **don wallace** on 11 Sept 2005, 4:00 a.m.,*
in response to message #19 by John Baldwin

Cameron Paine has written a very nice simulator for the 16C. Well worth a look. You can write to him at:

cbp@null.net

If you can't find him, I could dig up the URL. I think he has written in the forum a bit too.

Nice simulator; though it's still in alpha I haven't noticed any bugs yet. Very nice machine, too. Indispensible for computer software (or hardware) engineering.

DW

Re: The world needs the 16C again.

*Message #21 Posted by **Jonathan Purvis (New Zealand)** on 11 Sept 2005, 4:29 p.m.,*
in response to message #19 by John Baldwin

I have always liked HÃ¥kan ThÃ¶rngren's 16C simulator (http://www.hpcalc.org/details.php?id=317). It's 11KB so it would fit on a 48G if you didn't have much else installed.

For the space conscious, Craig A. Finseth has a User-RPL version that is only 1.4KB (http://www.hpcalc.org/details.php?id=319).

Re: The world needs the 16C again.

*Message #22 Posted by **megarat** on 12 Sept 2005, 8:01 p.m.,*
in response to message #21 by Jonathan Purvis (New Zealand)

There's also the HP 16c "emulator" (technically I believe it is also a simulator) by Jake Schwartz, available at:

http://www.pahhc.org/mul8r.htm

It's pay-ware, but it's a good package, only $25, full-featured, and works as you'd hope it would.

-cam

Re: The world needs the 16C again.

*Message #23 Posted by **don wallace** on 12 Sept 2005, 9:16 p.m.,*
in response to message #22 by megarat

Hi Megarat. Thanks for the info. I heard of Jake Schwartz, but I can't remember where. I know he is an old hand...

Re your last post: Actually it's "just" a SIMULATOR. So you are right to point this out.

An emulator is HARDWARE (usually but not always plus software/ firmware) which "emulates" (dictionary def.)

some system or processor.

Simulators are good, well written ones are great, and a bug free one is a piece of software "art", imho.

But... they are NOT emulators...

I only wrote this post because a few people I have seen on the 'net who wrote simulators are so (perhaps justifiably) proud of them that they call them emulators, insisting that their "emulator" is so good it's different. Well it isn't... it's software.

(Calling a Goose a duck does not make it a duck; it's still a goose. Once a lot of people start calling geese ducks then they're well on the way to some real confusion...)

This is only offered as my opinion: Calling a simulator an emulator brands one as an amateur... (which is okay of course).

All the best everyone.

DW

(deleted post)

*Message #24 Posted by **deleted** on 13 Sept 2005, 12:57 a.m.,*
in response to message #23 by don wallace

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

Re: Simulators vs. emulators

*Message #25 Posted by **Eric Smith** on 13 Sept 2005, 1:11 a.m.,*
in response to message #24 by deleted

Yes. IBM invented computer emulation in the early 1960s, which they defined to be simulation assisted by special-purpose hardware and/or microcode. It was first done on the System/360; various models emulated various older IBM computers. For instance, the 360/30 could emulate a 1401.

None of the published calculator simulators I've seen use any special-purpose hardware or microcode.

HP did have a Saturn emulator for their own

software development efforts. It was a moderately large box. I haven't been able to get my hands on one of those, but I do have two of their Saturn memory emulator boxes.

Eric Smith
(author of the Nonpareil simulator)

Re: Simulators vs. emulators

*Message #26 Posted by **Garth Wilson** on 13 Sept 2005, 4:57 a.m.,*
in response to message #24 by deleted

> Quote:
>
> So, Emu41 & Emu71 by J. F. Garnier, V41 by Warren Furlow, Emu42 & Emu48 by Christoph Giesselink are all 'simulators', not 'emulators'?

Right. If you can download it (ie, software only), then it's only a simulator. An emulator includes hardware. Microprocessor simulators can be had for the downloading, but emulators have a pod that actually plugs into your printed circuit board, into your microprocessor socket, and runs just as the processor would, in the actual hardware, but gives you a "window" into the insides and some extra control too. It is unfortunate that the distinction has been fading as the term "emulator" gets abused so much, because we do still need a way to differentiate the two. It probably doesn't matter as much in the world of calculators where there's often no I/O at all except the keyboard and display, but it sure makes a difference where there's a lot of industrial I/O on a printed circuit board. That kind of thing cannot be emulated merely in software. I have an American Automation emulator catalog here someplace from some years back, and every emulator in it is thousands of dollars and has a pod to plug into your board, with cables that go to the PC.

Edited: 13 Sept 2005, 4:58 a.m.

Re: Simulators vs. emulators

*Message #27 Posted by **Gunnar Degnbol** on 13 Sept 2005, 6:57 a.m.,*
in response to message #26 by Garth Wilson

> Quote:

> It is unfortunate that the distinction has been fading as the term "emulator" gets abused so much, because we do still need a way to differentiate the two.

On the other hand, it is also useful to differentiate between on the one hand simulating the hardware (e.g. VMWare, Nonpareil and EMU48) and running the original software (Windows, Linux, calculator ROM) and on the other simulating a software or user interface at a higher level (e.g. WINE and Joseph M. Newcomer's HP16c).

WINE stands for "Wine Is Not an Emulator", this does not mean it is not a hardware emulator, because that is obvious, it means it does not emulate/simulate the hardware but the Windows API.

Since most people have no experience with hardware emulation, it is natural that the term emulator is recycled to provide this distinction. The kind of bugs or problems one can expect from the two kind of software simulators/emulators are very different.

Re: Simulators vs. emulators

*Message #28 Posted by **Les Bell** on 14 Sept 2005, 7:33 p.m.,*
in response to message #27 by Gunnar Degnbol

I'm with Gunnar on this one. I remember the original microprocessor in-circuit emulators (in fact, I used to sell the MDS-II and ICE for Intel), which would emulate the processor in hardware, with additional functionality for debugging.

However, in these days of amazingly fast processors, it's possible to emulate one processor, using software running on another. So, for example, a Mac can emulate a PC, and thus run PC applications like MS Office. A different program that ran natively on a Mac, but presented the same user interface and functionality, would be a simulation of MS Office. Same result, different ways of getting there.

So, over years of usage, I've concluded that when one runs the original code on a

different hardware platform, as Eric does with Nonpareil, that's emulation of the original hardware. However, a program that behaves the same way as an HP calc, but is not based on the original calculator firmware, is a simulation.

Over thirty years in this business, I've never had trouble communicating with these terms until recently. The definitions I use are consistent with IBM mainframe microcode emulation of earlier systems, simulation of physical/economic/ecological systems (remember doing foxes & rabbits with fourth-order Runge-Kutta?) and with a lookup of emulate & simulate on dictionary.com that I did a few minutes ago.

Personally, I suspect the growing confusion is mostly down to the WINE project promulgating their own definitions. IMHO, WINE emulates Windows, and they should get over it. Bah! Time for a second coffee, so I won't be so cranky.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Simulators vs. emulators

Message #29 Posted by **.** *on 14 Sept 2005, 2:04 a.m.,*
in response to message #26 by Garth Wilson

> Quote:
>
> An emulator includes hardware.

So, PC running Emu48 is an emulator. Right?

Re: Simulators vs. emulators

Message #30 Posted by ***The REAL .*** *on 14 Sept 2005, 3:32 a.m.,*
in response to message #29 by .

For the 5000th time, please stop stealing my name.

Re: Simulators vs. emulators

Message #31 Posted by ***don wallace*** *on 14*

Sept 2005, 3:39 a.m.,
in response to message #29 by .

NO.

Any PC running any program that runs as a virtual calculator, etc. is:

a PC running a SIMULATOR (!)

(Your Goose honks!, It will never be a "Duck")

(For people who can't get the point the easy way is : if it has wires hanging out of it that go to a test clip that sits in the processor socket of a test system it's an EMULATOR. If it's just software its ALWAYS, and I mean ALWAYS, a SIMULATOR.)

It's pretty simple, really.

DW

Edited: 14 Sept 2005, 3:40 a.m.

Re: Simulators vs. emulators

*Message #32 Posted by **Howard Owen** on 14 Sept 2005, 11:10 a.m.,*
in response to message #31 by don wallace

So the PDP-11 mode of the VAX is what?

(Hardware support for 16 bit emulation, but no wires sticking out. 8)

Re: Simulators vs. emulators

*Message #33 Posted by **Garth Wilson** on 14 Sept 2005, 10:47 p.m.,*
in response to message #32 by Howard Owen

The "wires sticking out" analogy was perhaps rather vulgar, but not totally irrelevant. To be a true emulator of a calculator that has I/O other than keyboard and display, I would consider it to have to be able to take the same modules the calculator does (since modules are about the only other hardware the calculator would interface to). Someone mentioned the HP-48. I'm not very familiar with that line, but I

believe at least one of them could take plug-in modules. I would say the HP-48 emulator would have to be able to handle the HP-48 modules, at least if the modules were other than RAM (which a PC does not lack). In the case of a 41, the emulator would have to be able to handle any module the 41's can, including ROMs, the timere module (which can wake up the calculator), HPIL, the first non-HPIL printer (I think 82143 was the number), the optical wand, the card reader, non-HPIL data acquisition accessories, etc..

A microprocessor emulator can be used to troubleshoot your computer board hardware, not just debug software. It actually plugs into the board and uses the board's memory, I/O, and so on. Similarly, I would expect that a calculator emulator should be able to help troubleshoot module-interfacing problems, which might be bus contention, timing problems, etc.. A mere simulator cannot do this.

Re: Simulators vs. emulators

*Message #34 Posted by **Howard Owen** on 14 Sept 2005, 11:20 p.m.,*
in response to message #33 by Garth Wilson

I'm reminded of one of the arguments against "hard" artificial intelligence. A very clever person from UC Berkeley made it. I can't recall his name at the moment. He asked if you would expect a stomach simulated in software to digest food the way a human stomach does. the point being that a simulation of intelligence on a computer is unlikely to start thinking at all, let alone like a human. I find that pursuasive argument, but the point in this context is that an emulator would be like an artifical brain, with artificial neurons whose functions would be close analogies of "real" neurons. It might actually think on its own.

Back to my point about the PDP-11 mode in the VAX-11 CPU. This involved a microcode implementation of

the 16-bit PDP-11 instruction set on the 32-bit VAX-11 CPU. The mode was changed by issuing a single instruction, if I recall correctly. You could do that with one VMS task, and the OS would manage switching in and out of PDP-11 mode as context switches were taken. I had my first course in assembly language in PDP-11 Macro Assembler running on a VAX in emulation mode. It sounds to me like this fits the definition of an emulator, since the machine interacts with the rest of the hardware like a PDP-11 when it is in that mode.

But what about the new(old) "virtualization" systems like VMware? This is a hybrid system in which the virtualization layer intercepts hardware access by the "guest" operating system, and provides services to that guest by interacting with the "host" OS and real computer hardware. That seems to have elements of emulation and simulation going at the same time.

Re: Simulators vs. emulators

*Message #35 Posted by **don wallace** on 16 Sept 2005, 1:32 a.m.,*
in response to message #34 by Howard Owen

VMware is a simulator, with access to real hardware (which is not missing). There is nothing special about it apart from it being a really nice piece of work.

The DEC VAX doing PDP-11 emulation requires a bit of hardware to do that, but it is all built-in to the system logic.

DG did a similar thing around the same time (for the same market) with it's 32 bit Eagle, back compatible to their 16 bit NOVA, selected on the fly with a "toggle" bit, in each 32 bit Eagle instruction. There is a really nice book about it's development in a book by very savvy Vietnam war journalist, Tracy Kidder. The book is called " Soul of a New Machine" A very good read!

DW

Re: Simulators vs. emulators

*Message #36 Posted by **Howard Owen** on 16 Sept 2005, 1:40 a.m.,*
in response to message #35 by don wallace

Yup, I read that one when it came out. They had a Nova at my JC, so that was interesting. Then the next year they decommissioned the school's Nova and bought a VAX. And the rest is (obscure, personal) history. 8)

Re: Simulators vs. emulators

*Message #37 Posted by **don wallace** on 16 Sept 2005, 1:49 a.m.,*
in response to message #33 by Garth Wilson

Hi Garth. Right on, brother. (Why do we bother?)

DW

Re: Simulators vs. emulators

*Message #38 Posted by **J-F Garnier** on 15 Sept 2005, 10:01 a.m.,*
in response to message #31 by don wallace

Hi,

From this point of view (which is in many respects correct), an EMULATOR is a piece of hardware that exactly replaces (emulates) a component or system.

So you should agree that my Emu41/71 are HP-IL system emulators: with the help of the HPIL/PC board they exactly replace a HP41- or HP71-based HP-IL controller :-) Except regarding the timing aspects maybe, but I never called them Real-Time-Emulators... (Actually they are much faster).

More seriously, the point of view from Don is for sure correct for ICs: an emulator is a piece of hardware that replaces the original IC, a simulator is software only. From this point of view, the core code that simulates the calculator or system's CPU should be called a SIMULATOR.

I just notice there are industrial (not 'amateur' ;-) counter-examples against this definition like the 68040 that 'emulates' by software some floating point operations originally handled by hardware on the 68881/2... And many FPU were fully 'emulated' by software on the time (for cost reasons) and many compilers were providing FPU 'emulation' packages.

But calc 'emulators' are more than just CPU simulation, IMHO. They are complete calc emulation in the sense that the PC or PDA hardware/CPU simulator/GUI combination exactly replaces the calc in all respects (same response to the same stimuli) in a very similar way than an IC hardware emulator replaces the actual IC, with the same kind of features (access to the internal) and limitations (different size, power consumption, etc...).

Again, it's just MY opinion and I fully accept and respect the other point of view, I'm a quite cool man and I'm not interested in fighting for just a question of words...

J-F

Edited: 15 Sept 2005, 12:10 p.m.

Re: Simulators vs. emulators

Message #39 Posted by ***HrastProgrammer*** *on 16 Sept 2005, 1:05 a.m.,*
in response to message #38 by J-F Garnier

Hi Jean-Francois,

Well said :-)

(deleted post)

Message #40 Posted by ***deleted*** *on 16 Sept 2005, 1:35 a.m.,*
in response to message #39 by HrastProgrammer

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followups have been removed, the original poster may delete this post again to make this placeholder disappear.

Re: Simulators vs. emulators

Message #41 Posted by ***HrastProgrammer*** *on 16 Sept 2005, 2:36 a.m.,*
in response to message #40 by deleted

Hi Hrast. Have you done any more work on your SIMULATOR?

Hi Don,

I don't have any simulator yet, so I cannot work on it. I really didn't want to be involved into this discussion because I don't care if you call it 'simulator' or 'emulator' or 'interpreter' or whatever you want. I tried to find some appropriate name but 'emulator' was used by other people at the time I started to work on this software so it cannot be THAT wrong. Perhaps something like 'HP-41 machine code interpreter' would be a better name but I think I won't bother with this ...

Re: Simulators vs. emulators

Message #42 Posted by ***don wallace*** *on 16 Sept 2005, 1:24 a.m.,*
in response to message #38 by J-F Garnier

Hi Monsieur Garnier.

Hey I just want to say congrats on your nice emulation of hp-il along with Chris Klug and his ISA card.

No doubt your system is an emulator with the card and a simulator without!

On coprocessors: well that seems a tricky one until you look closely.

Motorola or Intel, it doesn't matter. The software is an emulator because (according to a MORE PRECISE definition of emulation, which is exactly replacing non-existent hardware in a HARDWARE SYSTEM) the software

actually couples very, very closely with specialized software flags which precisely "couple" (and therefore "mimick") flag pins on the missing co-processor.

I'd say an emulator is a system which has to couple to hardware it is directly involved with (even if some of that is meant to be emulated when missing, such as a co-processor). In general it is supposed to be able to run a the full speed of the target system. If it goes faster, then thats fine.

Strictly speaking, full hardware emulators MUST EXACTLY DUPLICATE ALL TIMING...

The calc simulators are categorically simulators because there is NO SPECIFIC HARDWARE underneath them. You cannot run a HP-WAND on your simulator. Also, you CAN recompile the simulator to run on something very different to an IBM PC. So there is no hardware dependence. Further, the software does not DUPLICATE the calculator, there IS NO REAL display, just a visual picure.

This difference may seem to you to be nit-picking; it definitely is not.

Flight simulators look real; they are a complete, very accurate fantasy. This the correct use of the term simulator.

There is nothing derogatory about the term simulator, so software writers don't need to be sensitive about it. But many are, for some strange reason. They also don't use their real name... Do they, Hrast. ;-)

My original point was just to try to educate a few people for the purpose of dispelling the loose use of language. It doesn't matter if people want to ignore me, I don't care. I still hear their geese honking and other peoples ducks quacking, and can easily tell the difference.

Once I did college with a student who

pressed the lecturer on the concept of emulating or simulating certain hardware functions like multipliers, shifters in software, etc...

He went so far with his quesioning (along the lines of: Well can't you do THAT in software too...) that eventually the lecturer got exasperated and said words to the effect that "You have to have SOME hardware t run it all on!", smoke starting to come out his ears as he spoke.

I wrote in a small (vain?) attempt to dispel similar ignorance on the part of a few people in the programming community. Their loss if they don't want to listen.

Interesting thread though and I really appreciated your comments.

DW

Edited: 16 Sept 2005, 1:38 a.m.

Software emulators, vs. simulators vs. hardware emulators

*Message #43 Posted by **Howard Owen** on 16 Sept 2005, 1:49 a.m.,*
in response to message #42 by don wallace

We all know that Wikipedia is the fount from which flows all wisdom (all hail, Wikipedia!) The article on emulation seems to draw a distinction between what it calls a "software emulator" and a "simulation." It doesn't mention hardware emulation at all. (You might want to go add to the article, Don. The hardware angle is missing, and strikes me as important.)

> Quote:
>
> An emulator, in the most general sense, duplicates (provides an emulation of) the functions of one system with a different system, so that the second system

appears to behave like the first system. Unlike a simulation, it does not attempt to precisely model the state of the device being emulated; it only attempts to reproduce its behavior.

In a technical sense, the Church-Turing thesis implies that any operating environment can be emulated within any other. In practice, it can be quite difficult, particularly when the exact behaviour of the system to be emulated is not documented and has to be deduced through reverse engineering. It also says nothing about timing constraints; if the emulator does not perform as quickly as the original hardware, the emulated software may run much more slowly than it would have on the original hardware.

A common form of emulation is that of a software emulator, a piece of computer software that allows certain computer programs to run on a platform (computer architecture and/or operating system) other than the one for which they were originally written. It does this by "emulating", or reproducing, the behavior of one type of computer on another by accepting the same data, executing the same programs, and achieving the same results.

Re: Simulators vs. emulators

*Message #44 Posted by **Massimo Gnerucci (Italy)** on 16 Sept 2005, 1:57*

a.m.,
in response to message #42 by don wallace

> Quote:
>
> They also don't use their real name... Do they, Hrast. ;-)

Actually they do... He is Hrastprogrammer the way I could be Gnerprogrammer :-)

BTW: Hi Hrast (real names obfuscated), I spent my holidays in Croatia this summer. Nice country, nice people, nice food!!!

Massimo

Re: Simulators vs. emulators

Message #45 Posted by ***HrastProgrammer*** *on 16 Sept 2005, 2:24 a.m.,*
in response to message #44 by Massimo Gnerucci (Italy)

Hi Massimo,

I am very glad to hear that your enjoyed your holidays here. We are planning to go to Italy for a few days, perhaps this autumn or the next spring, I don't know yet.

Actually they do... He is Hrastprogrammer the way I could be Gnerprogrammer :-)

Yes, Hrast is just a "half" of my full name :-)

Best regards.
Hrast

Edited: 16 Sept 2005, 2:45 a.m.

Re: Simulators vs. emulators

Message #46 Posted by ***HrastProgrammer*** *on 16 Sept 2005, 2:30 a.m.,*
in response to message #42 by don wallace

They also don't use their real name... Do they, Hrast. ;-)

I don't think my real name is that important for this forum. And there is a simple practical reason for such name: my real name contains 2 characters which exist in my mother language but doesn't exist in english so replacing them with some "equivalents" would not be my name, either. Friends and users of my software know my real name, of course.

(deleted post)

*Message #47 Posted by **deleted** on 16 Sept 2005, 2:58 a.m.,*
in response to message #46 by HrastProgrammer

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Re: Simulators vs. emulators

*Message #48 Posted by **HrastProgrammer** on 16 Sept 2005, 3:25 a.m.,*
in response to message #47 by deleted

OK, accepted.

Edited: 22 Sept 2005, 3:01 a.m. after one or more responses were posted

(deleted post)

*Message #49 Posted by **deleted** on 16 Sept 2005, 3:33 a.m.,*
in response to message #48 by HrastProgrammer

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

Re: Simulators vs. emulators

Message #50 Posted by **.** *on 16 Sept 2005, 3:49 a.m.,*
in response to message #49 by deleted

There is more then one person using the name '.'. I was the first. I don't know who the other guy is.

My 2 cents: I feel that if a program appears to the user to do the same thing as a calculator, but is rewritten 'under the hood', it is a simulator. If it actually runs the calculator's machine code via a software interpreter, it is a software emulator.

English is an evolving language. I think the term 'emulator' is perfectly acceptable.

.

I vouch for the real "."

Message #51 Posted by ***bill platt*** *on 16 Sept 2005, 7:16 a.m.,*
in response to message #50 by .

I will certify that there is an "authentic original recipe" "dot" and also one or more other persons that have posted with "dot". (Not that the other dots are necessarily inauthentic, but they are other persons anyway).

I have seen "dot" on this forum for more than two years.

I also share Don's feeling that this forum is awesome. I was blown away to discover this community--and that such luminaries as Hrastprogrammer and a number of other heavy-hitters in the calculator business do check in from time to time and add insightful dicussion.

Edited: 16 Sept 2005, 7:19 a.m.

Re: I vouch for the real "."

Message #52 Posted by **.** *on 16 Sept 2005, 8:04 a.m.,*
in response to message #51 by bill platt

Thank-you for your support.

.

Re: Simulators vs. emulators

*Message #53 Posted by **Massimo Gnerucci (Italy)** on 16 Sept 2005, 1:37 p.m.,*
in response to message #46 by HrastProgrammer

> Quote:
>
> *my real name contains 2 characters which exist in my mother language but doesn't exist in english*

As a side note I thought about registering as ***Neherootchee*** to give an hint as how to spell my last name... ;-)

Re: Simulators vs. emulators

*Message #54 Posted by **Howard Owen** on 16 Sept 2005, 1:41 p.m.,*
in response to message #53 by Massimo Gnerucci (Italy)

You must have some familiarity with the way Americans tend to butcher languages other than English, Massimo! 8)

(Actually, many of us do a fair job of butchering English, as well.)

Re: Simulators vs. emulators

*Message #55 Posted by **Massimo Gnerucci (Italy)** on 16 Sept 2005, 5:58 p.m.,*
in response to message #54 by Howard Owen

> Quote:
>
> *You must have some familiarity with the way Americans tend to butcher languages other than English, Massimo! 8)*

I think this is **not** an american

peculiarity: I've seen and heard aberrations of every kind here (from **my** own hand and tongue, for one) too.

Greetings,
Massimo

Re: Simulators vs. emulators

*Message #56 Posted by **J-F Garnier** on 16 Sept 2005, 7:57 a.m.,*
in response to message #42 by don wallace

Hi Don,

[deleted]

Back to the subject:

- the flight simulator example is very interesting, the key point is that a simulator can't replace the original system: you can't travel with a flight simulator.
- I work in the electronic industry: the concepts of emulation and simulation are part of my everyday life. When the design engineer is in front of his workstation, he (or she) is dealing with simulation. When the test engineer is debugging his test program before the availability of the actual device, he/she has to use an emulator. The key point, again, is that a simulator can't physically act as the real thing, the emulator yes.

Just different points of view... It depends where you sit ...

Regards.

J-F

(Interesting thread, indeed).

P.S. added: Finally, it may really just depends where you sit: a prod engineer would see Emu48-like software as simulator, because he can't use it to replace (emulate) a real HP48 on the production line, but users can call it emulator because it can replace the HP calculator in all aspects. Maybe we could all agree on this, especially as there are no more

HP15/HP41/HP42/HP48/HP71 prod lines...

Edited: 28 Sept 2005, 6:42 a.m. after one or more responses were posted

(deleted post)

*Message #57 Posted by **deleted** on 16 Sept 2005, 7:24 p.m.,*
in response to message #56 by J-F Garnier

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

Re: Simulators vs. emulators

*Message #58 Posted by **.** on 16 Sept 2005, 10:33 p.m.,*
in response to message #57 by deleted

Hi,

I think that many engineers read this forum, myself included. Whilst the term 'emulator' had a specific meaning in an EE context, the word has evolved.

Since you are asking for evidence to back up my opinion I'll try and provide some.

Do a google search for 'emulator' or "what is an emulator". If you examine the results I think you will find the common usage of the word fits my description. Try searching for "define:emulator" w/o the "'s.

A common definition seems to be

"A device, computer program, or system that accepts the same inputs and produces the same outputs as a given system."

The English language is ambiguous. We are both right in different situations.

Thanks,

.

Re: Simulators vs. emulators

*Message #59 Posted by **Les Bell** on 16 Sept 2005, 8:17 p.m.,*
in response to message #56 by J-F Garnier

I concur with your understanding, J-F.

As someone who has spent many hours sweating inside flight simulators, I can tell you that the reason they're a simulation is that they don't work the same way as a real aircraft. The old analog simulators (like the ATC-810 I knew and "loved") had almost nothing in common with an aircraft cockpit other than appearance and approximate behaviour - behind the panel it was completely different, with the "air speed indicator" being electrically driven, rather than by dynamic air pressure, for example. With the advent of digital cockpits, it's possible for there to be a lot more commonality between the simulator and the real aircraft, but there are still obvious distinctions.

I think some people have gotten hung up on the term "emulator" as derived from the original microprocessor In-Circuit Emulator. I remember (I used to be a sales engineer for Intel, in a previous life) the Intel MDS systems, where ICE was introduced, in part because the 8080 was entirely dynamic internally - it *had* to be clocked, so you couldn't stop it in the middle of execution and examine the various pins (unlike the later Z-80, for which this was a major advantage). So the ICE was introduced as a device which plugged into the 40-pin socket where an 8080 would go, but would allow single-stepping through ROM code while examining what was going on.

Yes, it was hardware - it had to be, obviously - and it was a very faithful emulation of the 8080's internals. But it's just *one* type of emulator; there are others, including those implemented in software.

Of course, in the end, it really doesn't matter whether you call a thing a simulator or an emulator, as long as it does what you need sufficiently faithfully.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Simulators vs. emulators

*Message #60 Posted by **Howard Owen** on 16 Sept 2005, 11:14 p.m.,*
in response to message #59 by Les Bell

"emulate." Webster's Third New International Dictionary, Unabridged. Merriam-Webster, 2002. http://unabridged.merriam-webster.com (16 Sep. 2005).

```
Main Entry: em·u·late
Function: verb
Inflected Form(s): -ed/-ing/-s
Etymology: Latin aemulatus, past
participle of aemulari, from
aemulus rivaling, envious, akin
to Greek aitia cause -- more at
ETIOLOGY
transitive verb
1 a : to strive to equal or excel
: imitate with the intention of
equaling or outdoing <a
simplicity emulated without
success by
numerous modern poets --
T.S.Eliot> b : IMITATE <book-
covering
materials which one way or
another emulate leather -- Book
Production> <some of the early
Protestant congregations emulated
this custom, but soon gave up the
practice -- American Guide
Series:
Louisiana>
...
```

"simulate." Webster's Third New International Dictionary, Unabridged. Merriam-Webster, 2002. http://unabridged.merriam-webster.com (16 Sep. 2005).

```
Main Entry: sim·u·late
Function: verb
Inflected Form(s): -ed/-ing/-s
Etymology: Latin simulatus, past
participle of simulare to
imitate,
represent, feign, from similis
like, similar -- more at SAME
transitive verb
1 : to give the appearance or
```

```
effect of : FEIGN, IMITATE <felt
obliged to simulate reluctance,
and the air of having had her
hand
forced -- Edith Wharton> <to
simulate real mink, the muskrat
pelts
are let out -- Pete Barrett>
<pegs in the oak flooring further
simulate pioneer construction --
American Guide Series: Arkansas>
...
```

"jargon." Webster's Third New International Dictionary, Unabridged. Merriam-Webster, 2002. http://unabridged.merriam-webster.com (16 Sep. 2005).

```
Main Entry: jar·gon
Function: noun
Inflected Form(s): -s
Etymology: Middle English
jargoun, from Middle French
jargon,
probably of imitative origin
1 : chatter or twitter especially
of a bird or animal
2 a : confused unintelligible
language ...
3 a : the technical terminology
or characteristic idiom of
specialists or workers in a
particular activity or area of
knowledge; often : a pretentious
or unnecessarily obscure and
esoteric terminology b : a
special vocabulary or idiom
fashionable
in a particular group or clique
4 : language vague in meaning and
full of circumlocutions and long
high-sounding words
synonym see DIALECT
```

Re: Simulators vs. emulators

*Message #61 Posted by **Les Bell** on 16 Sept 2005, 11:37 p.m.,*
in response to message #60 by Howard Owen

Try http://www.dictionary.com, Howard; it seems to be more up-to-date. To my mind, it makes the key distinction quite nicely (reformatted slightly by me):

sim·u·late:
3. To create a representation or model of (a physical system or particular situation, for example).

em·u·late
3. (Computer Science). To imitate the function of (another system), as by modifications to hardware or software that allow the imitating system to accept

the same data, *execute the same programs*, and achieve the same results as the imitated system.

So a simulation is a model, with different internal operation; an emulation operates the same way internally. To bring this closer to home, a Java applet that looks and behaves like an HP-35 is a simulation, while a program like Eric Smith's Nonpareil, which uses the HP ROM code (and therefore *executes the same program*), is an emulation of the hardware.

Best,

--- Les
[http://www.lesbell.com.au]

Edited: 16 Sept 2005, 11:37 p.m.

(deleted post)

*Message #62 Posted by **deleted** on 17 Sept 2005, 1:12 a.m.,*
in response to message #61 by Les Bell

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

Re: Simulators vs. emulators

*Message #63 Posted by **Howard Owen** on 17 Sept 2005, 1:49 a.m.,*
in response to message #62 by deleted

> Quote:
>
> Howard, would you consider a duck quacking or a gooses honk or hiss to be jargon? Just wondered...

In the Webster's Unabridged sense, you bet! 8)

(Check the first definition of "jargon" above.)

Re: Simulators vs. emulators

*Message #64 Posted by **Howard Owen** on 17 Sept 2005, 1:34 a.m.,*
in response to message #61 by Les Bell

I'm not disputing those definitions. I'm pointing out that they are part of a specialized vocabulary. The Webster definitions are from 2002, not that long ago. The difference is that the Webster's unabridged dictionary, which doesn't try to be anywhere near as exhaustive as the OED, contains definitions developed from a broad sampling of English letters. In that context, the words "emulate" and "simulate" are nearly synonymous. If you look in the Webster's Collegiate dictionary, you'll find definitions closer to the ones you reference. That's because the Collegiate edition gives more weight to college textbooks, which are more likely to contain specialized jargon.

Most dictionaries are based on a sampling of some body of literature. The literature of Computer Science is pretty broad now, so I guess it makes sense to try and pin down meanings for specialized words like "emulate" and "simulate." The trouble with that is the rate of change keeps accelerating, and meanings can shift in that tide. To me, a "simulation" is a software system that implements a model of some sort. What you are modeling could be just about anything, hardware, software, physical process, anything. This usage seems to be in broad use in today's Computer Science literature. (c.f. An Interdisciplinary Approach to Scientific Modeling and Simulation and Fitting Time-Series Input Processes for Simulation, among many, many others.) Emulation, on the other hand, I have always understood to mean something like "simulation of some sort of computer hardware." I don't have any nice ACM citations to point to for that meaning, however. There isn't an "emulation" keyword in the "Guide," (there are several for "simulation") but

an advanced search of current titles for "emulation" shows lots of hits for "hardware" or "physical" emulation. These seem to match Don's definition of one set of circuits acting like another set for testing, development or experimental purposes. There are a few hits for "software" emulation as well, and these seem to describe systems like EMU41 or VMWare. So if this extremely informal sampling held up in the face of exhaustive analysis of the literature, a computer science dictionary editor would probably place Don's definition first, with JF's as a secondary meaning.

But there isn't a standard English dictionary of Computer Science that everyone recognizes, as far as I know. So there's room for this sort of discussion. Aren't we lucky? 8)

(deleted post)

*Message #65 Posted by **deleted** on 17 Sept 2005, 4:22 a.m.,*
in response to message #64 by Howard Owen

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

Re: Simulators vs. emulators

*Message #66 Posted by **Howard Owen** on 17 Sept 2005, 11:07 a.m.,*
in response to message #65 by deleted

WIMP - Wine is maybe a platulator. 8)

Re: Simulators vs. emulators

*Message #67 Posted by **Eric Smith** on 20 Sept 2005, 1:49 a.m.,*
in response to message #60 by Howard Owen

Yes, and Nonpareil (as well as V41 and other such programs) simulate the working of the real HP calculator at one particular level of abstraction: the execution of the microcode. Some other

simulators operate at a higher level of abstraction, such as user keystrokes; in principle another simulator could work at a lower level of abstraction such as an RTL (Register Transfer Level) description of the hardware, a netlist of the transistors, or even a GDS-II physical description of the chip geometry. It is silly to try to decide that simulating at some of those levels should be called "emulation", and others "simulation".

The definitions o fthe words "simulate" and "emulate" in Websters are general usage, not specific to Computer Science (or industry). IBM **invented** computer emulation in 1962 or so (announced in 1964). They defined emulation (with regard to computers) as simulation assisted by special-purpose hardware and/or microcode.

I don't have references close at hand to offer specific citations, though I remember that the invention of computer emulation was discussed in IBM's Early Computers by Bashe et al and in A History of Modern Computing by Ceruzzi, as well as many other books. The historical record on this is very clear; I don't really understand why it is controversial.

Re: Simulators vs. emulators

*Message #68 Posted by **Les Bell** on 20 Sept 2005, 2:58 a.m.,*
in response to message #67 by Eric Smith

> Quote:
>
> It is silly to try to decide that simulating at some of those levels should be called "emulation", and others "simulation".

It's a useful distinction, Eric. I would expect Nonpareil, since it runs the actual firmware of an HP calculator, to exhibit the same bugs, limitations on accuracy, and BCD representational artifacts, etc. as the real calculator. On the other hand,

I would expect a simulation, written in C, C++ or Java using IEEE floating point, to be different in those respects, as well as perhaps others.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Simulators vs. emulators

*Message #69 Posted by **Eric Smith** on 20 Sept 2005, 7:33 p.m.,*
in response to message #68 by Les Bell

But a microcode-level simulator is potentially not as accurate as an RTL-level simulator, so maybe only the latter should be called an emulator...

But an RTL-level simulator is potentially not as accurate as a netlist-level simulator, so maybe only the latter should be called an emulator...

But a netlist-level simulator is potentially not as accurate as a Spice simuulator, so maybe only the latter should be called an emulator...

I don't buy calling some simulators and some emulators based on how accurate they are, because it isn't clear what would be "accurate enough" to be called an emulator under that criterion.

Beside which, since IBM invented computer emulation, I prefer to use their terminology, which actually makes a useful and non-arbitrary distinction.

Eric

Re: Simulators vs. emulators

*Message #70 Posted by **Les Bell** on 20 Sept 2005, 8:51 p.m.,*
in response to message #69 by Eric Smith

> Quote:
>
> I don't buy calling some simulators and some emulators based on how

> accurate they are, because it isn't clear what would be "accurate enough" to be called an emulator under that criterion.

It's not based on accuracy, Eric - it's based on whether the emulation uses the original firmware/software or some other component of the original (not microcode, because, for mainframes, the emulation is done *in* microcode) or not. A simulation is "black box", and may have no code in common with the system being simulated (or it may be a simulation of a physical system); emulation is "crystal box", done with the intention of usefully imitating another system by running its software. There are no degrees of accuracy involved.

Simulation also carries connotations of modelling and experimentation (e.g. simulations of networks used to model spread of viruses and worms), whereas emulation is done primarily for pragmatic purposes, such as maintaining backwards compatibility over multiple generations of hardware - but this is weaker than the distinction I'm making above.

> Quote:
>
> Beside which, since IBM invented computer emulation, I prefer to use their terminology, which actually makes a useful and non-arbitrary distinction.

OK, here's their terminology:

emulation:
The use of software, hardware, or both by one system to imitate another system. The imitating system accepts the same data, runs the same programs, and achieves the same results as the imitated system.

(See http://www-306.ibm.com/ibm/terminology/ef.htm)

I don't see the distinction of which you speak. I contract to IBM, doing mainfame Linux stuff, including booting the Linux kernel from a virtual card reader, then using emulated network connections and so on, so I use their terminology a lot. It's also noteworthy that the z/Architecture "Principles of Operation" manual (IBM document SA22-7832-03), which describes the mainframes where z/VM allows one machine to look like many, and you would expect to extensively discuss this, never uses the term "emulate" or "emulation". So it's not as simple as saying "IBM does it this way, so there".

All I can say is that in over 20 years of teaching courses on operating systems and applications software, these are the usages I've commonly encountered, and the context usually provides clarification when required. It's only in the last few years that confusion seems to have arisen (probably WINE-induced), and mostly in the last few days. ;)

Best,

--- Les
[http://www.lesbell.com.au]

Edited: 20 Sept 2005, 8:53 p.m.

Re: Simulators vs. emulators

Message #71 Posted by ***HrastProgrammer*** *on 21 Sept 2005, 1:40 a.m.,*
in response to message #70 by Les Bell

emulation: The use of software, hardware, or both by one system to imitate another system. The imitating system accepts the same data, runs the same programs, and achieves the same results as the imitated system.

This one is good, too:

"Emulation program:

(2) A control program that permits functions written for one system or

device to be run on another system or device."

If IBM, who invented emulation, agree that emulation can be "the use of software, hardware or both" I think we can finally close this "simulators vs. emulators" discussion.

Edited: 22 Sept 2005, 9:19 a.m.

Re: Simulators vs. emulators

*Message #72 Posted by **Garth Wilson** on 21 Sept 2005, 1:50 a.m.,*
in response to message #69 by Eric Smith

> Quote:
>
> Beside which, since IBM invented computer emulation, I prefer to use their terminology, which actually makes a useful and non-arbitrary distinction.

I would have to point out however that word meanings are not the only thing to have evolved. Back then, computers were mostly for data processing, which is only a tiny portion of today's computer field. If you use a computer for controling equipment and taking data in real time, simulation alone is almost hopelessly inadequate in my experience. The simulator (software only) requires files of simulated stimuli upon which to act at certain times. "Real-time" refers to the requirement to meet stringent deadlines. The controlling computer in one of our products switches tasks 4,000 times per second. If I were to slow it down just a little for debugging during development, the hardware it is connected to would not work at all. For that, a simulator would somehow have to simulate that remote hardware as well, whereas my workbench computer which I used to emulate the final controller actually connected to, and operated, the other physical hardware. The benefit of using it as an emulator (as opposed to just trying to develop the software on the actual controller that

would end up in the product) was that the workbench computer offered the added tools to interact with and modify the software on the fly while watching the behavior of the whole system on the workbench instruments.

Again for most calculators, since they have no I/O other than the keyboard and LCD, there would be virtually no diffence between a simulator and an emulator; but for something like the 41, the mere simulator would not be able to get programs off my old microcassettes, read bar code from my HP-41 books, or read the programs from various modules. That would require the emulator.

I suppose the actual names don't really matter to me, as long as the distinction between the two is maintained. I'm not aware of any other terms in use at this time though.

Edited: 21 Sept 2005, 1:57 a.m.

Re: Simulators vs. emulators

*Message #73 Posted by **Wayne Brown** on 19 Sept 2005, 12:28 p.m.,*
in response to message #59 by Les Bell

> Quote:
>
> Of course, in the end, it really doesn't matter whether you call a thing a simulator or an emulator, as long as it does what you need sufficiently faithfully.

This discussion reminds me of something C.S. Lewis wrote in the Preface to "Mere Christianity." He was not talking about technical terms, but rather about the use of descriptive terms as terms of praise. However, I think it makes quite a good argument for preserving the meanings of words. (I apologize in advance for the long quote.)

"The word gentleman originally meant

something recognisable; one who had a coat of arms and some landed property. When you called someone a gentleman you were not paying him a compliment, but merely stating a fact. If you said he was not a gentleman you were not insulting him, but giving information. There was no contradiction in saying that John was a liar and a gentleman; any more than there now is in saying that James is a fool and an M.A. But then there came people who said - so rightly, charitably, spiritually, sensitively, so anything but usefully - 'Ah, but surely the important thing about a gentleman is not the coat of arms and the land, but the behaviour? Surely he is the true gentleman who behaves as a gentleman should? Surely in that sense Edward is far more truly a gentleman than John?' They meant well. To be honourable and courteous and brave is of course a far better thing than to have a coat of arms. But it is not the same thing. Worse still, it is not a thing everyone will agree about. To call a man a gentleman in this new, refined sense, becomes, in fact, not a way of giving information about him, but a way of praising him: to deny that he is a gentleman becomes simply a way of insulting him. When a word ceases to be a term of description and becomes merely a term of praise, it no longer tells you facts about the object: it only tells you about the speakers attitude to that object. (A nice meal only means a meal the speaker likes.) A gentleman - once it has been spiritualised and refined out of its old coarse, objective sense, means hardly more than a man whom the speaker likes. As a result, gentleman is now a useless word. We had lots of terms of approval already,so it was not needed for that use; on the other hand if anyone (say, in a historical work) wants to use it in its old sense, he cannot do so without explanations. It has been spoiled for that purpose."

Re: Simulators vs. emulators

Message #74 Posted by ***Howard Owen*** *on 19 Sept 2005, 12:57 p.m.,*

in response to message #73 by Wayne Brown

I take the general point that word meanings tend to evolve away from the concrete toward the abstract; from the objective toward the subjective. But I disagree with Lewis' conclusion that such an evolution renders the words "useless." Lewis correctly observes that the meaning of the word "gentleman," used as a term of praise, depends more on the attitudes of the speaker than specific characteristics of the object of the praise. But that's a clue to the speaker's thinking, isn't it? The word is more ambiguous, but it's use in the hands of a skilled writer can be that much more subtle and revealing. (I also think that, in the specific case Lewis cites, the word "gentleman" is not merely a term of praise. In the specific cultural context he is referring to, "gentleman" connotes a specific kind of praise: adherance to an elaborate set of norms that have all sorts of consequences and implications.)

So I enjoy hearing what JF, Don and the rest think words mean to them. This discussion taught me about the specific meaning of "emulator" to an electrical engineer, but also more about how Don views his world. I learned more about JF's technical world view, and also about certain attitudes he has about the meaning of the word "polite." These are gems, far exceeding the value of any concrete definition of any specific word!

Re: Simulators vs. emulators

*Message #75 Posted by **Les Bell** on 19 Sept 2005, 8:37 p.m.,*
in response to message #73 by Wayne Brown

Wayne, you are a scholar and a gentleman! ;)

Of course, what this reflects is that language is a living thing; it evolves and changes over time - look at current teen usage of terms like "sick", "evil", etc. which mean the opposite of what old f*rts like me think.

My wife, who has a degree in Linuguistics and English Lit., long ago convinced me that dictionaries are more descriptive than prescriptive.

It doesn't matter how much one protests - I've given up the struggle over the redefinition of the term "hacker", for example - so I probably shouldn't have joined the fray over emulation vs simulation. . .

Best,

--- Les
[http://www.lesbell.com.au]

Re: The world needs the 16C again.

*Message #76 Posted by **John Baldwin** on 17 Sept 2005, 6:23 p.m.,*
in response to message #23 by don wallace

Wow, thanks for the feedback!

I'll be sure to check out these sources. (Just for the morbidly curious, I'll post back here to let folks know what option I finally select.)

Double wow on the Simulator / Emulator discussion that followed! There must be something metaphysically wrong with me that wherever I go, chaos follows! [ROTFL...]

--johnb

Re: The world needs the 16C again.

*Message #77 Posted by **don wallace** on 18 Sept 2005, 1:46 a.m.,*
in response to message #76 by John Baldwin

Hi John.

Hey, Man - don't hog the credit for creating Chaos, if you don't mind... :-) Some of that has to come my way, oh and Bill Gates, too.

DW

Re: [LONG] Signed integers: HP-16C vs. "the rest"

*Message #78 Posted by **Howard Owen** on 28 Aug 2005, 11:48 p.m.,*
in response to message #6 by Vassilis Prevelakis

That's pretty cool!

I just recently got a Mac Mini, after simmering with resentment at Steve Jobs for making the original Mac unaffordable for starving students, like I was in 1984. That was one heck of a resentment to last that long. 8)

But OSX is pretty cool. And that calculator *is* very nice. It can be an "RPN Programmer" as in "it has bit manipulation and base conversion" not as in "it's programmable." Although, with the degree to which OSX apps can be scripted, maybe I'm not too sure about that.

Some other nice features of the programmer mode:

- The entire 64 bits in binary (in 2 rows of 32) are always visible, unless you turn that display off.
- There are "ASCII" and "Unicode" buttons that will show the character corresponding to the currently displayed number over on the left hand side of the screen.
- It has byte and word flips, great for switching big and little endian. Hmm, PPC, no wonder 8)

And the bad stuff:

- No stack! At least not a visible one.
- No X<>Y *or* swap.
- No roll-down, roll-up, over, pick or anything like that. In short,
- No stack!

ENTER does something stack-like.

But the other complaint I have is that it basically has the three modes, and the RPN switch, and that's it for customization. Oh yeah, and *no stack!*

Edited: 29 Aug 2005, 1:45 a.m.

Re: [LONG] Signed integers: HP-16C vs. "the rest"

*Message #79 Posted by **vassilis prevelakis** on 29 Aug 2005, 2:20 a.m.,*
in response to message #78 by Howard Owen

```
 Howard Owen wrote about the OS X RPN calculator:
>No stack! At least not a visible one.
```

It has a stack, although its not visible. It looks like its deep too. Try

1 ENTER 2 ENTER 3 ENTER ... 9 ENTER 10 + + + + + + + + + +

and you will see 55.

So it has a stack.

**vp

RPNing on OS/X (Was: Signed integers: HP-16C vs. "the rest")

*Message #80 Posted by **Etienne Victoria** on 31 Aug 2005, 7:21 p.m.,*
in response to message #78 by Howard Owen

Hello Howard & fellow Mac lovers,

You can find OS/X compatible Voyagers by Ric Lira at :

Voyagers for MacOs

Unfortunately, the Hp-16C is still missing...but the stack is there too.

Bye.

Etienne

Edited: 31 Aug 2005, 7:23 p.m.

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HP Forum Archive 15

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HP-75 HP-IL question

*Message #1 Posted by **Mike McWilliams** on 26 Aug 2005, 7:07 p.m.*

I am trying to resurrect an ancient Ludlum counter that uses an HP-IL interface. I'm using an HP-75 as a controller.

I am able to successfuly send commands to the counter via HP-IL using ASSIGNIO and PRINTER IS commands (I know this because I can see that parameters changing) but I don't know how to tell the HP-75 to expect and collect bytes from an HP-IL device. In other words, what is the input equivalent of the PRINTER IS command?

The metacode is something like this:

<ask counter to send count value> <counter sends a few bytes to HP-IL buffer> <HP-75 reads bytes and clears buffer> <repeat ad nauseum>

I'm sure this is simple, but I have no documentation and I'm piecing this together with bits I can glean from the net.

Thanks if you can help.

MM

Re: HP-75 HP-IL question

*Message #2 Posted by **Howard Owen** on 26 Aug 2005, 7:23 p.m.,*
in response to message #1 by Mike McWilliams

You probably need to program at a lower level than I/O redirection. Do you have the I/O ROM? it allows you to do more than the base HP-IL implementation will.

Re: HP-75 HP-IL question

*Message #3 Posted by **Vassilis Prevelakis** on 27 Aug 2005, 5:30 p.m.,*
in response to message #1 by Mike McWilliams

Check the I/O Utilities manual (75ioutil.pdf) on the MoHPC web site. It describes the facilities available on the HPILCMD LEX file (http://www.series80.org/Misc/HPILCMD.bin)

This should allow you to control you HP-IL device. For example the manual shows how to obtain readings from an HP Multimeter.

**vp

Re: HP-75 HP-IL question

*Message #4 Posted by **Howard Owen** on 27 Aug 2005, 6:24 p.m.,*
in response to message #3 by Vassilis Prevelakis

Those utilities will work. The LEX file contains SENDIO and READIO keywords, which are very low

level commands you can use to program HP-IL at the message level. However the I/O ROM is better, if you can get it, because it not only contains improved versioins of those keywords, but a lot of higher level words that allow great power without worrying about the low-level protocol as much. Depending on your application, these may well do the job you want, and with less effort. But the low-level stuff there too, if you need it.

Re: HP-75 HP-IL question

*Message #5 Posted by **Vassilis Prevelakis** on 27 Aug 2005, 11:55 p.m.,*
in response to message #4 by Howard Owen

Actually, they are not that different, if all you want to do is control instruments. True the I/O module commands are higher level, but the HPILCMDS commands can be used as macros without really understanding what is going on. E.g. I have this little program that randomly turns on the front panel lights (and associated relays) of an HP59306A relay actuator.

This is the HP-85 version (using the I/O ROM):

http://www.series80.org/Misc/HP85-RelayActuatrBlink.gif

and this is the HP-75C version (using the HPILCMDS SENDIO command):

http://www.series80.org/Misc/HP75-RelayActuatrBlink.gif

Comments:

When I ported this program to the HP-75C I expected that I'd only need to change a single line (the one doing the actual I/O). HA! It is **unbelievable** how many changes were necessary to move this 20 line program from one machine to another. Especially given that the two machines were nearly contemporary, were made by the same company and were even using the same processor architecture for crying out loud!

So, apart from the I/O statement I had to fix MOD (which is a function on the 75, as opposed to an operator on the 85), VAL$ is called STR$, and FN END is now called END DEF.

Plus, they redefined WAIT, so that instead of milliseconds, it expects seconds on the HP-75C. Surprise!

I am soooo glad I do not have to program these machines for a living :-)

**vp

Edited: 28 Aug 2005, 12:45 a.m.

Re: HP-75 HP-IL question

*Message #6 Posted by **Howard Owen** on 28 Aug 2005, 12:50 a.m.,*
in response to message #5 by Vassilis Prevelakis

Heh!

Yeah, I think playing with them is better than work. You get to stop when you get too disgusted!

I just back ported some code from the 71B to the 75C, and I ran into more incompatibilities. (That was made worse by my use of the JPC ROM on the 71, which gives you real structured programming.) Those were the days when HP was creating more standards than they could keep track of. Outside the languages I'm familiar with, BASIC for the 85, 75 and 71, plus RMB, there

was HPL, which was a dialect of BASIC running on some of the 98XX machines. There was a BASIC on the 110 and Portable Plus. I'm sure there were many others I 've never heard of.

I would point out that the second example of I/O is a bit more complex than the first. On the 85 you are dealing with HP-IB, and the way you are using it (the normal way) ignores the low level message passing on the bus. It's taken care of for you with the "OUTPUT" statement. That's not the case with the HP-IL example. There you have specified the HP-IL messages to send as controller to achieve communication with your device:

```
25 SENDIO 'ra:','unl,ren,lad#';D$
```

So, you are addressing the device with the name 'ra:' and sending 'unl' which turns off all listeners on the loop. Then you send "ren" which is remote enable, which tells potential listeners that they should accept remote commands, once the become enabled as listeners. Then you send 'lad#' which is the listener address of the guy you are talking to, :ra in this case. This tells the device to start listening for data. Since you set remote mode, that data will consist of commands to execute, rather than data to display or otherwise process. Finally, you send the data itself, in D$.

This all takes some knowledge of the low-level protocol of HP-IL. And you don't need comparable knowledge of HP-IB to get the job done on the 85. The 75 I/O rom provides OUTPUT and ENTER statements that allow you to use the loop in a way that is very similar to how you use the 85, but not exactly:

```
100 REMOTE ':ra' ! Sends the unt,ren,lad# combination.
110 OUTPUT ':ra',D$ ! Sends the data
```

Thats more lines, but it's much simpler, too. And it doesn't demand low level knowledge of the protocol.

Sometimes you can't get around using the low level stuff, and then you need knowledge of what messages to send. But that's not such a common case. However, most of the 85 guys I knew, back in the day, were very familiar with the low level workings of HP-IB. I had to get to know that pretty well too, even though I was coding in RMB, which had a very abstract interface to the bus, along with the low level one, of course.

So maybe it's a pipe dream to think you could get away with HP-IL coding on the 75 without learning details of the protocol. But the I/O module gives you choice. In fact, it has an even lower level interface that SENDIO/ENTIO to choose if you wish. It's called SEND, and it lets you compose arbitrary messages and send them on the loop. So instead of using the mnemonics for messages, you use a set of mnemonics for the upper three bits (CMD, IDY, RDY, DATA, END etc.) and an arbitrary bit pattern for the corresponding 8 bits in the message. So two machines with this capability might extend HP-IL in interesting ways, as long as their HP-IL ICs didn't balk! 8)

I just ran across yet another, even lower level interface offered by the I/O ROM. I think this one may be part of the I/O Utilities Pac too. This is RIO/WIO. These words read and write directly to the HP-IL IC's registers. So if your IC doesn't like what you are doing with SEND, you can try some very low level bit banging to coerce it into seeing things your way. 8) This could also be used to implement analyzer mode, where the read and write bits in r0 are both on. That makes the chip stop doing its part in the protocol. It reads the wire, then interrupts the CPU when data shows up. The ISR then must decide how to respond to the data. This is how EMU41 implements its virtual hardware, and also how the DEVIL module does its SCOPE mode. Of course, there's no "ON INTR" in the 75's BASIC, so maybe that wouldn't be possible without a special LEX to implement interrupt handling and ISRs.

Edited: 28 Aug 2005, 2:01 a.m.

Re: HP-75 HP-IL question

*Message #7 Posted by **Vassilis Prevelakis** on 28 Aug 2005, 2:02 a.m.,*
in response to message #6 by Howard Owen

```
Howard Owen wrote:
> there was HPL, which was a dialect of BASIC running on some of the 98XX
machines.
```

Mpouahaha. HPL is as much a dialect of BASIC as English is a dialect of Chinese.

```
> I would point out that the second example of I/O is a bit more complex than
the first.
```

I **said** that the I/O ROM commands were higher level **but** its OK to use the HPILCMDS commands as macros, ie not to try to understand what is going on, but simply include them in your programs. For simple measurement applications you only need the equivalent of the INPUT and OUTPUT. You can easily write a subroutine or two implementing these two commands and get it over with.

Much easier than trying to find an I/O ROM for the HP-75. One went for more than $100 a couple of weeks ago.

```
> So maybe it's a pipe dream to think you could get away with HP-IL
> coding on the 75 without learning details of the protocol.
```

You bet! I had to bring to my desk a bunch of HP manuals and my HP59401 bus analyser to find out why the HP-75C would not make the Relay Actuator actuate any of its relays :-)

It turned out to have been a misunderstanding of the configuration of the HP82169A HP-IL/HP-IB converter, that is a long story.

What can I say, its a hobby, you are **supposed** to want to know everything about this stuff, its not like you can do something useful with them is it?

**vp

Re: HP-75 HP-IL question

*Message #8 Posted by **Howard Owen** on 28 Aug 2005, 2:51 a.m.,*
in response to message #7 by Vassilis Prevelakis

> Quote:
>
> What can I say, its a hobby, you are supposed to want to know everything about this stuff, its not like you can do something useful with them is it?

I'm sure some would disagree with that, but not me. 8)

I *guess* fun is why Mike is doing this. Mike?

Re: HP-75 HP-IL question

*Message #9 Posted by **don wallace** on 28 Aug 2005, 9:14 a.m.,*
in response to message #8 by Howard Owen

Thanks guys! You've done me a big favour:

You've talked me out of ever bothering with doing ANYTHING with HP-IL. I like it in some ways, but thought it antiquated and guessed it would be awkward to use and a hopelessly antiquated pain-in-the-arse.

THANK YOU for confirming my suspicions.

I do wonder WHY people NOW bother with HP-IL instrumentation...

Don W

Re: HP-75 HP-IL question

*Message #10 Posted by **Howard Owen** on 28 Aug 2005, 2:53 p.m.,*
in response to message #9 by don wallace

If you mean "why do people *in general* use HP-IL, then I think the short answer to your question is "they don't."

Why it was used back in the 1980s is clear. It was an extremely low cost alternative to other systems available. The only thing comparable in cost was RS232, and it had severe problems with varying interpretations of the standard. This was still a probelm in 1985 when I was programming instruments on a 9816.

As far as being ugly, well, have you looked under the hood of your network lately? TCP/IP is complicated. You just never have to think about it much because its details are hidden by multiple layers of fairly mature software. That's the situation with HP-IB nowadays, too. This is the parallel bus that HP invented, and later standardized as IEEE-488. It was a big hit in labs and instrumentation. It was also what HP-IL was patterned on. At a low level, HP-IB looks very much like the fragment of HP-IL you saw above. Today there's a high-speed version of "GPIB" (as National Instruments calls it) called IEEE-488.2. The protocol is still in very widespread use. The biggest difference, other than the speed, is that most people use software from NI called Labview to drive it under Windows. I've never used it, but it's supposed to be a Visual BASIC like environment where you can drag and drop to create a model of your setup. You can then go out and just turn it on. In other words, HP-IB, like TCP/IP, has a layer of software on top of it that hides the lower level details.

HP-IL never got such a layer because it never made the leap into a general standard. This probably has to do with HP not standardizing it like they did HP-IB. Or maybe the economics of hardware caught up with HP-IL so that its cost advantage was no longer attractive. However that was, HP-IL is dead, dead dead.

Which brings us to the question of "why do *I* use HP-IL? Vassilis put his finger on it. *Because I think it's fun.* I can well imagine that others might have a different reaction to HP-IL. You seem to have gotten a somewhat different impression. 8) But, the complexity for me is a challenge. Then too, there's the fact that HP-IL is the way a lot of the machines that I also consider to be great fun talk to each other. So something I consider *fun* (HP-IL) is used to connect machines that I think are *fun* (HP-41C, HP-75, HP-71) so I can have even more *fun* with them! The common element there is, of course, sheer misery and desperation. 8)

Re: HP-75 HP-IL question

*Message #11 Posted by **don wallace** on 28 Aug 2005, 8:22 p.m.,*
in response to message #10 by Howard Owen

Hi all. Hi Howard.

I really liked your answer. I wasn't teasing or goading anyone... I certainly didn't mean to stir anybody up, either. Well, not much anyway ;-)

Yeah, for it's time HP-IL and (at the time) HP-IB, before it got picked up and standardized , were really cool "monsters". I wondered about your background and thought you (and probably Vassily) were right in the thick of things at that time. That NI stuff is very smooth...

To me it was an amazing time, with everthing still pretty "raw". Those were the "good old, bad old" days of computer engineering, long before that horrid term I.T. was spawned (from the depths of somewhere hot and stinky).

Remember when all those "data clerks" (yes, I know we need them, but...) were in the Electronic Data Processing (EDP) industry? Now it's I.T. As you guys say over there, "Go Figure..."

Something happened one day when we all blinked ;-)

Anyone who thinks experimenting with HP-IL is WAY COOL with me!

As for me I have my own strange brand of eccentricity. I am hoping to roll a simple analogue input module for my 41C and maybe an IR module for it which is a bit faster or just different than the standard one. In my crasier moments I find myself wondering if I should do a module to implement a logic state analyzer interface for the darn thing...(!) as I am building a revamped version based loosely on something I made in 1987 anyway.

I always wondered where the engineers turned experimenters (or is that the other way around?) hung out on the 'net. So far I have met a few of you here. Pretty cool...

Best wishes, guys!

Don W

Re: HP-75 HP-IL question

*Message #12 Posted by **Howard Owen** on 28 Aug 2005, 9:06 p.m.,*
in response to message #11 by don wallace

I wrote in another thread about pioneers, and their attitude toward the evolved products of their pioneering. The monks who illuminated manuscripts as a devotional duty would scorn a paperback book. They might even be horrified by it. The same could be said of a watchmaker, seeing cheap quartz crystal driven LED watches being given away in the 1970s, as bait to draw you into a sales pitch for the new department store. And yet, both items, the paperback book and the cheap watch, are marvelous, democratizing miracles. (Well, maybe the paperback is more liberating than the watch.)

The monk never saw a paperback, centuries having elapsed between his cloister and the publishing format. But watchmakers in the 20th century certainly did see their business change when Japan started flooding world markets with cheap and accurate time pieces. But the true change from art to commodity in time-keeping took longer, perhaps on the order of a century. But for us, technology cowboys and girls, we have seen the most astonishing transformation in human history play out in a mere 20 years or so. And our technology was one of the principle driving forces of that change.

But we have to suffer, watching our "toys" being turned into manure scoops. Not only do we cope with the natural, useful, but crass and ungraceful transition from artistic expression by small groups of motivated people, to mass market, lowest-common-denominator products, but we also are faced with a world that has suddenly drawn in its horns. The crash of 2000 brought an end to unexamined claims of wonderful benefits to be had from just the right piece of software and/or business model. And September 11th, at least in the US, added to the sobering realization that the world wasn't the rosy garden Americans tended to see after the fall of Communism.

So the cautious ones, the actuaries, the managers and so forth, are now in the ascendency in our beloved technical playground. I've tried to show that this is not a unique occurance in history, but it's still painful to watch and live through.

But my real hope is that software will eventually trump all the calcifying calculations of the careful crew. "Thought and code are closely intertwined" I once wrote. That means that ideas still have a fast-track to reality that they never had in the past. Disruptive ideas *will* emerge. Change *will* continue to accelerate. None of the underlying conditions that made this true in the late 20th century have changed. The instrumentality of imagination is faster and more powerful every day. The challenges facing us as a global civilization are clearer and more pressing. This*will* make a difference.

Hallelujah, Amen. 8)

Re: HP-75 HP-IL question

*Message #13 Posted by **Mike McWilliams** on 29 Aug 2005, 2:05 p.m.,*
in response to message #12 by Howard Owen

Howard, Vassilis, Don

Wow. Thanks for all the responses. I won't presume to weigh in on the philosphical aspects of your comments, because you all know much more than I do.

Howard, I don't have the I/O module you refer to, all the ROM slots are filled with dummy ROMs.

To answer Howard ("Why is Mike doing this?"): I bought a Ludlum scaler/counter on eBay a while back to run an experiment here in my lab (we're on a budget, just poor university types). The prce was great and the counter works just fine, once you can talke to it. But it has no front panel controls, it was designed ONLY to work via HPIL commands. The manual shows examples of how to run it with an HP-41 via HP-IL, but I

didn't have an HP-41 but I did have an HP-75 that a colleague gave me. So I searched on eBay for a few HP-IL cables and eventually made it work (sort of, see next paragraph).

Using PRINTER IS I can send bytes to the device to turn on the high volts, set window sizes and initiate counting. What I can't seem to do is read bytes over HP-IL. The syntax is quite simple, i.e. send a count command, wait for counting to be done, then send a command to initiate the sending of a byte stream back to the HP-75.

Vassilis, thanks for the tip about the HPILCMD.bin file, I have downloaded this multiple times but can't seem to unpack it. My Mac and my PC both think it is MacBinary, but no PDF file results. Maybe it is a different kind of binary file?

Ultimately I will try to control this device via HP-IB, I found an 82169A interface that I am now experimenting with.

Again, thanks for all the help, we'll get it going soon I 'm sure.

MM

Re: HP-75 HP-IL question

*Message #14 Posted by **Howard Owen** on 29 Aug 2005, 2:57 p.m.,*
in response to message #13 by Mike McWilliams

The .BIN file is probably the raw bits the 75 needs to have residing in RAM before you can use SENDIO/ENTIO. (It is 'ENTIO', not 'READIO.') To get those bits onto your 75C, you need one of two things. Either an HP-IL disk/tape or other mass storage device onto which you can copy the bits from the PC, or else a copy of those bits on 75C magnetic cards. The former isn't impossible. I outline how I set up my system in an article here at the Museum. (" HP-IL, Linux and the Internet")

But the easiest way would be to get someone to write the data you need onto cards and mail them to you. I can do that, but I need you to go on eBay and look for the auctions that offer HP-75 magnetic cards. Purchase one package or so. I will send you the cards you need enclosed in the plastic tube they come in. When you get the cards, replace them in the tube with an equal number of blank cards and send them back.

Sound OK?

Re: HP-75 HP-IL question

*Message #15 Posted by **Mike McWilliams** on 29 Aug 2005, 6:25 p.m.,*
in response to message #14 by Howard Owen

Ah, right you are. Looking again at the message from Vassilis, the .bin file is the actual code and the manual pages that describe it are in PDF form "75ioutil.pdf".

I do actually have a stack of blank HP-75 ribbon tapes, as it turns out.

Re: HP-75 HP-IL question

*Message #16 Posted by **Howard Owen** on 29 Aug 2005, 8:28 p.m.,*
in response to message #15 by Mike McWilliams

What continent are you on? 8)

You should be able to email me through the museum link.

Re: HP-75 HP-IL question (how DO you enter a 75C LEX file?)

*Message #17 Posted by **Vassilis Prevelakis** on 29 Aug 2005, 11:33 p.m.,*
in response to message #16 by Howard Owen

come on guys, HPILCMD is only 1280 BYTES!!!!!

just type them in :-)

**vp

(actually I am joking, I do not know how you can enter a LEX file on the HP-75 by just typing in the byte values). I think you need yet another LEX file (kinda chicken and egg situation)

Edited: 29 Aug 2005, 11:36 p.m.

Re: HP-75 HP-IL question (how DO you enter a 75C LEX file?)

*Message #18 Posted by **Howard Owen** on 30 Aug 2005, 12:56 a.m.,*
in response to message #17 by Vassilis Prevelakis

Right. You can do that on the 71B because there's a builtin POKE, albeit a limited one. But the 75 BASIC lacks that facility.

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TI 59 RPN SIMULATOR MODULE

*Message #1 Posted by **amora1946** on 26 Aug 2005, 6:14 p.m.*

Hello HP lovers. I know this is an HP FORUM and i am an avid HP RPN Lover myself, however do any of you Babyboomers remember seeing a TI 58/59 witht the $50.00 RPN SIMULATOR Module circa '79? Reason i ask is that i acquired several TI 58C's and would like to acquire the RPN module. It turns the TI inato a 9 level stack RPN machine.

Warmest regards,

Andy Aerospace Mechanical Engineer So. Ca

Re: TI 59 RPN SIMULATOR MODULE

*Message #2 Posted by **Namir** on 26 Aug 2005, 11:24 p.m.,*
in response to message #1 by amora1946

How about you sell your TI's and buy some HP calculators **WITH SOEM REAL RPN STACKS!!!!!!!!!**

Re: TI 59 RPN SIMULATOR MODULE

*Message #3 Posted by **Howard Owen** on 26 Aug 2005, 11:44 p.m.,*
in response to message #2 by Namir

Who's selling them RPN stocks??

I'd be careful. Could be a swindle. I mean, there's not a lot of money in RPN, or so I've been told.

Re: TI 59 RPN SIMULATOR MODULE

*Message #4 Posted by **Andy** on 28 Aug 2005, 12:41 p.m.,*
in response to message #2 by Namir

Have most of the desired RPN HPs already. HP35, 28S, (3) HP 41CVS, 10C, 11C, 15C, plus some ALG units, 6s, 9s, 30s, 38G, 48G in addition to TIs.

Re: TI 59 RPN SIMULATOR MODULE

*Message #5 Posted by **db (martinez, ca.)** on 26 Aug 2005, 11:59 p.m.,*
in response to message #1 by amora1946

I'd like to find one too, although i've read that it's purpose was to allow one to enter HP 65/67 programs into a TI 59 series unit and somehow run them. I have not read that it will let you use the 58/59 as an RPN calc of any stack depth. It's possible though.
They were a good machine, robust with not-too-bad keys. Some surveyors used them and i remember being told that the TI program would store an amazing 20(!) coordinate pairs. That sounds paltry unless you consider that HP didn't market a point storage program of any size on a handheld till years later in the 71 - another non-

RPN.
Remember: The 58 series only holds one module at a time. If the chip works like you think it may; you probably can't use the math, statistics, navigation, or surveying modules with the RPN module since i never heard of anyone combining ROM's on a TI :-(
You could write to Joerg at Datamath and ask him about his but be careful. He may try to get you to go over to the dark side.

What the TI RPN simulator will and will not do

*Message #6 Posted by **Gene** on 27 Aug 2005, 8:37 a.m.,*
in response to message #5 by db (martinez, ca.)

What it does:

It ONLY allows you to key in the keycodes of programs from the hp97 into a TI58C or TI59.

The module will run a long long time and then spit out a print out (printer is required) of a translated TI program that performs equivalently to the original RPN program.

This program then must be re-keyed into the TI calculator from scratch to be run.

What it does not do:

It does NOT allow you to use the TI calculator in an RPN operational mode.

It does not support all HP97 features. It won't do rapid reverse branching for example. I think it also has problems (if I'm remembering correctly) with P<>S (primary to secondary) memory switches.

All in all, although I have had this module for years now, I have never once used it. I really can't imagine an HP97 program that was so compelling that I'd want to try to run it on a TI58C or TI59. I think I'd just run it on the original hp97.

Here's what I said about the module several years ago (which can be found on my old HP and TI website: http://www.rskey.org/gene/calcgene/59mods.htm)

"Module #13, RPN Simulator. Although I have one, I have never used it. This module was a very strange one for TI to make. Apparently, they were getting tired of people claiming HP's were better calculators so TI decided to make this module as its answer to HP and RPN. (Or they may have realized that there was a lot of software programs out there for HP's and wanted to give their users access to it). It's an entire module with one executable program on it. You run the program and key in HP-97 program KEY CODES. You could take a printed program listing for the HP-97 (this would NOT work for HP-67 key codes, only the HP-97) and key in the program steps keycode by keycode. When finished, the program would go off and compute and eventually (and this took a while) print out a TI-59 equivalent program. This then had to be KEYED back into the TI-59 to run. The usefulness of this module is somewhat suspect. First, only keycodes from a HP-97 listing can be used. Second, not all instructions from the HP-97 can be interpreted or emulated by this module. The manual (woefully concise) provides a list of these functions. Also, the resulting program often doesn't run very well at all speedwise. TI did give a very good effort, however. Their timing was terrible, as this module came out only a few months before HP introduced their HP-41. This module did NOT work except to translate programs."

Re: TI 59 RPN SIMULATOR MODULE

*Message #7 Posted by **Geir Isene** on 27 Aug 2005, 5:05 a.m.,*
in response to message #1 by amora1946

I started out programming calculators in the late 70's on a TI-57 and shortly after a TI-59. It is a great calc capable of self-modifying programs. I got converted to RPN by the HP-41. Having a beautiful working TI-59, I would love to do more experimenting with it - like adding the RPN simulation module. However, the module is not of much use - it allows you to input HP-65/67/97 programs into the TI-59 by its key kodes; it then prints out the corresponding TI-59 keykodes on a PC-100A/B/C printer. Then you can reenter the TI-59 keykodes into the 59 to get a working TI program. In short, you can only use it to translate HP programs to TI. The manual is availbale here:

http://bulk.rskey.org/BULK/CALCDOCS/TI/TI%2059%20RPN%20Simulator.pdf

The really cool thing would be to make a self-modifying program that lets you skip the re-entry of the translated program. It would be done by storing the program as codes in registers, only to convert those registers to program space.

Re: TI 59 RPN SIMULATOR MODULE

*Message #8 Posted by **Andy** on 28 Aug 2005, 12:36 p.m.,*
in response to message #7 by Geir Isene

Thanks to all for awesome input. BTW, iam a diehard RPN user and have most of the HP RPN Calcs already plus a few of the new ALG units. I may consider putting remainder of my TI 58C's on e-bay. Will keep my TI SR 50's for nostalga. They were made very robust like the HP35s

Re: TI 59 RPN SIMULATOR MODULE

*Message #9 Posted by **Geir Isene** on 28 Aug 2005, 12:40 p.m.,*
in response to message #8 by Andy

I'd like a TI 58C...

[Geir ducks the tomatos and eggs]

Re: TI 59 RPN SIMULATOR MODULE

*Message #10 Posted by **Andy** on 28 Aug 2005, 12:49 p.m.,*
in response to message #9 by Geir Isene

Geir, you can download a TI59 Simulator onto your desktop PC. LOL, activate the AIRBAG on your PC to avoid getting hit with tomatoes

Re: TI 59 RPN SIMULATOR MODULE

*Message #11 Posted by **Vassilis Prevelakis** on 28 Aug 2005, 5:49 p.m.,*
in response to message #9 by Geir Isene

```
Geir Isene wrote:
I'd like a TI 58C...
```

I wish all wishes were so easy to fulfill. You can get very cheap TI-58Cs on eBay. Actually, for less than $25 (incl shipping). In some cases you even get the printer (PC-100C) thrown in for the same price.

At least for such a low price you won't feel bad when you throw it away after playing with it for a couple of hours.

These things were poorly made then and they have aged badly over the last 20 years. My first calc

was a TI-58 (then upgraded to a TI-59, before I sold it to get an HP-41C) and I can tell you that it was crap.

**vp

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LIF Text Format(s)?

*Message #1 Posted by **Howard Owen** on 26 Aug 2005, 2:58 p.m.*

I'm converting all the LIF TEXT files I can find in the swap disks to ASCII as part of my plan to index and document those disks. It appears there are several "TEXT" formats in use. The 71B HP-IL interface manual says type "TEXT" is rquivilant to type "LIF" implying that there is one way to represent text. But using Tony Duell's "text75" program results in gibberish for several of the text files, making me think there is more than one format involved. I've developed a Perl script that converts TRANSFORMed 71 BASIC files to ASCII, but that's helped along by the fact that there are line numbers in such a listing.

What I'd like to find out, if someone knows off the top of their head, is where are the various formats defined? I'm going to conduct a search of my own, but I thought I might be able to shortcut the process a little by posting here.

Thanks, Howard

Re: LIF Text Format(s)?

*Message #2 Posted by **Tony Duell** on 27 Aug 2005, 6:15 a.m.,*
in response to message #1 by Howard Owen

There are at least 2 text formats...

There's what I call TEXT75, which is, AFAIK, used by the HP75 only. The structure of that is similar to a BASIC program from what I can tell

Then there's the normal LIF text file, which is used by just about every HP machine that supports LIF disks. It's the HP41 ASCII file, the HP71 text file, HP75's can produce it too, I've also come across it on larger machines.

This is handled by my hptext program in my LIF utilities for Linux distribution. I think the format is given in the back of the HP71 HPIL manual.

Re: LIF Text Format(s)?

*Message #3 Posted by **Howard Owen** on 27 Aug 2005, 3:39 p.m.,*
in response to message #2 by Tony Duell

Thanks again, Tony. I had missed hptext in your suite. Another of my Perl scripts bites the dust due to your effort! Thanks!

(**No irony** there. I really prefer to use someone else's tool, if it works as advertised, which yours do.)

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30HPHW ???????

*Message #1 Posted by **unspellable** on 26 Aug 2005, 11:17 a.m.*

I have found a picture labeled as a 30HPHW. This calculator is in the same case as the 28C/s or 19BII. Anybody ever heard of it? If so, what is it? (The picture does not have enough resolution to read any of the key lables.)

Re: 30HPHW ???????

*Message #2 Posted by **Gene** on 26 Aug 2005, 12:22 p.m.,*
in response to message #1 by unspellable

It's just a 19bII picture. Nothing new (unfortunately). Not sure why dealtime appears to have labeled their picture that way, but ...

(did a google search on 30hphw and it came up with two hits at dealtime).

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Batteries versus supercapacitors ...

*Message #1 Posted by **Artur - Brasil** on 26 Aug 2005, 11:02 a.m.*

In my last incursions on Internet, I found some interesting new (at least to me) electronic devices.

First, the big ones: Farad capacitors for car's audio systems. I've never had one in my hands, but I believe they are very big.

After some months, I saw in Ebay the little cousins: Panasonic 1Farad very small capacitors.

Very interesting, but, because its high internal resistance, the delivery current is small, just enough to keep memory circuits. Of course, there is a line that could delivery Amps, but their size does not allow their use in the 41C battery pack or battery holder.

Continuing my researches, I found the Aerogel Capacitor. They are small in size and don't lack the high internal resistance, allowing Amps to flow instantaneously.

Well, I was wondering in using 4x 3.3F , 2.5 V or the 1.0F, or 2x 5.0V in my 41.

The problem: they accept only 50US$ min. orders from internatinal buyers... anybody in USA could try and let us to get some these small wonderfulls?

Here are the links:

Manufacturer

Seller

The models I was wondering are B1020-2R5335 or PB-5R0V105

Best regards, Artur

Re: Batteries versus supercapacitors ...

*Message #2 Posted by **Klaus** on 27 Aug 2005, 5:02 a.m.,*
in response to message #1 by Artur - Brasil

Hi Arthur,

In Germany you can buy these Capacitors (sometimes called "goldcaps") from any electronic distributor. If you can't find these in your country, I offer you my help!

Help is welcome

*Message #3 Posted by **Artur - Brasil** on 27 Aug 2005, 12:03 p.m.,*
in response to message #2 by Klaus

Hi, Klaus

Here in my city they are not avaiable yet. But the GoldCaps aren't the ones from Panasonic? These have internal resistance too high and I believe they will not be usefull in calculators. If you have any time and could verify the other brand (Aerogel from CooperEt), I would appreciate very much your help. Thank you very much, Artur

Re: Help is welcome

*Message #4 Posted by **Klaus** on 28 Aug 2005, 5:30 a.m.,*
in response to message #3 by Artur - Brasil

Hi Arthur,

I don't knwo much about Gold Caps (regarding their resistance). I found a capacitor called "UltraCap", it is dischargable with a current of 400A and its capacity ranges from 4F to 110F at 2.3V

Dimensions in mm:

5x23.9x15.6 for 4F : 8€ 5x23.9x30.6 for 10F : 9€

110F is cylindric: Length = 67.5, diameter = 25.5 :35€

Are you planning to put in a voltage regulator as well?

Re: Help is welcome

*Message #5 Posted by **don wallace** on 28 Aug 2005, 7:41 a.m.,*
in response to message #4 by Klaus

Whats wrong with rechargeable nicad batteries?

I think you will find the capacitors you are talking about are unsuitable for the 41.

All I would say is: Make sure you don't wreck your calculator by mucking around with it. I don't think what you are doing is a very good idea.

Any high current high capacity capacitor is going to self-discharge and you know yourself the low current parts won't work. Why muck around if you don't know what you are doing? It's not worth it... It really isn't.

The high current high capacitance parts you are taling abut are massive. I have some out of a MAINFRAME COMPUTER power supply; they are 58000 uF (0.058F), 25 volt, very high current. The parts are FIVE INCHES round and stand about EIGHT inches high. No I am not kidding.

When it is running a program the HP41CV draw 4.5 millamps.

Kind regards,

Don W

Not practical at all

*Message #6 Posted by **Garth Wilson** on 28 Aug 2005, 8:19 p.m.,*
in response to message #5 by don wallace

To get as much use between charges as you'd get with one set of alkaline N cells, you'd need somewhere around 1kF-- yes, a thousand farads. That't assuming you used the energy before the capacitor's own leakage discharged it. The supercaps do hold a charge for a long time, but I don't know about years like alkaline batteries manage.

Farads=Amps x seconds / voltage_change

The alkaline N cell gives about a 500mA-hour (not amp-seconds). That's about 1800 amp-seconds, to get from 1.55V down to about 1.2V where the HP-41 low-battery indicator comes on. That's per battery, so multiply by four, assuming the capacitor can handle 6V so you don't have to put them in series. So in the equation above, the "voltage_change" term becomes 4(1.55-1.2), or about 4*.35, or 1.4. The result is almost 1,300 farads-- not microfarads, or even millifarads, but farads. Hardly practical.

To make it worse, suppose the capacitor can't handle the whole six volts. If it can handle three, you'll need two in series, each one of double the capacitance. If you need four in series, each one needs four times the capacitance, or about 5kF. If you say you're only going to charge the set up to 5V instead of 6V, now the "voltage_change" term above becomes smaller, and the required capacitance value further increases-- dramatically!

Edited: 28 Aug 2005, 8:26 p.m.

Re: Not practical at all

*Message #7 Posted by **don wallace** on 28 Aug 2005, 8:31 p.m.,*
in response to message #6 by Garth Wilson

Not meaning to offend anyone, but...

RIGHT On, Garth!

happy experimenting, you guys...

Don W

Thanks!

*Message #8 Posted by **Artur - Brasil** on 29 Aug 2005, 8:35 a.m.,*
in response to message #6 by Garth Wilson

Hi,

Thank you for the electronic class! It is really impossible to use the caps to run the HP. I believe not because it can deliver Amps instantaneously and this could damage the calculator, as the discharge current also depends on the internal resistance of the circuit that are being powered. If HP uses mA only, it will keep using the mA only, it doesn't matter if I use N cells or a truck battery with a voltage regulator, am I right? Just an examination (using 48's solve function) on the formula, with the DeltaV of 0.2V (1.5 to 1.3) and the time of 3600s, the F is very high! Any way, thank you for the class and saving my money!

Artur

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Batteries versus supercapacitors ...

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HP 48SX failure

*Message #1 Posted by **will** on 26 Aug 2005, 6:20 a.m.*

Hi..i have a problem with my 48SX. Once i turn it on shows: try to recover memory (typical when you put on it new batteries)....if you try YES or NO this message still on screen, so i suppose the calc have a memory failure or need a memory (or calc) reset as i did with my 17BII sometime ago. I would be grateful for your help...

thanks...

Re: HP 48SX failure

*Message #2 Posted by **Namir** on 26 Aug 2005, 8:31 a.m.,*
in response to message #1 by will

Just choose NO ... and you will be fine. Your calculator is fine.

HP 48SX failure

*Message #3 Posted by **will** on 26 Aug 2005, 12:43 p.m.,*
in response to message #2 by Namir

Hi...You can choose YES or No...the calc return to the message once again....

Re: HP 48SX failure

*Message #4 Posted by **Namir** on 26 Aug 2005, 4:48 p.m.,*
in response to message #3 by will

Resetting the calculator or discharging any possible static electricity might help. To do the latter, remove the batteries and then connect the contacts with a piece of metal. Insert the batteries again and then turn the calculator on.

Re: HP 48SX failure

*Message #5 Posted by **Artur - Brasil** on 26 Aug 2005, 2:08 p.m.,*
in response to message #1 by will

Did you tryed the hard-reset? Remove one of the rubber foot on calculator's back (I don't remember which one). There will be a small hole. Insert a clip inside it until the calculator resets.

I hope this could help. Artur

Re: HP 48SX failure

*Message #6 Posted by **Randy** on 26 Aug 2005, 6:44 p.m.,*
in response to message #1 by will

The reset might fix it but I doubt it. It could be under either the right or left upper rubber foot - it changed sides during the SX's lifetime so you've got a 50-50 chance.

If it does not recover with either the YES or NO choice, you have a contaminated or otherwise shorted keyboard. You might be able to clear it out by cleaning with an ultrasonic cleaner but it is likely to return. As the SX is at the bottom end of vintage HP values, it might be wise to pick up a used replacement. The 48G is less costly if you don't need the expansion ports.

Re: HP 48SX failure

*Message #7 Posted by **Howard Owen** on 26 Aug 2005, 7:07 p.m.,*
in response to message #6 by Randy

> Quote:
>
> The 48G is less costly if you don't need the expansion ports.

And if you can get by with 32K of ram instead of 128K. And if you don't have too much time invested in learning the SX layout or else don't mind learning a slightly different one. You also get about 60% better performance with the G series, modulo the RAM issue.

Re: HP 48SX failure

*Message #8 Posted by **Randy** on 26 Aug 2005, 7:12 p.m.,*
in response to message #7 by Howard Owen

The SX also has 32K of ram. Only the G+ and GX had 128k...

Edited: 26 Aug 2005, 7:14 p.m.

Re: HP 48SX failure

*Message #9 Posted by **Howard Owen** on 26 Aug 2005, 7:21 p.m.,*
in response to message #8 by Randy

(Slaps forehead)

I didn't know that. Thanks for the lesson. 8)

Re: HP 48SX failure

*Message #10 Posted by **don wallace** on 31 Aug 2005, 4:42 a.m.,*
in response to message #9 by Howard Owen

Happy to try fixing your calculator if you want.

Drop me a line at:

donwallace63@yahoo.com.au

Don W

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Bring back ....

*Message #1 Posted by **Namir** on 25 Aug 2005, 6:19 p.m.*

I am amazed at the "bring back the 15C" nostaligia. Why stop there? How about bring back the 41CX? Or even the 67??? How about the 67CX (well it never was real to begin with)!

I have a much better solution that will make us ALL very happy on this website ... yes EACH AND EVRRYONE!

How about asking HP to turn back time! This way we ALL get one or more models we like!! Why chose just one? ?? WE GET THEM ALL.

So here I go!

HP! If you are listening. BRING BACK THE PAST!!!

There!!! Now we can ALL SIT BACK, RELAX, SMILE, AND WAIT FOR ALL THOSE BEAUTIES TO BE REAL AGAIN!

Hop HP will do it's magic by HHC2005 .. or even by HHC2006. I will wait for a year.

Re: Bring back ....

*Message #2 Posted by **Howard Owen** on 25 Aug 2005, 10:01 p.m.,*
in response to message #1 by Namir

Now *that* is the true spirit of nostalgia! 8)

There was an old joke about IBM that claimed they had invented a computer that was faster than light. As a result, it could predict the future. So IBM started delivering mainframes before the customer knew they needed one. 8)

Re: Bring back ....

*Message #3 Posted by **Dave Shaffer** on 25 Aug 2005, 10:51 p.m.,*
in response to message #2 by Howard Owen

"There was an old joke about IBM that claimed they had invented a computer that was faster than light. As a result, it could predict the future. So IBM started delivering mainframes before the customer knew they needed one. 8)"

I'm not sure about actual delivery, but they sure as heck would promise something long before they could really deliver it! This is back in the '60s.

Re: Bring back ....

*Message #4 Posted by **Hugh Evans** on 25 Aug 2005, 10:28 p.m.,*
in response to message #1 by Namir

Reissues of classic machines could actually be quite a cash cow for HP. The 15C would be a logical starting point. I don't know if the 12C uses the same CPU design as original voyagers, but if they do I would assume they could acquire a ROM dump from the community and be in business. Bring quality standards up to or exceeding those of the originals and it could be back on the market for the cost of tooling. Set a price point between $100-$150, ducplicate the original packaging and manual.

It's very low risk, and due to sunk costs for LCD, enclosure, and perhaps even the PCB I would imagine the margin would be astronomical. Injection molding the keys might cost $10k for tooling, but that's a drop in the bucket. Best of all, it wouldn't be competing with any of their current RPN scientific models. The price point, styling, and features set it apart.

Re: Bring back ....

*Message #5 Posted by **Holger Veit** on 26 Aug 2005, 6:57 a.m.,*
in response to message #4 by Hugh Evans

I think ou are overestimating the market for "classic" calculators by far. Surely, almost everyone here in this forum might buy re-issued classic HPs (not the Kinpo crap), but this collector's forum is the exception.

Look how the market for handheld devices is evolving: the calculator functionality is just an add-on of almost all mobile phones nowadays. Surely this is only the standard +-*/ calculator style, but apparently nowadays most people do no longer need computing power like a HP41 as a handheld - PCs with more speed and functionality are ubiquituous.

See the decrease of the BASIC-style Casio sliderules - does anyone, except collectors, still feel the need to have one and to program it - seriously? Their time was over when people could get C64 and Apple with faster or better BASIC built in.

Even if HP could make insane profits by buildung a classic HP calculator for 5$ and sell it for 100$ (but then: why not build it for 1$ at Kinpo and increase profit further?), would anyone seriously expect that people (again: collectors and students excluded) buy such a "calculator-something" with strange UPN entry logic for 100$ when you could get some noname-throwaway for 5$ at the local Walmart? Quality is no longer an argument - see again the mobile phone market - it may be crap, but it must be stylish and new, and your pals shouldn't have it already.

It is not a technical issue anymore.

Re: Bring back ....

*Message #6 Posted by **don wallace** on 26 Aug 2005, 7:58 a.m.,*
in response to message #5 by Holger Veit

Hi all.

Right On, Volger...!

It's sad, but the past IS JUST THAT: *past*.

However, at least people here have a place to chew the fat WITH FREINDS over the technical achievements of the 1970's, probably to be remembered ten years from now as THE HEIGHT OF CIVILZATION, when we all had nothing to worry about except when gas was going to pass 50 cents a gallon or whether we could scrape enough money together to buy that really nice State-Of-The-Art Stanton cartridge for the turntable we wanted to buy. Maybe if we worked in *aerospace we were worried about getting laid off, or were in high school, just worried about getting laid, (not fretting about Aids, Peak Oil and Permanent War... or permanent unemployment.)

This IS just my opinion, but I think we are at an unusual point in history. Lets enjoy the nostalgia and camaraderie while we still have the time and luxury for such indulgences...

As for me I may have had most of my CD's stolen, (and other more serious personal stuff I cannot share with you all) but I still have my STAX (SR5) headphones.... and my ageing hp 41CV. As important but no more or less so, is my hearing bandwidth to appreciate the STAX and my knowledge of maths and electronics and the accuity to appreciate and actually USE as a NEED, the performance of the hp41...

Whether I still have my perspective and mental health, well I leave THAT to the reader to judge. At least I haven't lost my sense of **humour (**yeah we spell it that way over here ;-)

Peace, Man! ;-)

Don W P.S.:

* jokes my lecturer told us: (he claimed to have worked at Lockheed in the mid seventies. I dunno...)

What's the definition of an optimist? A Lockheed engineer who brings his lunch to work.

What's the defintion of a pessimist? One who leaves his car running in the driveway.

Apologies if I have unwittingly offended anyone...

Re: Bring back ....

*Message #7 Posted by **Namir** on 26 Aug 2005, 8:29 a.m.,*
in response to message #5 by Holger Veit

In the mid 80s I had the chance to intreview Dr Jean Ichbia, teh father of the Ada language. He said something interesting about programming languages that seems even more true about our affinity to vintage HP calculators. Ichbia said "Programming languages are our interface with machines. We like to have new machines that are more powerful, yet we want to use the same programming languages to work with them."

The old HP calculator were new, cool, and empowering of us in our jobs and tasks. This was at a time when computers were not commonly used. We learned how to program these calculators. We mastered tricks of using the stack, indirect addressing, program flow control. **We invested a lot of ourselves.** Somehow we made a man-machine connection that made us stand out a bit -- we were the geeks that had those cool calculators.

The advent of the PC (generically speaking) seriously challenged the old HP calculators. The PCs became the new **HYPERCALCULATOR** that has a compfotable keyboard, screen, storgae device, printers, modems, and so on.

Part of us still years for that past. I think there is a big psychological factor here. I ask myself "What does that era represent to me?" Calculators came at an age when I was finishing college and starting to work. It represents an era of hope and potential. **Maybe we are longing to go back in that era and cut a new path. Perhaps after all it's about our personal history and making choices .. more so than teh actual vintage calculators.**

Re: Bring back ....

*Message #8 Posted by **GE** on 26 Aug 2005, 8:42 a.m.,*
in response to message #5 by Holger Veit

> Quote:
>
> See the decrease of the BASIC-style Casio sliderules - does anyone, except collectors, still feel the need to have one and to program it - seriously? Their time was over when people could get C64 and Apple with faster or better BASIC built in.

That's not the point. It was the willingness to PROGRAM (in any language) that vanished at that time. Average people were no longer 'programmers', but 'users'. Now they have become 'customers' or even 'consumers'.

Everyone has nostaligia for her (P.C. here) teenage years --- and it is not wrong ! Go calculator nostalgia !

Re: Bring back ....

*Message #9 Posted by **Jonathan Watmough** on 27 Aug 2005, 6:31 p.m.,*
in response to message #8 by GE

I'm not so sure that programming has changed, just the things that users used to program have migrated to spreadsheets, or other custom software that provides functionality.

I am employed writing software that handles transactions on gas pipelines. Our users might once have 'allocated' gas to transactions using little programs, one aggregate point at a time. Now they simply 'program' how the software should do it, and assuming I've done my job, the software will pretty much do what the user wants, in a few minutes, for an entire pipeline.

It's still programming, just a bit more removed. And incidentally, I've never actually seen the box that my stuff runs on, but I think it's some NT cluster in a serverroom. That's kinda sad.

Re: Bring back ....

*Message #10 Posted by **Holger Veit** on 29 Aug 2005, 4:32 a.m.,*
in response to message #8 by GE

Hi GE,

> Quote:
>
> That's not the point. It was the willingness to PROGRAM (in any language) that vanished at that time. Average people were no longer 'programmers', but 'users'. Now they have become 'customers' or even 'consumers'.

Infact, I do agree this is one point that can be obeserved frequently nowadays. OTOH, the market for the programmable calcs was never the common "need a mobile with MP3 and camera built in" people but the scientific, engineering community - they still have the need to have a suitable tool to solve their problems. And they do still write programs, maybe clicking them together with a Visual BASIC GUI, or write stuff down in Mathematica or Maple, or even write C++ with a VI under Linux. Problems are still there.

But maybe the skills to write efficient code has vanished. With a PC, you basically wouldn't need FOR loops any more - you could afford copying&pasting the loop body N times (if this wouldn't

need so many mouse clicks. You have a wealth of CPU and RAM resources, so you wouldn't need to think about fitting your calculation into meager 6144 bytes - just throw your poor hack onto the PC using 1GB memory and 10GB disk space (useless, but slick animation gimmicks included). I am still amazed what people those days could get out of a PDP-8 with their CPU almost as powerful as todays wristwatches ;-) Such knowledge and skills are gone, or rather they just still live in the memories of old men. Likewise to vintage calcs.

Re: Bring back ....

*Message #11 Posted by **Bill Wiese** on 26 Aug 2005, 2:37 p.m.,*
in response to message #4 by Hugh Evans

Quote:

Reissues of classic machines could actually be quite a cash cow for HP. The 15C would be a logical starting point. I don't know if the 12C uses the same CPU design as original voyagers, but if they do I would assume they could acquire a ROM dump from the community and be in business. Bring quality standards up to or exceeding those of the originals and it could be back on the market for the cost of tooling. Set a price point between $100-$150, ducplicate the original packaging and manual.

Hugh,

No way.

The biggest cost for most calcs today is not hardware but the packaging, marketing and jostling for shelf space at major merchandisers. (At quite a few stores you have to PAY to be on the shelf in a decent position.)

An HP15C-like calc can be made for $2-$3 in mass qtys. ($0.40 microcontroller, $.70 display, $1 case/KB, $0.35 batts) Maybe $5 if good keypad is used. If a manual is included (more than a folded sheet) add another $1.

HP wouldn't be able to roll this out either without getting a lot of staff involved - so whatever profits were even remotely there would be gone.

And then there's the 'marketing slot' issue. Even if an HP15C could be produced FOR FREE, it'd still cost at least $25ish to get on the shelf and that would be profoundly difficult since it would be an 'oddball' (RPN, etc.) Special marketing programs would need to be created just to get them to move off the shelf today. HP has a hard enough time competing against TI right now.

The teeming hordes now buying calcs are primary school kids, college students, etc. They just wanna press buttons. Elegance has no say anymore. People doing 'serious' math professionally are in general using desktop tools like Matlab, Maple, Excel etc. - and use a calc just for quick 'pushbutton' answers.

I think the only company that could make a calc like an HP-1X series and make a bit of money over long term would be a company like Calculated Industries who makes specialized calculators for very small markets (construction estimators, etc.) and can keep them in inventory for a long lifespan.

Bill Wiese
San Jose, CA USA

Re: Bring back ....

*Message #12 Posted by **Hugh Evans** on 26 Aug 2005, 3:31 p.m.,*
in response to message #11 by Bill Wiese

The market is by no means huge, but obviously the 15c is selling steadily on ebay for example. Do you really think all of the units sold on ebay are going to collectors? I would venture to guess that most are bought as replacements.

There is no way it could be sold in any great volume. The only redeeming value is profit on the order of 2000%. I seriously doubt a 15c reissue would be viable as a retail shelf item.

In short: it could be done but is too obscure for a company such as HP.

Re: Bring back ....

*Message #13 Posted by **John L. Shelton** on 26 Aug 2005, 4:56 p.m.,*
in response to message #12 by Hugh Evans

There are other channels besides brick-and-mortar stores. Recall that the original HP calcs were sold exclusively through the few hundred HP sales offices. It would be possible to sell, at much lower cost, through web channels, and bypass the stores entirely. How about an entire product family of HP Classics, kind of like the way Disney opens up their vault every few years. Tool up the factory, crank out a million units, and sell until gone. Then move on to another model.

Re: Bring back ....

*Message #14 Posted by **Namir** on 26 Aug 2005, 5:31 p.m.,*
in response to message #13 by John L. Shelton

I have mentioned this a few times in the web site. In last year's HHC2004 Richard Nelson proposed to HP to make an HP-45-like calculator that is so inexpensive that HP can give it away to teachers. This simple RPN calculator would get more teachers interested in RPN and RPN calculators.

I see a lot of merit in Richard's request, and he certainly knows the whole history of RPN calculators.

I think we can ask HP about this. I will certainly mention it to Cyril (the HP R&D guy) this HHC2005.

Re: Bring back ....

*Message #15 Posted by **Holger Veit** on 29 Aug 2005, 4:44 a.m.,*
in response to message #12 by Hugh Evans

> Quote:
>
> The market is by no means huge, but obviously the 15c is selling steadily on ebay for example. Do you really think all of the units sold on ebay are going to collectors? I would venture to guess that most are bought as replacements.

eBay is a special kind of market. And HP calculators are also a special kind of product. Surely many of them will go as replacements, maybe another large quantity is acquired for students' exams - given the strict NCEES rules the common "scientific calc" crap at retailer's shops appear to be too lousy, and high-end alphanumeric stuff is ridiculously forbidden. Vintage calcs of the 70s and 80s fill a specific gap there. The HP-33 is an example, but it seems to be in competition with the cheap

"scientifc calc" - too large a risk for HP marketing wimps who changed HP from a high-end, high-quality manufacturer to one of several ink-cartridge sellers.

HP vintage calcs might be revived, but as sure as the amen in the church, not by HP.

Re: Bring back ....

*Message #16 Posted by **don wallace** on 3 Sept 2005, 6:22 p.m.,*
in response to message #11 by Bill Wiese

Hi Bill. I couldn't agree more...

By the way, I really liked your book n synthetic programming. I bought it in 1981 while convalescing after I left officer training in the Australian Air Force. It really fascinated me and helped me relax and get back my interest in life. That, and listening to Steely Dan and Supertramp records, among others.

Cheers,

Don Wallace http://donwallace.customer/netspace.net.au

Re: Bring back ....

*Message #17 Posted by **I, Claudius** on 26 Aug 2005, 8:35 a.m.,*
in response to message #1 by Namir

Great point, Namir! I've never truly understood the passion that many have here for simple scientific calcs. They always rationalize it with the "pocketsize" argument. I used scientifics for years, but when the HP48 came out, what a great thing that was. The 48/49 series is very easily carried around, and at least a hundred times more powerful than any scientific, thus infinitely more useful.

Re: Bring back ....

*Message #18 Posted by **don wallace** on 28 Aug 2005, 8:34 p.m.,*
in response to message #17 by I, Claudius

Poor old Mr Hewlett and Dave Packard must be rolling in their graves...

Don W

Re: Bring back ....

*Message #19 Posted by **I, Claudius** on 1 Sept 2005, 10:12 p.m.,*
in response to message #18 by don wallace

Why would Bill and Dave be rolling in their graves?

Re: Bring back ....

*Message #20 Posted by **Ron Ross** on 2 Sept 2005, 8:07 a.m.,*
in response to message #19 by I, Claudius

Bill Hewlett already had a production line of desktop calculators, when he got fet up with status quo and decided engineers needed a calculator that would fit in their shirt pocket. He orignially was only going to manufacture the Hp35 for internal use as his bean counters said there was no real market for it.

Does you Hp48/49G fit in your shirt pocket?

I believe that is why Bill might just turn over. Your embracing the situation, might make it twice.

That the Hp48/49g series is an ultra powerful computing device is without question. That it is a portable pocket calculator is stretching the definition of both portable and pocket.

Re: Bring back ....

*Message #21 Posted by **don wallace** on 2 Sept 2005, 7:49 p.m.,*
in response to message #20 by Ron Ross

Couldn't have said it better, Ron

DW

Re: Bring back ....

*Message #22 Posted by **Crawl** on 2 Sept 2005, 9:31 p.m.,*
in response to message #20 by Ron Ross

"If anyone wants a CAS, they should use Mathematica on a PC" sounds like an argument similar to "If anyone wants scientific functions, they should use a desktop calculator" in the '60's.

Or, "For a pocket calculator, 4 functions is sufficient" from the 60's is like "For a pocket calculator, traditional scientific functions are sufficient."

I think the HP48/49 have the most powerful handheld mathematical tools at an affordable price. It doesn't seem that different to me from Hewlett's original goals. But I guess they don't fit in a shirt pocket (a pants pocket, maybe).

Re: Bring back ....

*Message #23 Posted by **I, Claudius** on 2 Sept 2005, 10:30 p.m.,*
in response to message #20 by Ron Ross

What's so special about a shirt pocket? Why not a pants pocket? For years the nerdy thing with slide rules was a custom leather case hung off the belt. Remember the HP41 belt case? My Dad used one of those.

I just don't see a calc's ability to fit a shirt pocket as anything special, except to say small and underpowered.

Re: Bring back ....

*Message #24 Posted by **don wallace** on 2 Sept 2005, 11:18 p.m.,*
in response to message #23 by I, Claudius

Hi all. HI I,Claudius.

I realise I was misinterpreted. The 48 is really, really smooth!

I lament the LOSS OF EXPERTISE in the modern crop of "programmers' and "engineers". Likewise the whole attitude of people in a society where the skill level on average has dropped so far that SOME managers and technicians can no longer do basic things central to

their roles. This is all glossed over with savvy back-stabbing of those more capable than they are. Some of the latest incumbents are so thick that you can't even have a technical CONVERSATION with them... They just have no background to draw on or work with...

Then people in wider society wonder WHY they can't get their computer networks / multi-user systems straightened out, or their calculators or digital equipment repaired AT THE CHIP LEVEL anymore.

Of course change is inevitable, Seneca said that about 2000 years ago. But although they could send men to the moon in the late 1960's (a waste of money though), dealing with terrorism and natural disaster seems TOTALLY beyond the capacity of the present civilization (Government). With New Orleans, Time will tell. I think the tale will pan out to be an unparalleled HORROR STORY.

Over here where I come from, in my opinion the incompetence of management is so bad that the Queensland Government and it's health department apparently could not even screen a rogue surgeon from Portland, who it seems through his very poor work killed about 85 people in the city of Bundaberg. The fall-out from this has been tremendous... Even, worse, it seems he wasn't the only crook surgeon they let through...

There is no doubt among anyone of us with a brain and a memory that the standards generally have fallen a LONG WAY.....!

That's what I lament: Loss of Quality in trained people. That is reflected in some of the mdern products from some companies like Hewlett Packard.

I think the 48/49 are FUNCTIONALLY great. Whether anyone will still be computing on one in the year 2017 is another question entirely. If they are then that alone will vouch for their BUILD QUALITY.

DW

Re: Bring back ....

*Message #25 Posted by **don wallace** on 3 Sept 2005, 3:20 a.m.,*
in response to message #24 by don wallace

Hi all. Hi Crawl.

Just a note about your comment: In the '60's THERE WAS NO SUCH THING AS A POCKET CALCULATOR... They appeared in the early '70's In the '60's most machines were bare four function desktops built with RTL logic and over a thousand discrete transitors with percent, percent change and sqaure root. I know because I saw a few. Display was by a gang of NIXIE tubes. That's why the 9800 with a CRT to display three registers was such a big deal in 1968. And that's why the HP engineering calc range was/is such a big deal. They are (very) dated, but man, do they date WELL...

I am inclined to think the 48/49 is overkill but if I had one I suppose I would fall in love with it... not too sure about that.

In 1968 DEC PDP-8's were a very common mini-computer around the place. In the mid seventies there were some DATA GENERAL NOVAs around and by 1978 DG had a 32 bit machine (Eagle) which was back compatible to the NOVA. The MICRONOVA was released as a VLSI chipset in 1978 I think.

1981 saw the PDP-11 series of machines which had a range of buss widths and processor speeds. All done mainly with TTL OC logic. Floating point support was implemented in two VLSI chips. 1981 also saw early productio of the CV, at a time when a personal computer ran BASIC in ROM, had no real operating system and loaded from cassette. The TRS-80 in 1978 shipped in basic config with 4 k RAM and NO TRIGS AT ALL in ROM... Think about it.

1982? DEC VAXes came along and were obsolete by 1985.

Even UNIX was still quite raw at that time, even though it had been around since 1970.

So for it's time the HP41 series was very cutting edge - and very practical. The 48 is a completely different animal and if I had a 48 I would still want a 41CV...(as well). They are totally irreplaceable (imho). Mine is 24 1/2 years old and still going strong after five repairs by myself.

How USEABLE is the graphics on a 48?....

DW

Re: Bring back ....

*Message #26 Posted by **I, Claudius** on 3 Sept 2005, 10:39 a.m.,*
in response to message #24 by don wallace

Understand your point completely. I think it boils down to people love what they know. The majority of posters here used and grew up with the "pocketsize" hp scientifics, love them, and lament the fact they're no longer made.

As far as the breakdown in technological capability, yes, fewer US kids are going into engineering. We're being swamped with Indians and Chinese and so on. But there are still a lot of bright kids out there who love gadgets and science, so there's hope for the future.

Edited: 4 Sept 2005, 7:53 a.m. after one or more responses were posted

Re: Bring back ....

*Message #27 Posted by **don wallace** on 3 Sept 2005, 5:25 p.m.,*
in response to message #26 by I, Claudius

Hi I, Claudius....

Aaaah, I don't think you do, actually.....

What follows is just my opinion:

That standards are slipping has nothing to do with Indian or Asian students....

The quality of students, INDEPENDENT of race, is slipping.

The quality of AMERICAN students is slipping.

Modern students (of any age) are NOT AS GOOD as students who did those courses twenty years ago.

The education system is DETERIORATING.

I'll stop here.

DW

Re: Bring back ....

*Message #28 Posted by **.** on 3 Sept 2005, 9:43 p.m.,*
in response to message #27 by don wallace

The Earth is degenerating today. Bribery and corruption abound. Children no longer obey their parents, every man wants to write a book, and it is evident that the end of the world is fast approaching. -- Assyrian tablet, c. 2800 BC

Re: Bring back ....

*Message #29 Posted by **don wallace** on 4 Sept 2005, 2:56 a.m.,*
in response to message #28 by .

It's all cyclical, what can I say? >:P=

DW

Re: Bring back ....

*Message #30 Posted by **don wallace** on 4 Sept 2005, 3:07 a.m.,*
in response to message #28 by .

It is interesting to note that AT THAT TIME the WORLD WAS ENDING. . . for the Assyrians.

I think they got overrun by the Egyptians???

Certain modern Nations can learn a lot from history... But of course, we never do. Why is that?

DW

Re: Bring back ....

*Message #31 Posted by **don wallace** on 3 Sept 2005, 6:23 p.m.,*
in response to message #23 by I, Claudius

Why NOT just run Mathematica on a notepad???

DW

Re: Bring back ....

*Message #32 Posted by **Howard Owen** on 3 Sept 2005, 7:27 p.m.,*
in response to message #31 by don wallace

> 1Kbuck non-academic license, maybe? 8)

Re: Bring back ....

*Message #33 Posted by **don wallace** on 3 Sept 2005, 7:34 p.m.,*
in response to message #32 by Howard Owen

Hi Howard.

How many people here NEED mathematica? Or a hp 48G? ;-)

DW P.S. There is some really good GPL maths software available. Quantian is a complete Linux distribution with some really powerful applications bundled with it. Persoanlly, I like Mathcad, although it is somewhat dated.

Re: Bring back ....

*Message #34 Posted by **I, Claudius** on 3 Sept 2005, 10:35 p.m.,*
in response to message #33 by don wallace

MathCAD has a niche following but has many limitations. Try to solve a symbolic difeq with it sometime. Mathematica is the premier math software. A close second is the not so well known Scientific Workplace, an outstanding math word processor coupled with the MuPAD CAS. The new 5.5 version is superb, runs rings around MathCAD, infinitely more useful.

Re: Bring back ....

*Message #35 Posted by **Howard Owen** on 3 Sept 2005, 11:07 p.m.,*
in response to message #34 by I, Claudius

I know MuPAD is freeware or otherwise obtainable at low cost. Is "Scientific Workstation" similarly available?

I would love to use Mathematica to do some self-directed learning, but the non-academic price is just too steep. (Since I can't justify it in terms of work.)

Edited: 3 Sept 2005, 11:08 p.m.

Re: Bring back ....

*Message #36 Posted by **don wallace** on 4 Sept 2005, 3:00 a.m.,*
in response to message #34 by I, Claudius

Hi I, Claudius. Thanks for the info.

Yeah Mathcad is certianly a niche thing... Hairy darn thing, but I used it a bit to do FFTs on live loudspeaker samples of pink noise and SINX waveforms. You just feed the speaker a suitable repetitive SINX signal and then fft the sample. Out comes a nice clean frequency spectrum...

DW

Re: Bring back ....

*Message #37 Posted by **Garth Wilson** on 4 Sept 2005, 2:17 a.m.,*
in response to message #1 by Namir

I'm going to raise some dust here. Nothing personal of course.

> Quote:
>
> Why stop there? How about bring back the 41CX?

and

> Quote:
>
> but apparently nowadays most people do no longer need computing power like a HP41 as a handheld - PCs with more speed and functionality are ubiquituous.

Even though I have two PCs on my desk (actually one is on the floor, but the two share the same monitor and keyboard), I still use my 41cx every day. Why? Because it's far better for certain jobs, regardless of the comparison of computing power.

> Quote:
>
> See the decrease of the BASIC-style Casio sliderules - does anyone, except collectors, still feel the need to have one and to program it - seriously? Their time was over when people could get C64 and Apple with faster or better BASIC built in.

I've never seen a BASIC as good as what's in my HP-71, which is due partly to all the LEX-file contributions from the user groups. After having used that a lot, we got a desktop PC to control automated test equipment in about 1989, and used HP's Rocky Mountain BASIC which turned out to be a huge disappointment. It was nowhere near as good as the 71. And as for the C64 and Apple II, as great as they were, their BASICs scored a zero compared to the hand-held HP-71's BASIC.

> Quote:
>
> The advent of the PC (generically speaking) seriously challenged the old HP calculators.

I totally disagree. The two have different functions. Some "visionaries" and marketing departments are always pushing to make one gadget do the functions of several. Some of the things they think of are about as apetizing as combining the toilet and the food processor.

We had tons of high-dollar HP RF test equipment where I was working in the mid-1980's (not the same job mentioned above), but much of it was used in engineering, not production. One day the HP rep brought in a HP3421A data acquisition unit with the optional relay card to be tried on a production setup. One of the engineers who had his own HP41cv took 20 minutes to write a program to control the production test. As I recall, it worked right the first time. It took a lot longer to set up the instruments that had to be connected to the 3421 than to write the program. Several engineers were called for a demo, including managers. Everyone was impressed. A requisition was filled out that included a 41cv with HPIL. Unfortunately, that part of the req was denied, with the explanation that the 41 would be much too easy to steal. So they opted for an IBM PC at several times the price and workbench space and no portability. The IEEE-488 card and software was included of course. It took weeks to get anything working with it, compared to the 20 minutes it took on the 41cv. I realize of course that PC software has come a long way since then in user-friendliness, but I think it still would not be able to compete in a productivity contest of this kind.

The PC will always need a big screen; and generally, the higher the resolution, the better. The hand-held, on the other hand, needs to be hand-held. In my case it has nothing to do with putting it in my pocket (which I would never do because that's a recipe to quickly ruin it by sitting on it, letting it fall out, etc.). I need to be

able to take it with me from the desk to the workbench for example, or to another room, while in the middle of calculations or entering data to process. Even a laptop is much to big for this.

> Quote:
>
> With a PC, you basically wouldn't need FOR loops any more - you could afford copying&pasting the loop body N times

If you've ever done any programming you should know that sometimes the value of N will be unknown until immediately before entering the loop, or it may not be the same every time you run the program, depending on conditions.

> Quote:
>
> just throw your poor hack onto the PC using 1GB memory and 10GB disk space

...and how long will that take to load up, compared to the calculator that's instant-on?

> Quote:
>
> And then there's the 'marketing slot' issue. Even if an HP15C could be produced FOR FREE, it'd still cost at least $25ish to get on the shelf and that would be profoundly difficult since it would be an 'oddball' (RPN, etc.)

That's irrelevant. The high-end HP calculator market was always kind of a niche market, and would still be today if these little machines were put back into production. Even in their heyday, the ones that were even in a store with a storefront were locked up in glass display cases. I bought most (maybe all) of my hand-held HP equipment through mail order.

As more than one person said however, there does seem to be a strong correlation to a loss in the kind of reasoning it takes to be a good programmer or engineer. The electronics industry magazines have a constant debate over the declining engineering-school enrollment and graduations in the U.S., and whether or not there really is a shortage of engineers, or will be soon. The 'shortage' part of the debate does not look like it will have any clear conclusions anytime soon.

Edited: 4 Sept 2005, 2:22 a.m.

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Calc. Promo for 12c model

*Message #1 Posted by **Mary** on 25 Aug 2005, 2:39 p.m.*

Thank you for the very helpful and wonderful posts everyone gave in response to my post yesterday! It is very appreciated!

Re: Calc. Promo for 12c model

*Message #2 Posted by **Thibaut.be** on 25 Aug 2005, 3:14 p.m.,*
in response to message #1 by Mary

Mary,

Do us something great... and why not sending all of us a pre-prod sample for approval ?

Re: Calc. Promo for 12c model

*Message #3 Posted by **Namir** on 25 Aug 2005, 4:23 p.m.,*
in response to message #1 by Mary

How about the software emulator for the Promo?? We love software emulators/simulators of calculators.

Re: Calc. Promo for 12c model

*Message #4 Posted by **Howard Owen** on 25 Aug 2005, 5:05 p.m.,*
in response to message #1 by Mary

Yes, only make it run on Linux. HP's big on Linux, right?

8)

Of course, you guys are assuming Mary is really from HP

*Message #5 Posted by **John** on 25 Aug 2005, 7:06 p.m.,*
in response to message #1 by Mary

and not some sort of troll.

Anyone know of a Mary who works for HP in advertising? Do we really believe HP corporate is self-aware enough to remember how old the 12c is?

Re: Of course, you guys are assuming Mary is really from HP

*Message #6 Posted by **bill platt** on 25 Aug 2005, 8:13 p.m.,*
in response to message #5 by John

Troll or not, I think the exercise was sort of telling. And none of us gave away anything we wouldn't have

gladly given away anyway.....

Re: Of course, you guys are assuming Mary is really from HP

*Message #7 Posted by **John** on 25 Aug 2005, 8:33 p.m.,*
in response to message #6 by bill platt

True. Of course most all of us want a 15c to come back.

Just don't get your hopes up on a Mary coming by from HP to help.

Re: Of course, you guys are assuming Mary is really from HP

*Message #8 Posted by **Howard Owen** on 25 Aug 2005, 9:49 p.m.,*
in response to message #5 by John

Awww, gee, shucks. I'm crushed. You mean "Mary" isn't what she said she is? Dang!

Well, that's alright. I'm actually the ghost of Dave Packard come to haunt today's HP. I hang out here because a lot of the old *spirit remains*. (mwahahaha) If they don't give every one of you a 15CXS++, I'll make 'em pay!

Re: Of course, you guys are assuming Mary is really from HP

*Message #9 Posted by **Howard Owen** on 25 Aug 2005, 9:57 p.m.,*
in response to message #5 by John

And, the identity of our Mary aside, what do you think the odds are that there is *someone* in advertising at HP named Mary?

```
(ring) (ring)


Mary    Hello?
Dave P. Mary?
Mary    Yes, who's this?
Dave P. I'm the ghost of.. never mind about that.. do you know of
        any  other women named "Mary" in advertising at HP?
Mary    Any other ..
Dave P. Because I know YOU wouldn't hang out at a message board
        populated with old ..
Mary    Who IS this?
Dave    I said never mind about that ..
Mary   *click*
Dave P. Dang!
```

As you can see, it doesn't prove anything. 8)

Re: Of course, you guys are assuming Mary is really from HP

*Message #10 Posted by **don wallace** on 25 Aug 2005, 10:03 p.m.,*
in response to message #9 by Howard Owen

Mary, Mary, quite contrary, how do your calculator go?

With RPN, way back when, albeit rather slow...

DW P.S. I wonder if that's the same Mary as the "charming Mary from Canoga Park Frank Zappa sang about?

P.P.S. Sorry, Mary!

Re: Of course, you guys are assuming Mary is really from HP

*Message #11 Posted by **Thibaut.be** on 26 Aug 2005, 1:42 a.m.,*
in response to message #10 by don wallace

There's definitely "something about Mary" !

Who's playing Doug ?

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Why does 17BII maintain its value?

*Message #1 Posted by **Frank** on 25 Aug 2005, 1:04 p.m.*

I am auctioning a HP 17BII I purchased 14 years ago. The bidding is now reaching the original price I paid. OK, Present Value it is worth less at the same $ value. But, in this day & age it seem unusual that any digital device is not out-moded and obsolete in far less that a decade. I think I had a 5" floppydrive on my PC at the time and my seperate modem just had reached 1200 baud.

To what does this particular model owe it's longivity?

Re: Why does 17BII maintain its value?

*Message #2 Posted by **Gene** on 25 Aug 2005, 1:14 p.m.,*
in response to message #1 by Frank

Well,

1) business calculators have not evolved much in the last 10-15 years. There aren't that many models out there doing that much more than they did back then.

2) the 17bII was one of the old pioneer models and some people today still like the key material and the general build/style of the calculator more than they do the current offerings.

I think a combination of the two explains it.

Gene

Re: Why does 17BII maintain its value?

*Message #3 Posted by **bill platt** on 25 Aug 2005, 1:21 p.m.,*
in response to message #1 by Frank

The 17bii is worth its price primarily because it is a good device that is not outmoded. Another aspect: it is not a commodity, whereas a hard drive or a modem is. The 17bii is a unique patented finished product with capabilities and qualtiy that simply have not been surpassed. Yes, a computer is more powerful, but it is not compact!

Features that keep the 17bii value going:

1. The equation solving system. A really innovative way to do things. I was floored when I first saw it on a finance friend's calculator a bout 2 years ago. I vowed right then, "I've got to have one of these!"

2. The mechanical design. HP, not TI. That is worth something---perhaps more than any single other aspect, it is the physical nature of the HP that gives them a minimum floor value. Even the 20s manages to collect on this aspect.

3. RPN as well as algebraic.

4. A complete set of business functions in a well organized format.

5. Excellent documentation.

My thoughts.

Regards,

Bill

Re: Why does 17BII maintain its value?

*Message #4 Posted by **Ron Ross** on 25 Aug 2005, 1:35 p.m.,*
in response to message #1 by Frank

Because some Hp zealot DIMWIT thinks its worth it!

You can still buy an Hp17BII+ from Hp for $9-, oh, wait a minute, thats what the new Hp is worth, it still costs $99 retail. That old POS of yours was made with out of date, overly costly production methods that have since been replaced with newer, lower cost production methods (and it PROUDLY shows!).

Re: Why does 17BII maintain its value?

*Message #5 Posted by **Frank Knight** on 25 Aug 2005, 7:38 p.m.,*
in response to message #1 by Frank

Hi Frank, this is yet another Frank that also happens to have a as-new 17BII at ebay auction right now (small world!) and also sold one last week for only around 60$ including manual as I am having to substantially reduce my collection. Though it is currently about 1/2 the original MSRP, these are certainly quality machines compared to tadays offerings. I'm hoping HP will learn from the recent 49G+ keyboard fiasco, but I guess I should be pleased they are even still in the calculator business as that was uncertain just a couple of years ago and perhaps today as well. BTW Hello Gene, send me a note sometime I've misplaced your email address!

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17BII+ Carrying Case

*Message #1 Posted by **Volguus Zildrohar** on 24 Aug 2005, 8:10 p.m.*

The 17BII+ case is HUGE. Does anyone know of any supplier of 3rd party cases?

Thanks.

Re: 17BII+ Carrying Case

*Message #2 Posted by **John L. Shelton** on 24 Aug 2005, 8:24 p.m.,*
in response to message #1 by Volguus Zildrohar

Are you talking about the "pouch" included from the factory? Could you post a picture of it, or at least dimensions as compared with the calculator dimensions?

The original hard-leather field cases for the HP-35 and successors were awfully large, too, but they did a good job of protecting the valuable units.

Re: 17BII+ Carrying Case

*Message #3 Posted by **Volguus Zildrohar** on 24 Aug 2005, 10:17 p.m.,*
in response to message #2 by John L. Shelton

Sorry - I didn't measure it before I returned it. I do recall that it was much bigger than the calculator itself. Very bulky.

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HP Calc. Promo

*Message #1 Posted by **Mary** on 24 Aug 2005, 4:09 p.m.*

Hello, I work on advertising for HP and we are currently in the process of preparing for the 25th anniversary of the 12C calculator model-HP's longest and best-selling calculator. So I have two questions for all of you:

1) What do you do for a living and for what purpose do you use your calculators? 2) What sort of promotion would you like to see involving the 12c model?

thank you, Mary

Re: HP Calc. Promo

*Message #2 Posted by **Ron Ross** on 24 Aug 2005, 4:22 p.m.,*
in response to message #1 by Mary

I'd love to see a 12c with a 15c logo and layout. Toss in the functionality of the 15c and I will buy 3 NOW! Should be easy as the 12c and 15c are basically the same unit. GO FOR IT!!! And call it a 25 year aniversary model! I suspect I won't be the only one suggesting this.

Re: HP Calc. Promo

*Message #3 Posted by **Klaus** on 25 Aug 2005, 6:08 a.m.,*
in response to message #2 by Ron Ross

For me a 12C with a flashable firmware would be fine. By definition a HP user is a smart guy, so it won't take long until 15c functionality is available.

Re: HP Calc. Promo

*Message #4 Posted by **Howard Owen** on 24 Aug 2005, 4:27 p.m.,*
in response to message #1 by Mary

And I suspect I won't be the *last* one to emphatically ditto Ron's plea for a reissue of the 15C. Only, give it more RAM.

Oh, and I'd "only" buy two. 8) (Smiley, but that's no joke.)

Edited: 24 Aug 2005, 4:28 p.m.

Re: HP Calc. Promo

*Message #5 Posted by **Chris Woodhouse** on 24 Aug 2005, 4:49 p.m.,*
in response to message #1 by Mary

I would just like to say. . .

Bring Back the http://hp15c.org/hp15cBadge.jpg

Chris W.

Re: HP Calc. Promo

*Message #6 Posted by **Gordon Dyer** on 24 Aug 2005, 5:33 p.m.,*
in response to message #1 by Mary

I am an electronics engineer in the telecomms industry.
I use a 12C and an 11C.
Although the internal technology available for calculators has progressed enormously, the ergonomic design has not.
I think a new Voyager calculator with the functionality of the 15C and 11C, much bigger memory, clear dot matrix display and a USB2 mini interface would be perfect. BUT please keep the ergomomics of the original Voyagers, meaning the lovely feel, looks and tactile keys; the 12c platinum was a brave attemp but suffers from loss of clarity, cheaper looks, slightly rattly keys, less clear display and software bugs!!
So have another go at it after trying out the original 12C and 15C yourself.

. . . I think you may have the wrong number . . .

*Message #7 Posted by **Paul Brogger** on 24 Aug 2005, 6:09 p.m.,*
in response to message #1 by Mary

This is the MoHPC FORUM -- where curmudgeonly old calculator users gather to reminisce and sing praises of calculator models no longer manufactured, and of days long gone. ;^)

I suspect you're not asking about a new piece of *engineering* so much as ideas for using the advertising budget to leverage the successes of previous engineering efforts into increased sales of current models. (If I may, "the shoulders of giants as meal ticket", so to speak.) Right?

I'm a programmer, and use calculators to remember the good old days.

I suggest you craft an advertising campaign centered on a not-altogether-specious claim that the 12C was "the original PDA" or some such. You'll be able to utilize contemporary jargon to tie a widely-used piece of current technology back to a 25-year-old design. And offer the 12CP through Sharper Image and in the airlines' seat-back catalogs. Maybe you'll see enough of a bump in nostalgia-induced sales to make it all worthwhile.

Good luck!

Re: . . . I think you may have the wrong number . . .

*Message #8 Posted by **Howard Owen** on 24 Aug 2005, 6:57 p.m.,*
in response to message #7 by Paul Brogger

Hsst. Don't disabuse her.. maybe we'll get a new 15C between now and the next rotation around the galactic core.

Edited: 24 Aug 2005, 6:58 p.m.

Re: HP Calc. Promo

*Message #9 Posted by **bill platt** on 24 Aug 2005, 6:21 p.m.,*
in response to message #1 by Mary

I don't really like the 12c. I love the 11c and 15c. I am a designer and engineer. I still use htese old machines.

The 11c is very handy for repetitive little things--make a little routine and put it in USER mode and you can do one-button functions for special functions that you describe....

Why don't I like the 12c? Because I started on an 11c! The 12c has no backspace--only a clear x. How ridiculous! Its programming is even more stupid. It was OK in 1982 when RAM was expensive and the GUI was only an experiment at Xerox.

The 12c platinum did not improve these two critcally important basic elements. So why buy it?

The 17bii is so much more powerful and useful than the 12c--if you have never used a 12c. the 12c must have been good enough for the finance guys, though!

Re: HP Calc. Promo

*Message #10 Posted by **Guest** on 24 Aug 2005, 7:16 p.m.,*
in response to message #1 by Mary

If HP released any calculator that looked and felt as nice as the 12c, regardless of the niche it was for, everyone here would be happy. Any advertising for the 12c should be in the same spirit as the calculator itself: getting the job done right the first time.

P.S. I'm a student, and I'm frustrated by the fact that the 12c is worthless for physics homework.

Re: HP Calc. Promo

*Message #11 Posted by **Volguus Zildrohar** on 24 Aug 2005, 8:08 p.m.,*
in response to message #10 by Guest

The 12C is a FINANCIAL calculator!

> Quote:
>
> P.S. I'm a student, and I'm frustrated by the fact that the 12c is worthless for physics homework.

Re: HP Calc. Promo

*Message #12 Posted by **Gerson W. Barbosa** on 24 Aug 2005, 9:43 p.m.,*
in response to message #11 by Volguus Zildrohar

That's not so absurd. Guest might be, for instance, a business School student who bought an HP-12C because was told it was one of the best financial calculators around. Probably it is, but unfortunately it lacks some basic scientific functions a Business student may need in the first college year. That is why I think a new 12C should include a basic set of scientific functions, not because they have real business application but because they may occasionally be needed. Some engineers, we have examples here, use a 12C and have to switch to a scientific calculator whenever a simple calculation involving trigometry is needed. By the time the HP-12C was released, it made a lot of sense not including scientific functions in the 12C because memory was very expensive back then. All available memory space had to be reserved for the new advanced financial functions. All is needed today are a few extra bytes of ROM and a little R&D, both not expensive.

business calculators & scientific functions

*Message #13 Posted by **Gene** on 25 Aug 2005, 10:33 a.m.,*

in response to message #12 by Gerson W. Barbosa

Gene here:

Apparently, Texas Instruments and even Casio agree that financial calculators should have basic scientific functions built in. Consider these models which are about $30 here in the US:

TI BAII Plus: Trig functions in radians/degrees, hyperbolic trig functions!, random number generator!, combinations and permutations built-in, ability to set algebraic hierarchy (1+2x3=7).

Casio FC-200V: Trig functions in radians/degrees, hyperbolic trig functions!, combinations and permutations built-in, ability to set algebraic hierarchy (1+2x3=7).

All for $30.

Sadly, this is why the university at which I teach has adopted the TI BAII Plus as the calculator for all business students. :-(

Gene ==========

Message #12 Posted by Gerson W. Barbosa on 24 Aug 2005, 9:43 p.m., in response to message #11 by Volguus Zildrohar That's not so absurd. Guest might be, for instance, a business School student who bought an HP-12C because was told it was one of the best financial calculators around. Probably it is, but unfortunately it lacks some basic scientific functions a Business student may need in the first college year. That is why I think a new 12C should include a basic set of scientific functions, not because they have real business application but because they may occasionally be needed. Some engineers, we have examples here, use a 12C and have to switch to a scientific calculator whenever a simple calculation involving trigometry is needed. By the time the HP-12C was released, it made a lot of sense not including scientific functions in the 12C because memory was very expensive back then. All available memory space had to be reserved for the new advanced financial functions. All is needed today are a few extra bytes of ROM and a little R&D, both not expensive.

Re: business calculators & scientific functions

*Message #14 Posted by **Gerson W. Barbosa** on 25 Aug 2005, 1:31 p.m.,*
in response to message #13 by Gene

> Quote:
>
> Sadly, this is why the university at which I teach has adopted the TI BAII Plus as the calculator for all business students. :-(

That's the point! And once they get used to TI, why should they switch to HP?

Apparently HP is not worried in losing the calculator segment market share. Or they just prefer the much more profitable ink cartridge market: here three 57 cost the same as a 12C Platinum (about USD 160.00)!

Regards,

Gerson

(saving to buy a 56 and a 57 next month :-).

Re: HP Calc. Promo

*Message #15 Posted by **Gerson W. Barbosa** on 24 Aug 2005, 9:51 p.m.,*
in response to message #10 by Guest

> Quote:
>
> I'm a student, and I'm frustrated by the fact that the 12c is worthless for physics homework.

If trigs are all you need, take a look at:

http://membres.lycos.fr/albillo/calc/pdf/DatafileVA003.pdf

or check the Articles Forum.

Edited: 24 Aug 2005, 9:55 p.m.

Re: HP Calc. Promo

*Message #16 Posted by **Thibaut.be** on 25 Aug 2005, 12:18 a.m.,*
in response to message #1 by Mary

Hi,

I'm a financial director.

Why won't you make a 17C, likewise the 27 and 27S that were swiss knife do-it-all calculators, with the specs of a 12C and a 11C for example (or 15C if possible ?)

Or you could offer one spcial dedicated 25th anniversary 12C to any individual proving he owns 10+ HP calcs...

Well...I'm sure these are not feasible... The platinum is already an improvemnt on itself. Waht can you add more ? If you really want to wow this community, at least make sure it's qualitatively equivalent to the older 12C's !

Thanks

Re: HP Calc. Promo

*Message #17 Posted by **John L. Shelton** on 25 Aug 2005, 1:43 a.m.,*
in response to message #1 by Mary

I'm a business+technical consultant, an employee of a large company. I rarely use a calculator now, but have been a moderate user in the past. Typically, my business-calculation problems are better served by using spreadsheets. I have in the past used the -12C and other financial calculators when making mortgage comparisons.

For many years, people bought the -12C because it was the best tool out there, and they saw it being used by those whose judgment they valued. At the time, HP calculators had a reputation, deserved, of being better built, easier to use, and featureful. A "promotion" does not change the equation any - to succeed, you must still have the same attributes, or perhaps lead people to believe you do. 25 years is remarkably long to live on the reputation of a technology product.

I suspect many here would agree that the -12C (current incarnation) no longer excels in build-quality, ease-of-

use, and features. You have other models that compete in some ways, and overall quality has dropped in comparison to that of other companies.

How about building a calculator for the next 25 years, one that honors what the -12C offered for so long? Give us something to be proud of today. Heck, even just update the current model, with a return to the tip-top quality keyboard and add a backlit display. But HP can do better. And HP hasn't lost the business market the way it lost the education market. Consider addressing the business calculator market in an innovative way, such as making the pocket calculator a true extension of other devices, via downloading or networking.

Perhaps, though, dedicated calculators are a dead end. Perhaps the fitting tribute to the -12C is an HP-branded emulator running on Windows desktops and hand-held PDAs. *sigh*

Re: HP Calc. Promo

*Message #18 Posted by **Palmer O. Hanson, Jr.** on 25 Aug 2005, 2:33 a.m.,*
in response to message #1 by Mary

I am a retired aerospace engineer. I collect old hand-held calculators including business-oriented models. My collection includes several HP-80's, an HP-22, an HP-38C, several HP-12C's, several HP-10B's and an HP-17BII.

Suggestions:

1. Issue a commemorative model with an added logo mentioning the 25th anniversary. An example from my collection is an HP-28S with an added logo commemorating "100 Years American Mathematics 1888-1988". You will sell some of these to collectors.

2. Search for the oldest (i.e., the earliest serial numbers) HP-12C's still in use. Publish anecdotes concerning these oldest devices in advertisements.

3. Search for user programs and tips for the HP-12C. You will find some programs here in the Forum. Publish a collection of the best programs in a companion book to the manual. An example of such a book which sold well is the "HP-15C Advanced Functions Handbook."

4. Publish a commemorative issue of the HP-12C User's Manual.

Re: HP Calc. Promo

*Message #19 Posted by **GE** on 25 Aug 2005, 4:02 a.m.,*
in response to message #18 by Palmer O. Hanson, Jr.

It would be nice to read the story of users of the 12C. An anniversary model of the 12C (NOT the 12CP), better built (say a price target around twice the current price for the stock 12C). Also, you could reissue some of the original documentation or ardvertising material, stressing what has changed or, more interesting, what has not. How about an offer to repair old machines gone bad ? Of course a reissue of the 15C would be the best news for HP zealots out there...

Re: HP Calc. Promo

*Message #20 Posted by **Mike (Stgt)** on 25 Aug 2005, 9:57 a.m.,*
in response to message #1 by Mary

I suppose the HP-12C was so successful because only few tried to program on it and the vast majority just used it as 4-banger. An anniversary gadget I'd like would be a calculating World Band Receiver Travel Clock Radio, or a portable 20GB USB-disk (40?...60Gig??), or a full featured PODcast device. What about all in

one? Of cause in the case of the 12C (Gold! -- not Platinum) and the functionality of a 11C or 10C. (Who realy needs a 15C today, sorry!)

Ciao.....Mike

Re: HP Calc. Promo

*Message #21 Posted by **Ron Ross** on 25 Aug 2005, 10:48 a.m.,*
in response to message #20 by Mike (Stgt)

Considering that the cost of manufacturing any unit besides the Hp12c will be a fixed cost, why make anything less?

ie You need a car, and a ford pinto and a Porche are both a $1000 dollars, your going to buy a ford pinto?

The basic Hp15c has matrix features, a solver and a built in numerical integration feature, all of which are absent on the Hp11c. As an EE, I have used all of the above and wouldn't bother to buy if it had less (oh, ok, I would buy ONE).

I like the idea of just a Flashable ROM as noted by Klaus, more RAM (2-8K or hell, 32K) and a USB port to upgrade the ROM. That would allow us to customize it to any use. Want an old 15c, dump a 15c emulator into it. Want more (or less), modify to suit as it would be flexible enough to do what you wanted. Release an SDK to modify as you need. No, it still couldn't compete with an Hp41 but it may just be more functional than an Hp42s if given an I/O port (I didn't say better, as it wouldn't have a menu system if it were given an Hp12c LCD or keyboard layout).

Re: HP Calc. Promo

*Message #22 Posted by **Karl-Ludwig Butte** on 25 Aug 2005, 10:18 a.m.,*
in response to message #1 by Mary

Hello Mary,

may I add the suggestion not to forget the German market. I haven't seen any HP calculator advertising in Germany for years! Go to a big city and try to buy an HP calculator somewhere: It will at least be difficult. Only some Online-Shops may still have them.

So in my opinion a 25th anniversary campaign should include: - the comeback of the proverbial HP-Quality of the 70's and 80's - something like the HP-67/97/41-Users-Library-Europe - Availability of the calculators at local HP-Dealers - not only the 12c but all the other calculators HP has at the moment - a special give-away-offer: e.g. "Buy a 12c now and get xx free". xx could be e.g. a booklet "The history of HP calculators" or a 2006-HP-Calculator-calendar - the comeback of a monthly periodical like e.g. "HP Journal" - a the "Design-that-calculator"-Contest-Offer here in Germany, too, and please not only for highschool-/unversity-Students but for all

I love the idea of an anniversary campaign and appreciate it very much that HP want to take the opportunity to do it. Maybe you can initiate similar campaigns for other models (especially my favourite 41C/CV/CX with the Interface-Loop). This would give HP the chance to get back to #1-Calculator-Manufacturer-Status like in the good old days and to resurrect the loyal fan base it once had.

And, as I said at the beginning: Don't forget the German market!

I'm an HP-User since 1976 working in the software-technical consultants business and still use one of my HP's nearly every day. If you have any questions or if I can be of help please don't hesitate to contact me.

Re: HP Calc. Promo

*Message #23 Posted by **Katie Wasserman** on 25 Aug 2005, 11:02 a.m.,*
in response to message #1 by Mary

Mary,

Although I'm an active member of this forum and a collector of old calculators, including all of HP's -- in real life I'm a computer consultant working with wall street firms.

What I see at virtually all my clients is that each person is given an HP 12C on the day that they start work. It's a standard desk accessory and as indispensable as the stapler, tape dispenser and pen. I've tried to introduce the 17BII to them and other models over the years but they don't like it. They use almost all of the built-in functions on the 12C and typically put in a small program that helps in whatever their primary job function is (e.g., "linking" -- i.e., compounding interest rates).

These are no doubt your core clientele for the 12C and the reason why you're still making it. Frankly I don't think that any sort of promotion will make much difference to them, they just like it as is. They didn't buy the HP 12c platinum even though I thought the flashiness of it would appeal to them.

As for me personally, I'm with many of the other people here and would love to see more scientific functionality and programmability on a 25 year anniversary edition. Although I sometimes use a 12C (so that I can match what my clients are doing) I more often use a 32SII (I like the programming on it).

Thanks for asking,

Katie

Re: HP Calc. Promo

*Message #24 Posted by **unspellable** on 25 Aug 2005, 12:31 p.m.,*
in response to message #23 by Katie Wasserman

On the technical side I think it would be a good idea to make a calculator with FLASH ROM, a programming port, and interchangable keyboard overlay. This would allow one model to take the place of what used to be several models simply by loading an appropriate operating system.

On the promotional side, HP needs to get back into the stores. It's difficult to even find an HP these days. It looks like TI has taken over, not so much through TI's efforts, as because of HP appearing to have abandoned the market.

Additional how to manuals would be a good promotional idea. There used to be a number of these for the 28 and 48 series, some of the ones for the 28 series were published by HP. For a promotion, offer these as an extra in the package, or as a form of rebate.

A 25th anniversery logo on the calculator might help, can't hurt.

Re: HP Calc. Promo

*Message #25 Posted by **Chris Woodhouse** on 25 Aug 2005, 2:33 p.m.,*
in response to message #1 by Mary

How about making that nice leather case with the fold over flap that HP used to make back in 80's for the 10c series calculators. I really like that case and would love to buy one new for my 12C and 15Cs.

Chris W

Re: HP Calc. Promo

*Message #26 Posted by **Evan (San Jose, California)** on 26 Aug 2005, 12:40 a.m.,*
in response to message #1 by Mary

Hi Mary, I sure hope you are for real.

1) What do you do for a living and for what purpose do you use your calculators

Alas, I used my HP's a lot in college and sporadically in my career, but am probably best labeled 'a collector' today. I'm hoping that collectors are at least in some small part of your target market for an anniversary model.

2) What sort of promotion would you like to see involving the 12c model

Most of my suggestions have already been stated by others, but…

- I think it would be interesting to find some of the most significant decisions made with a 12c and the people whom made them. I suspect many important decisions were made by well recognized people on the 12c. I'll bet many 'famous' people carry one with them always.
- I would like to see the anniversary model at least cosmetically resemble the original with a special logo like other limited edition models. The additional logo should be something more substantial then additional silk screened art. (Yes, I too would love for the old build quality components and could enjoy some of the enhancement mentioned by others, but I think that may be out side the scope of your request)
- I really like Chris Woodhouse's idea of a nice leather case. It would be really nice if it were available separately and should have the HP logo on it.

Personally I like the idea of honoring the simple, powerful, and elegant solution the original design offered. I really appreciate you asking this community, and that HP would choose to commemorate this calculator.

Re: HP Calc. Promo

*Message #27 Posted by **Howard Owen** on 26 Aug 2005, 1:13 a.m.,*
in response to message #26 by Evan (San Jose, California)

Quote:

> - I really like Chris Woodhouse's idea of a nice leather case. It would be really nice if it were available separately and should have the HP logo on it.

Yes, this could be a good test for HP as to the size of the potential market we collectors represent! If it were nice enough, I would probably buy three; one for each Voyager calc I own.

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New Clonix/NoVRAM site

*Message #1 Posted by **Diego Diaz** on 24 Aug 2005, 3:38 p.m.*

Hi all,

I've finally got http://www.clonix41.org (no banners) ;-)

I'll set it up with info on my projects Clonix, NoVRAM and the like.

BTW It seems like some interest has shown up lately on Forth-41, so I've also placed "Forth-41.HEX" file there.

Enjoy.

Best.

Re: New Clonix/NoVRAM site

*Message #2 Posted by **Meindert Kuipers** on 25 Aug 2005, 2:51 a.m.,*
in response to message #1 by Diego Diaz

Diego,

Congratulations on your new site! (and thanks for the link)

Meindert

Re: New Clonix/NoVRAM site

*Message #3 Posted by **Matthias Wehrli** on 25 Aug 2005, 6:42 a.m.,*
in response to message #2 by Meindert Kuipers

As I wrote you in the mail today: I´m happy to see you have an own domain and no longer this poor provider (the server was very, very slow)... Also: Thanks for the link to my website.

Re: New Clonix/NoVRAM site

*Message #4 Posted by **Diego Diaz** on 25 Aug 2005, 3:23 p.m.,*
in response to message #3 by Matthias Wehrli

Hi there,

Thank you both for your kind words. Yes Matthias, it's an other provider with a much more serious hosting policy.

Not much for now on my site but links to your sites (and the others) are a *must* for a pretended HP-41 devoted site ;-))

Time will tell if I can make it grow up as I'd like...

Cheers.

Re: New Clonix/NoVRAM site

*Message #5 Posted by **don wallace** on 25 Aug 2005, 7:31 p.m.,*
in response to message #4 by Diego Diaz

Hi Diego.

Congratulations on getting your new site running. Congratulations too on getting the noVRAM code so polished. That would have really been an amazing effort. (My head is spinning at the thought...)

Thanks for putting up the HEX code for the FORTH system for the 41; I am looking forward to seeing what the firmware will do, though the idea of an integer "write-only" language running on a BCD floating point oriented platform is to me a little strange ;-) I wonder if it possible to add some extensions? Maybe a fun challenge for those in the community who can write such software...

Where did the forth cde come from, anyone? Who owns the firmware rights?

Don Wallace

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HP-34C Power Circuit

*Message #1 Posted by **Julio Moreira** on 24 Aug 2005, 12:09 p.m.*

Hi to all.

Does anyone have a schematic of the flex circuit (ribbon) of the inside power supply of HP-34C ?

I have one HP-34C where the flex circuit is dead and I whish to make another one.

Thanks,

Julio César

Re: HP-34C Power Circuit

*Message #2 Posted by **Tony Duell** on 24 Aug 2005, 3:51 p.m.,*
in response to message #1 by Julio Moreira

Yes, it should be on the HPCC schematics CD-ROM. That disk contains 'representative' Spice schematics, I think it's the 32E and 33C. But all -E models are much the same as the first, all -C models much the same as the second -- in fact the main difference between -E and -C models _is_ the power converter circuit.

Re: HP-34C Power Circuit

*Message #3 Posted by **Julio Moreira** on 24 Aug 2005, 4:02 p.m.,*
in response to message #2 by Tony Duell

Hi Tony.

Thanks a lot.

Best Regards.

Julio César

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HP 33s displayed "memory clear"

*Message #1 Posted by **KC** on 24 Aug 2005, 5:49 a.m.*

HP33s displayed a flashing "Memory Clear" message during my normal calculation. Doesn't respond to any keystoke including "C-e^x-Summation" reset. Take batteries out, put back in. The calculator worked again, though everything in memory were lost. Pass the self-test after another reset. Now the question: the low battery annunicator weren't on during my normal operation, though sometimes when I ran some long program it did show up. Is a just a matter of low power batteries in which the calculator failed to warn me, or what? Any idea?

KC

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Anyone know what became of the NEWT project?

*Message #1 Posted by **don wallace** on 24 Aug 2005, 4:57 a.m.*

Hi all. I am wondering if the NEWT (souped up very fast 41 coconut compatible custom processor) ever got built?

I wonder if it is worth reviving?

Anyone with documents (other than the 134 page PDF document I have) could write to me as I may have a crack at it if it can be done.

Rather long term project though...

Thanks,

Don Wallace donwallace63@yahoo.com.au

Re: Anyone know what became of the NEWT project?

*Message #2 Posted by **Monte Dalrymple** on 24 Aug 2005, 10:54 a.m.,*
in response to message #1 by don wallace

There is some more information at http://www.systemyde.com/hp41

I am about halfway through the process of verifying the instruction set. I haven't looked at the turbo operation yet. The design fits in the target FPGA.

All of the voltage translation circuitry is designed, but I have a couple more things to do in the power supply, and I need to add an external latch to detect the "memory clear" state because the MMU information is held in RAM and won't be valid when starting from battery insertion.

I haven't started the board design yet because I need to learn Eagle first.

Monte Dalrymple

Re: Anyone know what became of the NEWT project?

*Message #3 Posted by **Meindert Kuipers** on 24 Aug 2005, 11:17 a.m.,*
in response to message #2 by Monte Dalrymple

If any help is needed: my MLDL2000 is done in Eagle, and I know it quite well now. I gladly offer my support (after I have gone through the entire MLDL2000 production of course). What is the target FPGA by the way?

Meindert

Re: Anyone know what became of the NEWT project?

*Message #4 Posted by **Monte Dalrymple** on 24 Aug 2005, 11:31 a.m.,*
in response to message #3 by Meindert Kuipers

Thanks for the Eagle offer. I need to learn it for other projects too, though. But if I get stuck I may ask a question or two.

I am using an Actel Pro-ASIC-Plus, specifically the APA075 in a 144 pin TQFP package, to hold the design.

Monte Dalrymple

Re: Anyone know what became of the NEWT project?

*Message #5 Posted by **Eric Smith** on 24 Aug 2005, 6:29 p.m.,*
in response to message #4 by Monte Dalrymple

Aside from not needing a separate configuration memory, was your choice influenced by any other notable advantages of the Actel parts over those of other vendors (e.g., Xilinx, Altera)?

Re: Anyone know what became of the NEWT project?

*Message #6 Posted by **Monte Dalrymple** on 24 Aug 2005, 8:24 p.m.,*
in response to message #5 by Eric Smith

The Actel parts are flash-based and are live at power-up. This allows me to exactly replicate the power-up behavior of the original design. SRAM-based FPGAs have huge power-on current requirements. You're probably thinking "configure it once and leave it powered, with the clock turned off". Unfortunately, the SRAM parts that are large enough to hold the design have quiescent current requirements of 1-5mA. This is going to eat batteries quickly. With the flash-based parts I will actually power-down the FPGA and include discrete logic to do the power-on detect. Of course, the design is technology-independent, so if someone wants to implement it in another technology that will certainly be possible (intellectual property issues aside).

Monte

Re: Anyone know what became of the NEWT project?

*Message #7 Posted by **don wallace** on 24 Aug 2005, 9:08 p.m.,*
in response to message #6 by Monte Dalrymple

Thanks everyone for the replies. Interesting...

Hope it all goes together well, Monte...

Don W

Re: Anyone know what became of the NEWT project?

*Message #8 Posted by **don wallace** on 24 Aug 2005, 9:22 p.m.,*
in response to message #7 by don wallace

Hi all.

Hi Monte.

I just checked out your compnany website.

WOW!

Don W

Re: Anyone know what became of the NEWT project?

*Message #9 Posted by **Eric Smith** on 25 Aug 2005, 1:42 p.m.,*
in response to message #6 by Monte Dalrymple

> Quote:
>
> SRAM-based FPGAs have huge power-on current requirements.

The recent ones (e.g., Xilinx Spartan 3) don't.

> Quote:
>
> With the flash-based parts I will actually power-down the FPGA and include discrete logic to do the power-on detect.

Makes sense. The Panasonic/Quasar HHC (Hand Held Computer) from 1981 did that. It used an NMOS 6502, because there wasn't yet a CMOS part. It ran a Forth-like language called "SNAP", but I've never found the technical documentation on it.

I imagine that you're already taking care to make sure that the I/O pins of the FPGA are also open or grounded when power is removed. Otherwise, any inputs that are driven high by external circuitry (buffers, etc.) will cause substantial leakage current as the ESD protection clamp diodes effectively power the chip from the I/O pins.

Re: Anyone know what became of the NEWT project?

*Message #10 Posted by **Monte Dalrymple** on 25 Aug 2005, 3:23 p.m.,*
in response to message #9 by Eric Smith

Yes, I have to create a virtual "pad ring" to translate between the 3.3V FPGA signals and the 6V Nut-compatible signals. During power-down all FPGA inputs are clamped Low and all FPGA outputs have high-impedance pull-downs to provide a DC path to ground outside the FPGA itself.
I also have to be careful during operation to keep all FPGA inputs within the 3.3V FPGA supply rail.
The "pad ring" is why I have to learn the schematic entry/pcb layout tools, because it's a small pile of SMT devices. If the board only needed the FPGA and memories I could just do a hand- layout board.

Re: Anyone know what became of the NEWT project?

*Message #11 Posted by **Meindert Kuipers** on 25 Aug 2005, 4:17 p.m.,*
in response to message #10 by Monte Dalrymple

This looks like it will really work. I have done the same with the MLDL2000. I switch off the 3.3V power regulator when the NUT CPU is not running to save

battery. I would strongly recommend against hand layout. Eagle is free for non-commercial (two layer only) use and not very difficult. It will generate all data required for reliable production, and believe me, you do not want to handsolder TQFP1444 or TSOP devices! My MLDL2000 is professionally produced by an assembly house and is fully SMD, and without a CAD tool this would not have been possible.

Meindert

Re: Anyone know what became of the NEWT project?

*Message #12 Posted by **Garth Wilson** on 1 Sept 2005, 6:25 a.m.,*
in response to message #11 by Meindert Kuipers

> Quote:
>
> and believe me, you do not want to handsolder TQFP1444 or TSOP devices!

Actually they're pretty easy, unlike soldering the chip resistors and capacitors. Instead of trying to solder one lead at a time, you just put flux down the whole area, tack-solder a couple of opposite corners to hold the IC in place while you do the rest, and go down the rows soldering with the soldering iron tip as if you meant to make one continuous solder bridge. Then hold the board up vertically and go down the row again, and all the excess and bridging comes off on the soldering iron. It's ok if the iron tip is wide enough to cover several pins at once. It's rather quick to get a job that looks like it was done by machine. When you're done with the whole board, you wash the flux off.

Re: Anyone know what became of the NEWT project?

*Message #13 Posted by **Eric Smith** on 25 Aug 2005, 5:07 p.m.,*
in response to message #10 by Monte Dalrymple

What are you using for level shifters? In my own designs, I usually use 74LVC parts as 5V CMOS to 3.3V CMOS buffers, and 74HCT or 74ACT as 3.3V CMOS to 5V CMOS buffers. For bidirectional signals there are some nice TI parts whose numbers I don't recall.

But there don't seem to be many parts suitable for level-shifting signals that can exceed 6V. The 74LVC parts are only rated for operation with inputs up to 5.5V. It appears that some vendors 74HC4050 parts can tolerate 13V inputs or more, but I haven't found much for low-to-high shifting.

I suppose some of the old CD4504B, CD40109B, and HEF4104B level shifters might be suitable for a 41C. They're really slow, but so is the 41C bus. These really old parts tend not to be available in parts smaller than SO, though.

Best regards, Eric

Re: Anyone know what became of the NEWT project?

*Message #14 Posted by **Monte Dalrymple** on 25 Aug 2005, 5:47 p.m.,*
in response to message #13 by Eric Smith

The output level shifters use individual n-channel and p-channel MOSFETs. The p-fet pull-up needs level-shifted drive, which uses an n-fet and resistor to 6V to make an inverter. The FPGA outputs true and complement data to simplify the external circuitry. This approach allows me to build the necessary logic in this "pad ring". For example, the SYNC output passes DPWO when the CPU is off. For the inputs, I was just going to use a resistive divider feeding a CMOS gate. The gate is to hold the FPGA inputs Low without loading the "real" 41C bus signals. I'll obviously need to breadboard this before committing to a pcb.

Monte

Re: Anyone know what became of the NEWT project?

*Message #15 Posted by **don wallace** on 31 Aug 2005, 5:34 p.m.,*
in response to message #14 by Monte Dalrymple

Hi all. Hi Monte.

What is the expected size and cost of the finished unit? Are you going to be able to retrofit it into a 41CV? Am I missing the point entirely? What sort of current draw are you looking at?

Very interesting design project...

Don W

Re: Anyone know what became of the NEWT project?

*Message #16 Posted by **Monte Dalrymple** on 31 Aug 2005, 6:55 p.m.,*
in response to message #15 by don wallace

My intention has always been to build a drop-in replacement for the CPU board in a fullnut 41. I am doing everything I can, while keeping the design small enough to fit in the target FPGA, to minimize the current drain. But until I have a breadboard running it's hard to guess what it will be.

I haven't done a cost analysis yet, and it obviously is strongly dependent on volume. My target was $250, but it's too early to tell. I didn't go into this project to become rich. I mostly did it to dispell the myth that "it's too hard to translate the obsolete calculator CPU technology to a more modern implementation".

But what is a brain transplant for a 41 worth, bearing in mind that the transplant will hold nearly every 41 module ever made internally, have full x-memory, and RAM memory for a MLDL? Not to mention that it will run up to 50 times faster than the original 41? And are there more than three people on the planet interested in such a beast? I don't know.

Monte

Re: Anyone know what became of the NEWT project?

*Message #17 Posted by **don wallace** on 1 Sept 2005, 4:34 a.m.,*
in response to message #16 by Monte Dalrymple

Sounds really cool, Monte...

I kinda figured you were doing that. But I just had to ask. Well when you get it finished I want one...!

One question, though: Why did yu choose a clock rate of 50x, not 64x? You must have your reasons and I imagine they are very good ones.

Amazing project...

Don W

Re: Anyone know what became of the NEWT project?

*Message #18 Posted by **Monte Dalrymple** on 1 Sept 2005, 10:29 a.m.,*
in response to message #17 by don wallace

The choice of 50x was fairly arbitrary, but I wanted something that wouldn't push the capability of the FPGA. Since I had never used this family before I set an arbitrary limit of 20MHz. Fifty times the original 41 operating frequency of 360KHz came out to a nice 18MHz. 64x would have been 23MHz.

Of course, since the machine uses BCD it seems more poetic to use something other than a power-of-2...

Monte

Re: Anyone know what became of the NEWT project?

*Message #19 Posted by **Howard Owen** on 1 Sept 2005, 2:58 p.m.,*
in response to message #16 by Monte Dalrymple

Well, you can count me as interested!

Re: Anyone know what became of the NEWT project?

*Message #20 Posted by **Garth Wilson** on 1 Sept 2005, 6:15 a.m.,*
in response to message #13 by Eric Smith

If you would even think of the slow 4000-series CMOS for level-shifting, how about using comparators like the LM339? Then you'd have static protection too, since they're not CMOS. You can set your input thresholds precisely, at any voltage you want, and the outputs can be pulled up a lot higher than 6V. (A brand new set of 4 alkaline cells will give you about 6.4V anyway, not just 6V.) I realize CMOS' power requirements when idle only consist of the microamp leakage current, but the comparators might offer a good solution depending on what you do with them and their pull-up resistor power when the calculator is asleep. You wouldn't need very many anyway, would you? I haven't studied the 41's innards to know if this is too off-the-wall, but I've used the LM339 for many level-translation jobs, including to continuously variable voltages instead

of just set voltages like you'd have going from 3V to 5V and vice-versa.

Re: Anyone know what became of the NEWT project?

*Message #21 Posted by **don wallace** on 1 Sept 2005, 7:35 a.m.,*
in response to message #20 by Garth Wilson

Hi all.

Well, Garth is right on with his tips for soldering smt. I scrounge smt parts from old motherboards and have done quite a bit of smt board component level repair...

On the level shifting question, yeah thats tricky but I think enhancement mode fets might be the best bet if you can get parts with the right on gate threshold? failing that yeah your standard depletion mde fets driven with inverted signals is the best bet I imagine Monte.

The 339 is a really nice comparator. But they do draw about 200 uA per comp I think. I wonder if there is a real low power or programmable (adjustable chip Iset) quad or octal part out there somewhere?

Maybe a very low power cmos opamp with hysteresis would be fast enough and have programmable Iset (I am thinking of some very old Intersil cmos linear parts but could bet they are gonna be way too slow. Maybe there is something more modern in the same vein?)

I have not thought this through at all but maybe you might even be able to use a BIPOLAR transistor in common base mode.

I can't draw the ascii art in this form...

But you set the base at a threshold plus (about) 0.6 volts. You pull down via a low value resistor on the emitter (of npn device) and the collector follows it down, but level shifted. Effectively open collector output ;-) Plus the collector comes right down to within the saturation voltage of where the emitter is dragged... Current gain is about 1.00 ;-)

Probably would not work for many of the signals but maybe worth thinking laterally like that anyway. Fast too. Maybe for one or two signals you can just shed volts by using a diode or two? IR led? Just a thought... Low parts count anyway.

Don W

Re: Anyone know what became of the NEWT project?

*Message #22 Posted by **Garth Wilson** on 1 Sept 2005, 2:07 p.m.,*
in response to message #21 by don wallace

> Quote:
>
> The 339 is a really nice comparator. But they do draw about 200 uA per comp I think. I wonder if there is a real low power or programmable (adjustable chip Iset) quad or octal

part out there somewhere?

The LP339 takes less than 1/3 the power supply current of the LM339, but it's quite a bit slower too. But for logic-level-shifting, the open-collector arrangement has a big advantage over an op-amp-type arrangement. The down side in battery-powered applications is the power requirement.

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No need to search eBay anymore...

*Message #1 Posted by **gifron** on 23 Aug 2005, 1:39 p.m.*

Just come to the *eBay Report Forum*! Scroll down this page to get a listing of all HP items on eBay. Updated daily.

;^)[

Re: No need to search eBay anymore...

*Message #2 Posted by **Namir** on 23 Aug 2005, 4:57 p.m.,*
in response to message #1 by gifron

a link please????????

Re: No need to search eBay anymore...

*Message #3 Posted by **Ron** on 23 Aug 2005, 5:19 p.m.,*
in response to message #2 by Namir

I think the point gifron was trying to make is that there are so many ebay items discussed on this forum, that coming here is just like doing a search on ebay.

Re: No need to search eBay anymore...

*Message #4 Posted by **I, Claudius** on 24 Aug 2005, 8:32 a.m.,*
in response to message #3 by Ron

The curator Dave Hicks wisely included an "Ads Without Auctions" a while back for those wanting to buy/sell without the hustle of eBay. But, how does one get rid of any reference to eBay in the forum itself without tromping on free speech, or possibly a useful discussion? When the first posts regarding Cobubba came, I found them informative and entertaining as well. As many of us here buy/sell old stock or used calculators, the primary market, unfortunately, is eBay. Like it or not, eBay or some form of auction will probably be around forever now regarding the machines we love.

Edited: 24 Aug 2005, 8:37 a.m.

Re: No need to search eBay anymore...

*Message #5 Posted by **Namir** on 24 Aug 2005, 10:37 a.m.,*
in response to message #4 by I, Claudius

Nothing lasts for ever ... I remember the company that was selling VisiCalc (and all the Visi apps) .. and then Lotus that sold Lotus 123 ... I thought these companies would last forever.

While eBay has a lock on electronic auctions it has a few major weaknesses. The one that comes to mind is that it does not control or manage payments (like Amazon does). If members were forced to pay eBay directly then fraud would be less.

Soooo .. when a new auction company comes along that has addressed eBay's weaknesses .... eBay will be another Lotus ...

I think it was the french writer Molliere who said "The better is the enemy of the good!". Maybe Molliere was a die hard VisiCalc power user who was royally ticked to see Lotus stick it to Creative Arts.

Re: No need to search eBay anymore...

*Message #6 Posted by **Chris Woodhouse** on 24 Aug 2005, 12:58 p.m.,*
in response to message #5 by Namir

> Quote:
>
> While eBay has a lock on electronic auctions it has a few major weaknesses. The one that comes to mind is that it does not control or manage payments (like Amazon does). If members were forced to pay eBay directly then fraud would be less.

How do you figure that? First of all eBay owns paypal which is the main way people pay for auctions. Second the fraud is perpetrated by sellers not buyers so what difference does it make how the money is transferred?

Chris W

Re: No need to search eBay anymore...

*Message #7 Posted by **Howard Owen** on 24 Aug 2005, 1:45 p.m.,*
in response to message #6 by Chris Woodhouse

The fraud you are aware of comes from sellers. But if you read the seller's forums, they talk about cases of buyer fraud all the time.

Perspective is key.

But I second the notion that eBay discussions, while they shouldn't be banned, ought not dominate this forum. Accordingly, I vow to try *really, really hard* to avoid mentioning Co-whozzits or likewise. On the other hand, marvelling at a $220 dollar price for an HP-97 manual does have relevance for a collector who might own one of those manuals, or be in the market for one.

Re: No need to search eBay anymore...

*Message #8 Posted by **Namir** on 24 Aug 2005, 5:23 p.m.,*
in response to message #6 by Chris Woodhouse

Most eBay members have PayPal ... yet some auctions accept other methods of payment which removes total cotnrol from eBay/PayPal.

As for fraud ... it is committed by both sellers and buyers: sellers who don't deliver at all or deliver items inferior to the ones they describe in their auctions. As for buyers, you have the ones who win the auction and never pay. I have seen both.

Re: Nothing lasts forever ...

*Message #9 Posted by **John L. Shelton** on 24 Aug 2005, 3:12 p.m.,*
in response to message #5 by Namir

One of the great things about the US, and in general free markets around the world, is that challengers can upset dominant companies. Even the mighty AT&T fell to competition, despite a 100 year government-granted monopoly. Many of the vastly powerful companies of my youth got toppled by upstarts: IBM, Sony, Sears, Pan American Airlinies, Safeway. In some cases, technological change thwarted a company's mission (such as Western Union and telegraphy), but in most cases, it's just that the large company was slower to respond, and a smaller company could better satisfy customers.

It's fun to watch the "upstarts" grow so large that they are targets themselves. Southwest Airlines, though still on top, is getting serious pressure. Microsoft, which challenged and bested IBM, has now been challenged by Google, and the NY Times reports that Google has gotten so big that people fear it, meaning it will be challenged.

eBay may have a temporary "lock" on some form of commerce, but it cannot survive in such a dominant role. Sooner or later, someone else will pick a niche and better fill customer needs. Personally, I belive eBay is vulnerable right now, though it would take about $50,000,000 US to launch an effective competitive attack. eBay has made many mistakes that a competitor could correct. But that's another topic....

Hooray for the overall process that satisfies customer needs through innovation!

Re: Nothing lasts forever ...

*Message #10 Posted by **Ron Ross** on 24 Aug 2005, 3:30 p.m.,*
in response to message #9 by John L. Shelton

And flawed as Ebay is, how would you correct it? Its customer is the seller and it offers its customer (the seller) the best place to sell his product (treasure or JUNK) at the maximum value possible. And the seller is supposed to go elsewhere?

That Ebay is flawed and badly skewed against the buyer is no real concern to Ebay's customer (the seller). And Ebay now has a relationship with Paypal to really rack up profits, expediate sales and cover all the loose ends.

Yeah, eventually something might replace Ebay, but like Microsoft, they are entrenced in a very solid business that seems to favor their existence.

Re: Nothing lasts forever ...

*Message #11 Posted by **Howard Owen** on 24 Aug 2005, 4:03 p.m.,*
in response to message #10 by Ron Ross

You're right about who eBay's customers are. But the sellers come because there are buyers. That alone is the reason eBay stays on top. It allows them to jack up seller fees periodically with no more harm to their business than a spate of extended whining on the seller's boards. They also do things like showing credit card logos with the Paypal ad on each auction. But the seller has to have a "Premium" PayPal account to be able to accept credit cards, and then they pay PayPal a 3% tax on every payment received, credit card based or not.

That eBay can get away with that sort of thing indicates that they have something more

attractive than those tactics are repellent. And that is *customers*. eBay couldn't get away with slapping (direct) fees on the buyers. People would move on, and eBay would no longer be the dominant player. So they make their site easy to use for buyers, and they charge them no direct fees. Plus the prices are still better than retail, if you're careful. And guess what? *it works*, for eBay at least.

Edited: 24 Aug 2005, 4:05 p.m.

Reasons to post eBay information here

*Message #12 Posted by **Marcus von Cube, Germany** on 24 Aug 2005, 11:38 a.m.,*
in response to message #4 by I, Claudius

I'm one of those who spend their money buying old calcs. My main search area is eBay. I've a few automatic searches regarding HP calculators active (It's a bit tricky to skip all those ink cartridges in the search).

What I post here are auctions with anomalies, like wrong photos or questionable info (like "HP 14C" instead of "HP 16C"). Sometimes, a precious device is discussed in a thread here. If I've the impression it is a rare item and I find one on eBay, I just tell the audience.

Anything wrong with that?

Re: Reasons to post eBay information here

*Message #13 Posted by **Chris Woodhouse** on 24 Aug 2005, 12:55 p.m.,*
in response to message #12 by Marcus von Cube, Germany

> Quote:
>
> Anything wrong with that?

No.

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HP 41C replacement LCD display?

*Message #1 Posted by **Vince** on 23 Aug 2005, 1:19 p.m.*

Anyone know where to procure the replacment LCD for this model? Exponent numerals are obscured by black due to an unfortunate drop.

s/n 2032A02705

Re: HP 41C replacement LCD display?

*Message #2 Posted by **David Smith** on 23 Aug 2005, 1:33 p.m.,*
in response to message #1 by Vince

The only source is another HP41 calculator. Replacement of "half nut" LCD screens is basically not possible without doing extensive damage to the machine.

Re: HP 41C replacement LCD display?

*Message #3 Posted by **Vince** on 23 Aug 2005, 3:02 p.m.,*
in response to message #2 by David Smith

What is "half nut"? I'm not familiar with that term.

Thanks

Re: HP 41C replacement LCD display?

*Message #4 Posted by **Vieira, Luiz (Brazil)** on 23 Aug 2005, 4:07 p.m.,*
in response to message #3 by Vince

Hi, Vince;

try this link, scroll down some three to five times (depends on your video resolution) and you´ll see the title **HP-41 Versions**. Right after this you´ll see the image

Check your HP41 and you'll probably see the difference.

Indeed, removing a halfnut LCD demands patience, good soldering iron, ESD protection and some precautions (electronic maintenance expertise is desirable). I have already completely disassembled a halfnut LCD and I scanned the disassembled unit and parts. I'll just find the images and post again.

Best regards and success.

Luiz (Brazil)

Edited: 23 Aug 2005, 4:08 p.m.

Re: HP 41C replacement LCD display?

*Message #5 Posted by **Randy** on 23 Aug 2005, 7:39 p.m.,*
in response to message #1 by Vince

Based on the serial number, you don't have a halfnut unless HP swapped the case back when it went in for service sometime after 1985.

The real issue is that David is correct - the only source is another 41. But, if it is original, you have a fairly early 41C. There where changes to later models so not only do you need to find another 41, you'll need to find one from about the same era. Later lcd driver modules where physically larger and will not mate to an earlier lcd nor will they fit into an early case. Early, square epoxy encapsulated chip versions are not compatible with later cpu's.

With all things considered finding a replacement part, you might just want to buy a used CV and be done with it.

Edited: 23 Aug 2005, 7:45 p.m.

Re: HP 41C replacement LCD display?

*Message #6 Posted by **don wallace** on 24 Aug 2005, 4:15 a.m.,*
in response to message #5 by Randy

It is possible if you wanted to save a little money that you could buy a 41C and remove the processor / memory board from your CV and fit it to the keyboard / display front half sheel of the purchased 41C. The keyboard / display unit is electrically identical between the C, CV and CX to the best of my knowledge.

The prblem is that all these units are getting old and the plastic components fail, leading to fatal problems with the interconnects, which connect under presure. I'm doing some research into this problem to try to extend the working life of the machines another five or maybe even ten years. I wonder how long the LCD units will last?

Don

Re: HP 41C replacement LCD display?

*Message #7 Posted by **Tony Duell** on 24 Aug 2005, 3:48 p.m.,*
in response to message #5 by Randy

What is the issue with particular LCD drivers and CPUs?

The service manual mentions the auto-power-off problem, where you have to change a capacitor on the logic board if you swap between early and late LCD drivers, but apart from that I can't find a problem.

Re: HP 41C replacement LCD display?

*Message #8 Posted by **Randy** on 24 Aug 2005, 7:23 p.m.,*
in response to message #7 by Tony Duell

It has nothing to do with CPU's...

The early 41's used LCD driver module 00041-80003, they were 16.5MM in height. The later models used 00041-60146 modules, they were 17.5MM in height. The 17.5MM modules do not fit into early

41C's without physically stressing the assembly. The keyboard mold was later modified to accept the higher LCD assembly by removing the heat stakes along the top row. The 00041-80004 pcb was later modified to remove the holes altogether, some units had holes in the pcb but no heat stakes during the transition. The unit on right shows the top row heat stakes in an early steep key 41, the left, a later CV.

http://fixthatcalc.com/images/early41.gif

The lcd's used different connection technologies (gold over copper vrs elastomeric zebras) and were of course different dimensions and therefore not 100% physically interchangeable.

Edited: 24 Aug 2005, 10:14 p.m.

Re: HP 41C replacement LCD display?

*Message #9 Posted by **Vince** on 24 Aug 2005, 4:17 p.m.,*
in response to message #5 by Randy

My 41C has never been serviced so it can't be a half nut. It has sharp corners.

I'm hooked on RPN (25 years) and would like to repair it or replace it. I guess I should have done it 10 years ago when the 12C was affordable.

What does a parts quality 41C fetch these days? Are there folks on this forum who stock these parts? What can I expect to pay?

Alternatively, is there an inexpensive less complicated RPN calculator avaliable today??

Re: HP 41C replacement LCD display?

*Message #10 Posted by **Vince** on 24 Aug 2005, 4:22 p.m.,*
in response to message #9 by Vince

Sorry about the typo, I meant to say 11C instead of the financial 12C.

Re: HP 41C replacement LCD display?

*Message #11 Posted by **Dave Shaffer** on 24 Aug 2005, 7:16 p.m.,*
in response to message #9 by Vince

Vince,

"Alternatively, is there an inexpensive less complicated RPN calculator avaliable today?? "

The cheapest available RPN calculator would appear to be the HP 33S, now in production by HP and costing around $50. It has a somewhat weird (to old-time HP afficionados!) keyboard. It looks more like a cell phone keyboard. It is available at (at least) WalMart and Frys.

This model has been both praised and panned here at the Museum, but the general consensus appears to be that it is at least OK, after you get used to the keyboard and the somewhat miniscule decimal point (which is said to be improved in the very latest models).

I'm sure others will add more (or subtract from) my comments!

Re: HP 41C replacement LCD display?

*Message #12 Posted by **Vince** on 25 Aug 2005, 9:37 p.m.,*

in response to message #11 by Dave Shaffer

Sounds like an affordable alternative. I will likely be posting for sale my 41C, printer, cardreader/cards, 3 single memory modules,quad memory module, manuals and boxes soon since fixing the display is probably not worth the effort.

Thanks to all of you for your assistance!!

Re: HP 41C replacement LCD display?

*Message #13 Posted by **don wallace** on 8 Sept 2005, 3:42 p.m.,*
in response to message #12 by Vince

Hi Vince. I have a replacement display for sale from a junked 41C fullnut. If interested, please write to me.

Don Wallace

donwallace63@yahoo.com.au

Re: HP 41C replacement LCD display?

*Message #14 Posted by **Volguus Zildrohar** on 9 Sept 2005, 9:47 a.m.,*
in response to message #13 by don wallace

Sily, silly....

"LCD display?" That's kind of like the "HIV virus," and the "ATM machine."

Re: HP 41C replacement LCD display?

*Message #15 Posted by **don wallace** on 9 Sept 2005, 10:28 a.m.,*
in response to message #14 by Volguus Zildrohar

Yes, I KNOW!

I felt silly writing it, Volguus...

Thank you for bringing it to everyones attention!

But then you never hear about people just saying LC display, do you? And LCD is for Lowest Common Denominator, just ask Valentin A...

At least it isn't a teutology (bad spelling??) such as:

Awfully nice, terribly good, military intelligence or customer service... (just kidding, folks...)

(And NO! I am NOT a communist, Bill ;-)

DW

Now about CALCULATORS: What do you have and what do you use it for Volguus?

Re: HP 41C replacement LCD display?

*Message #16 Posted by **don wallace** on 11 Sept 2005, 6:10 p.m.,*
in response to message #13 by don wallace

HP41 parts withdrawn. I have my early fullnut fully fuctional now!

DW

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$220 for an HP manual ... Just the manual!

*Message #1 Posted by **Georges.L** on 23 Aug 2005, 12:48 p.m.*

http://cgi.ebay.com/Vintage-HP-97-HP97-Hewlett-Packard-Calculator-MANUAL_W0QQitemZ5801744513QQcategoryZ58039QQssPageNameZWDVWQQrdZ1QQcmdZViewItem

Re: $220 for an HP manual ... Just the manual!

*Message #2 Posted by **Howard Owen** on 23 Aug 2005, 1:50 p.m.,*
in response to message #1 by Georges.L

Yeah, I saw that one.

It's a real auction, so he'll only get that if a very well heeled babe in the woods comes along.

Re: $220 for an HP manual ... Just the manual!

*Message #3 Posted by **Bill (Smithville, NJ)** on 23 Aug 2005, 3:38 p.m.,*
in response to message #1 by Georges.L

And how about this set of 42S manuals:

HP 42S manuals

He does have one bid at $209. WOW!!

Maybe I should just sell all my manuals - at these prices I could buy a lot of calculators. :)

Bill

Re: $220 for an HP manual ... Just the manual!

*Message #4 Posted by **Howard Owen** on 23 Aug 2005, 4:42 p.m.,*
in response to message #3 by Bill (Smithville, NJ)

I paid 30 bucks for the same manual two weeks ago, and I thought I was paying premium!

I guess what it takes to be successful selling on eBay is certain parts of ones's anatomy transmuting into an alloy of copper and tin.

Re: $220 for an HP manual ... Just the manual!

*Message #5 Posted by **Howard Owen** on 23 Aug 2005, 4:44 p.m.,*
in response to message #3 by Bill (Smithville, NJ)

> Quote:

> Maybe I should just sell all my manuals - at these prices I could buy a lot of calculators. :)

Yes, and maybe Dave should up the price for the Museum CD stuffed with PDF versions. (Just kidding.)

Re: $220 for an HP manual ... Just the manual!

*Message #6 Posted by **Namir** on 23 Aug 2005, 4:56 p.m.,*
in response to message #3 by Bill (Smithville, NJ)

I'd say the high bidder was a mouse-click happy person (I have see dozens of them on Amazon) who did not bother to read the text. In this case, the bidder saw what he wanted to see (an auction selling the calculator AND the manuals). Reality bites!

Re: $220 for an HP manual ... Just the manual!

*Message #7 Posted by **Howard Owen** on 23 Aug 2005, 5:52 p.m.,*
in response to message #3 by Bill (Smithville, NJ)

Actually, I see that auction as still having no bids.

Perhaps there was a retraction? If so, it's not shown.

Bill quoted a different auction...

*Message #8 Posted by **K** on 24 Aug 2005, 12:54 a.m.,*
in response to message #7 by Howard Owen

> Quote:
>
> Actually, I see that auction as still having no bids.
>
> Perhaps there was a retraction? If so, it's not shown.

Bill quoted a different auction. But they're both overpriced.

Enter 123 to delete

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Calculator site update

*Message #1 Posted by **Valentin Albillo** on 23 Aug 2005, 5:37 a.m.*

Hi all,

Just came back from (too short) summer holidays, and I've uploaded a new article (in PDF format) to my web site, namely:

HP-71B: Math ROM Baker's Dozen (Vol. 2)

```
8-page article, second part of a two-part article, featuring 13 assorted mini-topics
discussing novel, unusual, or otherwise interesting aspects of using the extremely
powerful and versatile Math plug-in ROM for the HP-71B.
```

This second part features the following advanced mini-topics:

- ***8. Tigth fitting***

  Fitting a N^{th}-degree polynomial to a set of arbitrary data points.

- ***9. What about fitting complex data ?***

  Same, for a set of complex data points.

- ***10. Multiple integrals made easy***

  Double integrals, triple integrals and beyond.

- ***11. And systems of simultaneous non-linear equations too !***

  Ditto.

- ***12. Synergic eigenvalues***

  Computing all eigenvalues, real and/or complex, of arbitrary square matrices, as well as their characteristic polynomial.

- ***13. Enter the MOB (Matrix Operations Benchmarks)***

  Timings for SYS, INV, +, -, *, TRN*, TRN, ZER, =(1), =(1,1), FNORM, CNORM, RNORM, and DET.

You can also find there the first part of this article (10 pages), as well as ten other HP-related articles by me, all in PDF format.

Best regards from V.

Re: Calculator site update

*Message #2 Posted by **Bill (Smithville, NJ)** on 23 Aug 2005, 6:53 a.m.,*

in response to message #1 by Valentin Albillo

Hi Valentin,

Welcome back. Hope you had a great vacation.

Although I don't have the math rom, I am looking forward to reading your article and learning a little about how powerful a module it is.

Just to let you know, I finally put all your S&SMC in one PDF. The notice has been put in the Archives, so you may have missed it. Following is link:

All 11 SSMC's in One PDF File

Bill

Re: Calculator site update

*Message #3 Posted by **Valentin Albillo** on 23 Aug 2005, 11:00 a.m.,*
in response to message #2 by Bill (Smithville, NJ)

Hi, Bill:

Bill posted:

"Welcome back. Hope you had a great vacation."

Thank you very much, same to you. In my case it wasn't that great but never mind.

"Although I don't have the math rom, I am looking forward to reading your article and learning a little about how powerful a module it is."

Incredibly powerful, and I mean it. As for not having the ROM, I insist once more that you (and everyone else wanting to try) can google for and download the superb, absolutely-free Emu71 emulator, which does include the Math ROM as well.

That would allow you to enter the examples and routines from my articles and S&SMCs, and run them at 20x-70x the speed, with the convenience of large-window output for results instead of a 1-line display, not the mention a full size keyboard.

That's one of the main reasons I write routines specifically for the HP-71B: anyone can try them out for free, and they're very easy to write, test and debug. That can't be said for most other HP models, even if a Windows emulator/simulator does exist, mostly because of keyboard/menus emulation.

"Just to let you know, I finally put all your S&SMC in one PDF. The notice has been put in the Archives, so you may have missed it."

Why, thank you very much ! :-) I'm very glad that such kind persons like yourself find my humble attempts to enliven the forum from time to time worthwhile enough to dedicate their precious time to gather them all in a single, convenient PDF file. This actually encourages me to go on with new installments.

Also, your magnificent work is quite useful to me, because I didn't collect most of those postings at their time, so they were lost to me (which explains some problems with the numbering, etc).

Again, thank you very much, I certainly hope you'll enjoy my next S&SMC coming soon, as well as more articles I'll upload in the near future.

Best regards from V.

Re: Calculator site update

*Message #4 Posted by **Gerson W. Barbosa** on 23 Aug 2005, 6:18 p.m.,*
in response to message #3 by Valentin Albillo

> Quote:
>
> As for not having the ROM, I insist once more that you (and everyone else wanting to try) can google for and download the superb, absolutely-free Emu71 emulator, which does include the Math ROM as well.

Hi, Valentin!

Thanks for the tip. I found it at www.hpcalc.org. For an unknown reason, I cannot access J-F Garnier's website, BTW I cannot access any site in the membres.lycos.fr domain. Too bad because I lost my copies of your superb "Long Live... " series articles.

Best regards,

Gerson.

Re: Calculator site update

*Message #5 Posted by **Valentin Albillo** on 24 Aug 2005, 4:24 a.m.,*
in response to message #4 by Gerson W. Barbosa

Hi, Gerson:

Gerson posted:

"For an unknown reason, I cannot access J-F Garnier's website, BTW I cannot access any site in the membres.lycos.fr domain."

I just tried and no problems here ...

"Too bad because I lost my copies of your superb "Long Live... " series articles."

Contact me via this forum and I'll send you all of them as zipped e-mail attachments. Thanks for your interest and kind words and

Best regards from V.

Re: Calculator site update

*Message #6 Posted by **Gerson W. Barbosa** on 24 Aug 2005, 9:37 a.m.,*
in response to message #5 by Valentin Albillo

> Quote:
>
> Contact me via this forum and I'll send you all of them as zipped e-mail attachments.

Thanks, Valentin!

Most likely the trouble in accessing Lycos is with some firewall settings, both at work and at home. I would appreciate if you sent me the articles: just remove NSPM from my email and replace AT and DOT with '@' and '.', of course. I'll make a backup and a hardcopy this time!

Best regards,

Gerson.

Re: Calculator site update

*Message #7 Posted by **J-F Garnier** on 24 Aug 2005, 6:37 a.m.,*
in response to message #4 by Gerson W. Barbosa

Hi, if you have trouble with Lycos, you can also get the Emu71 package from the hpcalc.org archive site: http://www.hpcalc.org/hp48/pc/emulators/emu71.zip

J-F

Re: Calculator site update

*Message #8 Posted by **Gerson W. Barbosa** on 24 Aug 2005, 9:18 a.m.,*
in response to message #7 by J-F Garnier

Merci beaucoup, J-F! J'avait déjà le trouvé là. Très bon travail! Peut-être une raison pour achéter un LX-200 parce que les 71B sont trop cher!

(Thank you very much. I had alread found it there. Very good job! Maybe a reason for purchasing a LX-200 as the 71B's are too expensive! - Sorry for the bad middle-school French :-)

Best regards,

Gerson.

Re: Calculator site update

*Message #9 Posted by **Palmer O. Hanson, Jr.** on 25 Aug 2005, 10:38 p.m.,*
in response to message #1 by Valentin Albillo

The HP-15C Nth Degree Polynomial Fitting Program and the HP-71B Tight Fitting Progam both fit an nth degree to polynomial to n + 1 data points. Many references suggest that this is a risky procedure; for example, Glen Kilpatrick's Polynomial Regression Program for the HP-42S which is in the Museum's software library includes the following cautionary note:

"... This program will yield a polynomial curve fit of arbitrary power. But this requires more discussion. It should be obvious that a linear regression requires a minimum of two points, a quadratic three, a cubic four, etc.

If that is the case, then why not always pick a power that is one less than the number of points. The curve generated will pass through every point in the set (note that I gloss over multivalued sets, a particular X must yield one and only one Y), and the fit will be "perfect". The problem with this is that inherent measurement noise will be magnified, the curve will gyrate wildly outside the points in the set, the "energy" will be nowhere near minimized, and nothing will have been made simple. ..."

So the obvious questions are:

When is it safe to use just one more data point than the degree of the polynomial to be fitted?

How does one tell?

Re: Calculator site update

*Message #10 Posted by **Dave Shaffer** on 25 Aug 2005, 10:49 p.m.,*
in response to message #9 by Palmer O. Hanson, Jr.

"When is it safe to use just one more data point than the degree of the polynomial to be fitted?"

I'd say only when (and if you are sure) that you had a priori expectation that the polynomial degree was appropriate for this particular set of data.

For example, if you expected (or even knew by other means) that a linear relation was expected between two variables, then performaing a linear fit would be the proper thing to do, even if you had only three data pairs. You should also include, however, an estimate of the likely errors in your parameters, which requires of course some idea of the errors attached to each data point. Check any text on statistics for how to do this! (It's been a long time since I worried about such things!)

Re: Calculator site update

*Message #11 Posted by **Valentin Albillo** on 26 Aug 2005, 5:15 a.m.,*
in response to message #9 by Palmer O. Hanson, Jr.

Hi, Palmer:

Palmer posted:

"Many references suggest that this is a risky procedure"

It may be a risky procedure for a number of reasons. Some depend on the kind of fitting you're up to (i.e., exact, mathematical data or experimental data), others depend on the size of the problem and the computing precision being used. Both can limit the accuracy and/or usefulness of the polynomial fit you get.

For high-degree exact polynomial fits to a set of data points, you're solving a large system of linear equations. The related matrix approaches a Hilbert matrix as the degree increases, and as has been mentioned a number of times (and you can see a thorough discussion in my article ***"Mean Matrices"***, published in Datafile V24N4 (July/August 2005)), Hilbert matrices are extremely difficult to handle numerically, as they're almost singular. Thus, exactly fitting an Nth-degree polynomial to N+1 data points involves numerically dealing with a close approximation to an NxN Hilbert matrix, and for large N this will quickly degrade precision to the point of the result being unusable.

"The curve generated will pass through every point in the set [...] and the fit will be "perfect". The problem with this is that inherent measurement noise will be magnified, the curve will gyrate wildly outside the points in the set, the "energy" will be nowhere near minimized, and nothing will have been made simple. ..."

That's not so simple. It depends on the nature of the problem, i.e.. if we're dealing with approximate, empirical data obtained via some measurement or experiment, or else it's just a mathematical problem of fitting some polynomial to a given data set or mathematical function (say y=exp(x)) over some range.

For this last case, approximating a polynomial to some given function, it further depends on the function being approximated AND the data points used in the approximation, i.e., equally-spaced or arbitrarily spaced.

For suitable functions (say y=sin(x)) and equally spaced data points, convergence does occur, and the polynomial thus fitted closely resembles the original function as the degree (i.e., number of points used) increases. But in the general case and for many transcendental functions, this convergences does not hold and the resulting polynomial, though passing through all data points used, oscillates wildly, and absolutely diverges from the function at all points except the fit set.

"When is it safe to use just one more data point than the degree of the polynomial to be fitted? How does one tell? "

As stated, it's a difficult theoretical question. As a rule of thumb, I would advice the following:

- If the data set are experimental and there are a large number of them, forget about an exact fit. Your best bet is to compute a number of *polynomial least-squares regressions* for degrees 1, 2, 3, ... and for each degree, compute the RMS of the error. As long as the RMS is decreasing sharply, keep on increasing the degree. When the RMS stops significantly changing, then halt.

  For instance, if for degrees 1 to 5 you get RMS errors 0.532, 0.183, 0.027, 0.019, 0.015, you should stick to degree 3 (RMS = 0.027). The 'extra' accuracy you seem to get with degrees 4 and 5 is just experimental noise in the data. Least-squares approximations are essentially a smoothing of data, which will remove most of the noise. Increasing the degree is just a senseless attempt to also fit the noise as well.

  There's also the fact that, as for the case of exact polynomial fit, the related matrix for least-squares regression is also nearly singular for large degree, but this can be avoided by using orthogonal polynomials instead of directly dealing with said matrix. However, for experimental data, high-degree least-square regressions are seldom justifiable, stick to the diminishing RMS criterium to decide where to stop. The computed polynomial will result in improved values bettering even the data points themselves, as most experimental noise will be smoothed out by the regression.

- If the data set is a mathematical set of data points or you're trying to fit a suitable polynomial to a mathematical function (say the Gamma function or some Bessel function), there's no smoothing of experimental noise involved and your best bet is not a least-squares polynomial fit but a *minimax polynomial fit*. This is a very complex subject and this is not the place to discuss it, have a look at my ***Minimax Polynomial Fit*** article in Datafile V24N5, where this is discussed at length.

  Using this kind of approximation will get you the absolute *optimal* fit, with *guaranteed* smallest maximum error over the whole specified interval, no oscillations or artifacts whatsoever.

Best regards from V.

Edited: 26 Aug 2005, 7:53 a.m.

Re: Calculator site update

*Message #12 Posted by **Thomas Okken** on 27 Aug 2005, 1:55 p.m.,*
in response to message #9 by Palmer O. Hanson, Jr.

The problem with fitting an n-th degree polynomial to n+1 data points is that it is an ill-conditioned procedure (results can fluctuate wildly for relatively small variations in the input data).

If you have a good reason (e.g., some plausible physical model) to assume fitting an n-th degree

polynomial is the right thing to do, try to collect more data points and perform polynomial regression, or, even better, use Chebychev polynomials to get a fit with limited local error.

Re: Calculator site update

Message #13 Posted by ***Palmer O. Hanson, Jr.*** *on 10 Sept 2005, 5:22 a.m.,*
in response to message #12 by Thomas Okken

Thanks to all the contributors, and particularly to Valentin, for thorough discussions of which method to use. In my old notes I found the following items which may be of interest:

1. On selecting which degree to use: The least squares polynomial regression program that I used on the Honeywell Computer Network in the late 1960's didn't calculate the RMS of the residual errors. Rather, it calculated the unbiased standard error defined as the square root of the sum of the squares of the residual errors divided by number of data points minus the degree of the polynomial minus one.

On the difficulty of the matrices involved: We recognized that a least squares polynomial regression solution is *algebraically* equal to a linear solution when the number of data points is equal to the order of the matrix (degree plus one). The solutions in a computer program are not *numerically* equal where the least squares polynomial regression solution is typically degraded by the larger matrix elements associated with the regression.

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Tips to fix an IR printer (82240B)

*Message #1 Posted by **Geir Isene** on 23 Aug 2005, 1:50 a.m.*

Yesterday I got mye IR printer that I bought via eBay. When I tried to print (from either my HP-48GX or HP-17B), every third pixel row was blank - effectively rendering the printout unreadable. Is there anything I can do to fix this myself?

Re: Tips to fix an IR printer (82240B)

*Message #2 Posted by **James M. Prange (Michigan)** on 23 Aug 2005, 3:42 a.m.,*
in response to message #1 by Geir Isene

Just to clarify the situation, I take it that you mean the third pixel row within each print line?

How about the printer's self-test? With the printer off, hold down the line-feed button, turn the printer on, and then release line-feed.

Regards,
James

Re: Tips to fix an IR printer (82240B)

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 23 Aug 2005, 3:47 a.m.,*
in response to message #1 by Geir Isene

hi, Geir;

while keying this post in, James was faster and posted about the self test, too. I'll keep mine the same, just add these lines, O.K.? (Hi, James!)

chances are you have a bad connection. in the flex ribbon connecting the printing head to the mainboard. The October 1987 issue of the HP Journal, p.22, shows an HP82240A 'guts', and you can easily see the flex ribbon.

If you want to go for another test, what do you get with the HP82240B self test? If you did not perform it so far, simply keep the paper advance buttom pressed when turning the printer on. The complete character set and the battery condition are printed (battery condition is printed in a separated line).

Also, does it happen the same when printing graphics? I mean, with both the HP48GX and the printer ligned up for printing, if you press [ON] (hold it) and [1] simultaneously (release [1] prior to release [ON]) while the HP48GX is turned on, what do you get in the printer?

Maybe you are aware of that, but the [ON]&[1] cause the HP48G's LCD contents to be sent through the selected IO port. Considering that the IR port is the selected one (as you can print with the HP82240B), your printer should print the exact LCD contents when [ON]&[1] are pressed.

Let us know how does it go, or if you need further advice, O.K.?

Success!

Luiz (Brazil)

Edited: 23 Aug 2005, 3:51 a.m.

Re: Tips to fix an IR printer (82240B)

*Message #4 Posted by **Geir Isene** on 23 Aug 2005, 4:54 a.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Hi guys,

Thanks for the help. I tried the self-test and the 48 screen-print. Both show the same result - every third pixel row on the print-out is blank. It seems to me that the characters are 6 pixels high; from the top, row 3 and 6 are gone.

I'll go ahead and see if I can fix a loose connection. This is less hassle than returning the printer to get an other one.

Re: Tips to fix an IR printer (82240B)

*Message #5 Posted by **James M. Prange (Michigan)** on 23 Aug 2005, 7:44 a.m.,*
in response to message #4 by Geir Isene

Well, that it fails in the self-test confirms that the problem is definitely in the printer itself.

(Edited) The capital letters A-Z use, counting the top row as 1 and bottom as 8, rows 2-7, but the print head is 8 pixels high. Some characters use the other rows; for example, the parentheses, brackets, and braces use the top 7 rows, underscore (at the very beginning of the self-test as well as its ASCII position) uses only the bottom row, comma uses the bottom four rows, and underlining turns on the lowest row. To print (from your 48GX) a single column with all eight rows on, you could set up for printing via IR and run the program:

```
\<< 27 CHR 1 CHR + 255 CHR + PR1 DROP >>\
```

With the print intensity fairly light, and perhaps using a magnifier, you should see a column of eight dots from that program.

Note that the font of the 82240B differs from the 82240A; as well as the additional character set, many characters use one less row.

In case you need the owner's manuals for the printers, they're available on the current Museum DVD or Museum CD 8. For more technical information also see the HP 82240B Infrared Printer Technical Interfacing Guide.

Sorry, I don't know enough about the "internals" of the printers to be any help there, but hope for a loose connection.

Regards,
James

Edited: 23 Aug 2005, 8:10 a.m.

Re: Tips to fix an IR printer (82240B)

*Message #6 Posted by **Tony Duell** on 26 Aug 2005, 6:34 a.m.,*
in response to message #5 by James M. Prange (Michigan)

I would agree that the first step is to check the printhead.

The casing screws are under the feet and in the battery compartment. I think there's a total of 6. Undo them, take off the cover (don't lose the switch knobs, which are now lose). The printhead tapewire plugs into the PCB. Unplug it and check for continuity between the common connection and each of the others.

From what I remember, the printer is controlled by an 8048-series microcontroller. One of the 8 bit ports drives the printhead There's an 8-section driver chip, something like a ULN2803 (I am doing this from memory, I don't have my schematic in front of me...). 7 of the sections drive the 7 of the printhead rows, the last drives the motor. There's a separate discrete transistor for the last row, I think it's the bottom one.

If the printhead checks out, you could look for activity on the inputs to the driver chip when doing the self test. If some of those lines seem dead, then alas you need a new micrcontroller, which was custom-programmed for this printer (only source, therefore, being another 82240B). If the inputs to the driver are all toggling, then the driver chip might be defective.

Re: Tips to fix an IR printer (82240B)

*Message #7 Posted by **David Smith** on 26 Aug 2005, 12:54 p.m.,*
in response to message #6 by Tony Duell

I seem to remember that the controller was a Mostek MK3870... but that may have been a different machine.

Re: Tips to fix an IR printer (82240B)

*Message #8 Posted by **Tony Duell** on 27 Aug 2005, 6:17 a.m.,*
in response to message #7 by David Smith

I think you're thinking of the 82143 or 82162 (HP41 and HPIL thermal printers).

Re: Tips to fix an IR printer (82240B)

*Message #9 Posted by **David Smith** on 23 Aug 2005, 1:35 p.m.,*
in response to message #4 by Geir Isene

I suspect the problem is a burned out dot in the printhead. You can verify this by reading the resistance of each dot on the ribbon cable to the common connection (ground). They should all read the same. Bad dots will usually show a much higher reading.

Re: Tips to fix an IR printer (82240B)

*Message #10 Posted by **James M. Prange (Michigan)** on 25 Aug 2005, 6:54 p.m.,*
in response to message #9 by David Smith

A bad printhead was my first thought. I haven't heard of that being a common problem with the 82240 printers, but it's certainly plausible.

But it seems that Geir's printer has (at least) two dot rows not working; how likely is it that two elements would burn out? If that happened, I'd suspect that some other problem caused it, so would

be concerned that the same thing might happen to a replacement printhead.

Still, if there's nothing obvious wrong, such as a bad connection with the flex ribbon, it would certainly be worth the effort to check the resistance through each dot.

Finding a replacement printhead might be a bit of a problem; maybe from a printer with some other problem, such as damage from leaky batteries. In this case, if it is the printhead, I'd think it better to try for a refund or replacement from the seller.

Regards,
James

Re: Tips to fix an IR printer (82240B)

*Message #11 Posted by **David Smith** on 26 Aug 2005, 12:53 p.m.,*
in response to message #10 by James M. Prange (Michigan)

Bad printhead dots are a very common problem. More so than bad flex cables. I have seen numerous heads with multiple dots bad. It can be caused by either electrical problems (driver latched on) or physical problems (grit or pointy objects weilded by hairless apes). HP service people even had a form letter they sent out if they thought your printer was damaged by the latter.

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Brazilian HP-85A on eBay

*Message #1 Posted by **Vassilis Prevelakis** on 22 Aug 2005, 11:01 p.m.*

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=5233723613

If you look about 3/4 down the posting you can see the serial number label with the "MADE IN BRAZIL" tag. The serial number is difficult to read but it looks like 2326B... which makes one of the later HP-85As to be produced.

Anybody knows whether HP-85s (or other Series80) computers were made elsewhere? (I already know about the 9915A/B which were made in Germany).

**vp

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Celebrating 30 years since I bought an HP-55

*Message #1 Posted by **Namir** on 22 Aug 2005, 9:04 p.m.*

I am celebrating today 30 years since I bought my first HP calculator -- an HP-55. I was in an engineering college and my parents showed me in 1974 an ad for the HP-65 -- the first personal computer. I had to have one. Because of the cost my parents gave it much thought. In August 75 I flew to Europe to join them for the rest of summer. As we drove from the airport I was handed several flyers for HP calculators-- HP-21, HP-25, HP-45, HP-55, and HP-65. I started studying the flyers for the 25, 55, and 65. I spent the next few days reading every word and going over the features of each calculator again and again. Finally I decided on the HP-55. It had built-in linear regression and basic stats, 20 registers, unit convertions -- all special features that meant a lot for me. I decided on that model and my family purchased it for me on August 22. I was not fulyl aware that the HP-55 had the least programming space and features (no subroutine like with the HP-65). I used the HP-55 for the next 2 years and pushed the machine to the limit of programming. In 1977 I bought an HP-67 and enjoyed the superior programming features (more steps and three levels of subroutines).

Today I took out my HP-55 (one I got recebtly from eBay) and played with it a bit. I wrote a few programs and keyed in others from the Math and Stat application booklet. This was the first step in a world of computers that because accessible to us.

Those were the days when HP was the calculator ACE!

Happy Programming!

Namir

Re: Celebrating 30 years since I bought an HP-55

*Message #2 Posted by **Steve** on 24 Aug 2005, 6:18 p.m.,*
in response to message #1 by Namir

Poor Namir, everyone ignored your post. I for one appreciate that story. I love hearing tales about the early days of calculators. I think anyone old enough to remember those days is lucky in a way, becuase it was a bigger step forward for personal computing in a relative sense than we're likely to see again. To get an idea of how revolutionary it was, my friend remembers a crowd gathered around a live demonstration at Macy's showing one of the first four function pocket calculators. No one could believe something that small could do what that thing did. A four function pocket calculator for $100 was considered a bargain.

Re: Celebrating 30 years since I bought an HP-55

*Message #3 Posted by **Howard Owen** on 24 Aug 2005, 6:55 p.m.,*
in response to message #1 by Namir

I didn't ignore it. I just thought it stood pretty well on its own. 8)

Re: Celebrating 30 years since I bought an HP-55

*Message #4 Posted by **Namir** on 25 Aug 2005, 10:07 a.m.,*

in response to message #1 by Namir

Thanks guys for responding! I was celebrating a vintage HP calculator. After all, this is what this site is all about. It is amaizing how far calculators have progressed. I think we all recall that moment of aw when we held in our hands a small and sophisticated calculator that out-matchoeasd the common 4-function or basic scientific Casio, Sharp, and Cannon calculators.

Re: Celebrating 30 years since I bought an HP-55

*Message #5 Posted by **Howard Owen** on 25 Aug 2005, 1:27 p.m.,*
in response to message #4 by Namir

Yup. For me it was the 41C. It was the first programmable I ever saw.

Since taking up collecting (quite recently) I've had the opposite experience of learning how less capable - but not necessarily older - HP calculators were programmed. For some models that has been a real pleasure. I'm thinking of the HP-97 and [11|15|16]C here. For others it has been a cruel ordeal. Perhaps that's overstating it, but the HP-20S just sucks as a programmable. Never mind the limited memory, it's an algebraic that programs without mnemonics! So not only do I have to decode the keystrokes, but I have to completely rearrange the programming part of my brain. So Euclid's algorithm (my standard "benchmark" of programming simplicity) is really screwed up. And not just because there's no "MOD" function:

```
01 LBLA
02 STO2
03 SWAP
04 STO1
05 LBL1
06 RCL1
07 /
08 RCL2
09 =
10 FP
11 *
12 RCL2
13 =
14 RND
15 IP
16 STO3
17 X=0?
18 GTO2
19 RCL2
20 STO1
21 RCL3
22 STO2
23 GTO1
24 LBL2
25 RCL2
26 RTN
```

Eeeewww!

This monstrosity of a programming model, wherever it first showed up, seems to me to have been the beginning of the end. It's obvious the marketing guys had fought a battle over AOS vs RPN, and partially won. At the same time Wiliam Wickes et. al. were producing the 42S, this chimera between two incompatible phylae of calculation hit the streets. I don't know if its so terrible simply because that's how keystroke programming on an algebraic has to be, or because the team implementing the programming believed that it was.

However that may have been, it makes your reverence for your first HP all the more appropriate. The models we admire really were special and unusual, as the example of mediocraty that is the HP-20S shows.

Edited: 25 Aug 2005, 1:38 p.m.

Re: Celebrating 30 years since I bought an HP-55

*Message #6 Posted by **Frank Knight** on 25 Aug 2005, 11:32 p.m.,*
in response to message #1 by Namir

Well, that means it's been 30 years since I got my first scientific, an APF Mark 51 purchased at Sears. It served well the first year till I got my first advanced scientific TI SR-51 and then in December 1976, the beloved TI-SR-56. Then a Commodore M-55 which Gene now has in the summer of 77 followed by finally a HP-29C later in 1977 after trying a 25C first. Had to work a lot of hours in the mid-70's at $2.20/hr while in school and summers to buy this stuff!

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HP 16 C pn eBay under wrong name - probably cheap

*Message #1 Posted by **Marcus von Cube, Germany** on 22 Aug 2005, 7:19 a.m.*

Hi,

I just spotted auction 6202284368 on ebay. It is a 16C but incorrectly labled as "HP 14c" by the seller. Since it's not so easy to find this auction, the device might go for cheap...

Re: HP 16 C pn eBay under wrong name - probably cheap

*Message #2 Posted by **Vassilis Prevelakis** on 22 Aug 2005, 7:41 a.m.,*
in response to message #1 by Marcus von Cube, Germany

by posting it here you have made sure that it will **not** go cheap. :-)

**vp

Re: HP 16 C pn eBay under wrong name - probably cheap

*Message #3 Posted by **Tadeyev** on 22 Aug 2005, 10:23 a.m.,*
in response to message #2 by Vassilis Prevelakis

What about a now on eBay that is actually an 11C?? (5801314440) ;-))

Re: HP 16 C pn eBay under wrong name - probably cheap

*Message #4 Posted by **Gerson W. Barbosa** on 22 Aug 2005, 10:58 a.m.,*
in response to message #3 by Tadeyev

According to the seller, it is actually a 10C:

> Quote:
>
> Q: Is that a HP-10C or HP-11C? Your text says 10C, the pictures show a 11C. Aug-22-05
> A: It is an HP 10C. I am trying to get eBay to revise the pictures.

Regards,

Gerson.

HP 10c pn eBay under wrong photo

*Message #5 Posted by **bill platt** on 22 Aug 2005, 4:05 p.m.,*
in response to message #4 by Gerson W. Barbosa

Its already too expensive so I',m not bidding.

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HP-35 calculator with the 2.02 bug on eBay

*Message #1 Posted by **blurdybloop** on 21 Aug 2005, 4:49 p.m.*

Someone just put up an HP-35 with the 2.02 ln e^x bug on eBay http://cgi.ebay.com/HP-35-Hewlett-Packard-35-Scientific-Calculator-HP-35_W0QQitemZ5801094630QQcategoryZ58042QQssPageNameZWDVWQQrdZ1QQcmdZViewItem with a starting bid of $50. I guess that's collectable in its own right.

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Printing Scientific Calculators

*Message #1 Posted by **John Limpert** on 21 Aug 2005, 3:54 p.m.*

Has any company made a printing scientific calculator in recent years? I haven't seen one since the HP-97. There are a large number of printing basic calculators that are still in production.

Re: Printing Scientific Calculators - there were some non-HPs...

*Message #2 Posted by **Bill Wiese** on 22 Aug 2005, 3:54 p.m.,*
in response to message #1 by John Limpert

I haven't seen printing scientific calcs on the shelves in years.

There are a few however, from the very late 70s, and into 80s.

Canon has produced a couple - I have an FP10 on my desk, has flourescent VFD ('green tube') display, basic sci functions (log, trig, P<->R, basic stats, along with a tape printer. This is certainly not a handheld calc but is not a full desktop either - it can be held/used in hand easily.

Canon produced a later version that had, as I recall, an LCD display and smaller printer. It was slightly smaller but still was not really 'pocketable' and was still best for desk use. I recall seeing these somewhere around 1982-1984 for some time. (They seemed to stay on stores' shelves, too!)

I believe TI had a printing version of something like a TI30. It was, as I recall, an LCD calc. Joerg's Datamath museum might have a pic/description of it.

Sharp produced a printing ELSImate scientific calc, EL550, in the 80s too. I have this and need to put some new thermal paper tape in it. This calc has an LCD, usual log/trig funcs, hyperbolics, P/R conversions, D.MS<>D.d conversions, and basic stats - along with a thermal printer. Its physical appearance and KB layout is very similar to the early 80s EL506P, which was a fairly thin-profile 'shirt pocket' LCD calc that came in a folding vinyl wallet. The EL550 printing calc is just 1/4" thicker (so as to take AA batteries and contain print unit) and about 1.6" longer (for printer unit above LCD).

Do remember that various Sharp, Casio (and thus Radio Shack) LCD 'pocket computers' that were programmed in BASIC but that also offered calculator modes sometimes had accesory printers for them - much like the HP41C. The TI95 calculator (as well as its sister, the TI74 pocket computer w/BASIC) had an accessory printer as well, as did its predecessor, the CC40 computer.

Bill Wiese
San Jose, CA USA

Re: Printing Scientific Calculators - there were some non-HPs...

*Message #3 Posted by **Howard Owen** on 22 Aug 2005, 4:19 p.m.,*
in response to message #2 by Bill Wiese

All the HP48's (possibly excepting the 48GII?) can print via IR. The 49G+ has IR, but I don't know if it

will print that way.

I know it's not the same. I posted my opinion in an earlier thread that HP lost something when they went to the systems approach with the 41C. The HP-97 is still my favorite machine to do calculation on, due to it's nice big buttons, gorgeous display and great printed output. I like the 41C, don't get me wrong. It's much nicer to program than the 97, and it has networking that's almost recognizable as such from today's perspective. But I'm not aware of any small desktop machine that comes anywhere near the HP-97 for usability as a calculator.

Re: Printing Scientific Calculators - there were some non-HPs...

*Message #4 Posted by **Eric Smith** on 22 Aug 2005, 5:42 p.m.,*
in response to message #3 by Howard Owen

Hmmm... Maybe it would be fun to design an upgrade module for the HP-97 to add memory and make it (mostly) compatible program-wise with the HP-41C family. :-)

Re: Printing Scientific Calculators - there were some non-HPs...

*Message #5 Posted by **Bill Wiese** on 22 Aug 2005, 7:55 p.m.,*
in response to message #4 by Eric Smith

Hey Eric,

Your HP9x mod ideal would be wonderful and a good shortcut to reality.

All this talk here of building our wonderful supercalc has gotten into the minutiae of this vs. that CPU, C vs. assembly for emulation layers, what kinda display, etc. - when the bottom line is that the above is absolutely irrelevant, as any even 4-bit CPU today could emulate an HP. (Well, maybe that's pushing it for a 49, but then I'm only into 'real' RPN calcs up to, say 42S - no 48/49 for me.) And to have a daily-use calculator, you don't want it in a hokey RadioShack or Serpac 'project box'.

Folks here don't realize the ergonomics, look and feel of a good calc will be hard to duplicate by the midnight engineers unless we can pony up at least $100K for molds, keytops, etc. And that would just be for prototypes for a few of us. Wouldn't be in shape for sale. This has been the problem for the OpenRPN group.

Using existing HP desk calcs - whose KBs and cases and displays are often still in good shape - would be wonderful. For an HP9X desk calc, power and space are nonissues.

Dot-matrix alphanumeric red LED display sticks are available and are easy to 'talk to' - that way, we can have a 41C or even 42S-grade display. Dead or hard-to-talk-to printers can be replaced with printers from scrapped other new $15 four-banger accounting calcs (and small printers can be purchased from DigiKey, Mouser, etc. though it's prob cheaper to rape some new calcs.)

No need for card reader. Combined with scrap 32MB SD or CompactFlash storage, this hack calc will hold every known HP library program in existence plus data tables, text, etc. - plus whatever programs the owner has dreamed up. RS232 + GPIO parallel I/O is trivial.

Running a 41C or 42S emulator is entirely possible using a $1 8051 - with C code written in SDCC. The emulator code would have 'escapes' in it to translate to new display, I/O units, etc.

[I have a Rockwell 350 sci desk calc with a great fullsize KB and green VFD display. The accuracy of this calc is terrible, though. Time for some new brainpower - this would be a good HP45 candidate due to key labelling. Since this has 'normal' keys a la those on quality terminals, I'm sure

I can find a keycap that says "ENTER" on it (replacing 2 keys, but then parentheses are not needed w/RPN!).]

Bill Wiese
San Jose CA USA

Re: Printing Scientific Calculators - there were some non-HPs...

*Message #6 Posted by **Howard Owen** on 22 Aug 2005, 8:38 p.m.,*
in response to message #4 by Eric Smith

Someone mentioned in another thread that you had been thinking along those lines. It's very interesting to me. My question in that thread ("Last of the Topcats?") was what if HP had retained the Topcat form-factor into the HP-41C generation? Since that beautiful display is one of the HP-97's strong points, let's also assume they somehow decided not to go to an LCD display on the desktop version of the 41C (HP-98C?) Then they might have come up with something like you envision.

Mike's comments echo things that others have said in that he'd like modern I/O and memory options. I'm torn on that point. I'd like to be able to easily talk to the 21st century with a hybrid calculator. But I'd also want to be able to talk to my ancient machines, like the HP-41, 75 and 71. That means HP-IL. That also appeals to me since I think it's a cinch that HP would have included that if they had decided to build a high-end 41 in the Tomcat form factor.

On the other hand, there's nothing wrong with providing an SD or CF slot or two. I fear I risk displeasure from some of the purists when I suggest USB, but it's a widely adopted standard that would ease communication with a wide variety of modern platforms.

So, the guts could be a high-end StrongARM or PPC platform running an OS that could host a variety of emulations, one of which could be the stock 97, and another the souped up 41C. I wonder where we could get such an OS and such flexible software. Any thoughts? 8)

The primary UI would be the physical calculator, but you could also run X11. 8) 8)

Edited: 22 Aug 2005, 8:41 p.m.

Re: Printing Scientific Calculators - there were some non-HPs...

*Message #7 Posted by **Bill Wiese** on 22 Aug 2005, 9:00 p.m.,*
in response to message #6 by Howard Owen

> Quote:
>
> I fear I risk displeasure from some of the purists when I suggest USB, but it's a widely adopted standard that would ease communication with a wide variety of modern platforms.

Unless it has a USB device that looks like a serial device or bulk/mass storage, there's the issue of USB drivers on PC.

[quite] ...the guts could be a high-end StrongARM or PPC platform running an OS that could host a variety of emulations, one of which could be the stock 97, and another the souped up 41C. I wonder where we could get such an OS and such flexible software. [/quote]

This is the problem w/OpenRPN - why high-end? ARM, PPC? Are we trying to run a cruise

missile?

... wasting time with all the theoreticals and being good little CompSCI students when ANY $0.50 CPU (say, 8051, 6805, PIC, TI MSP430, fast Z80 CPUs, etc) with some banked ROM can emulate any and all HPs except maybe the (useless to many of us) 48/49 series.

Some of these faster CPUs can really blaze, tools are free & easy to use. Emulation layer per calc/architecture would prob take under 8KB in addition to native firmware of calc to be emulated, plus another 2-4 KB for changed I/O (different display, KB handling, external serial and/or storage device). That's if the code were written in nicely structured C. A mix of C & assembly and some dirty programming would collapse that nicely.

No OS is needed. The calc's firmware, in emulation, is essentially the "OS". An interrupt routine might do some timekeeping stuff or aid in KB scans due to different instruction cycle times (faster).

A dot-matrix LED stick array could simulate HP41C or 42S displays which fit in nicely w/HP97 display housing + red filter.

Bill Wiese
San Jose CA

Re: Printing Scientific Calculators - there were some non-HPs...

*Message #8 Posted by **Howard Owen** on 22 Aug 2005, 10:08 p.m.,*
in response to message #7 by Bill Wiese

> Quote:
>
> why high-end?

Why not? 8)

Yes, it's more costly. But remember you are starting out with the shell of an HP-97. Those aren't cheap, so we are definitely talking a high-end system here, before we even start with the computing platform.

Since you are going to switch emulations, that implies some sort of OS, even if it's just DIP switch settings. I know that Eric's software runs on embedded Linux because I've ported it to pdaXrom on a clamshell Zaurus. So if I were doing the work, Linux would save me time and effort.

But what really is attractive to me about a fully modern platform housed in a well loved high-end antique case is the possibility of the wizardry being invisible on the one hand, and very obvious on the other. What I mean is that an HP-97 emulation running on this platform could be nearly indistinguishable from a "real" 97. A low end system could achieve that too, I concede your point. But the high-end system could serve out the same calculator software over an integrated network to my desktop. Eric has some really, really cool software in Nonpareil. It all works with an X11 interface. I have no doubt that he could adapt most of it to run with physical keys instead of virtual ones, but the graphical whiz-bang could come along for free!

So what I see is a calculation appliance that could be the best of all possible worlds. It would have a desktop PC interface as well as the physical one. It would have enough

computational power to make it a serious contender for the kinds of problems that are solved on PCs nowadays. (Matlab, R and many other such apps run fine on Linux, of course.) But it would also have the simplicity, tactile feedback and pure joy of using a wonderfully designed and executed piece of calculating hardware, the HP-97, the likes of which does not exist on the shelf today.

That's my "blue sky."

Edited: 22 Aug 2005, 10:11 p.m.

Re: Printing Scientific Calculators - there were some non-HPs...

*Message #9 Posted by **Bill Wiese** on 23 Aug 2005, 12:07 a.m.,*
in response to message #8 by Howard Owen

> Quote:
>
> Yes, it's more costly. But remember you are starting out with the shell of an HP-97. Those aren't cheap, so we are definitely talking a high-end system here, before we even start with the computing platform.

I'm only building this because I have a 97 or two hanging around, one prob broken, can't recall.

> Quote:
>
> Since you are going to switch emulations, that implies some sort of OS, even if it's just DIP switch settings.

Why would you think that? Not at all.

You're making the situation way too complex. Your whole baseline system without the application or emulation layer is 100X more complex than the calc emulation and original application!

On power-up, say, one could hold down [2] and [1] keys for HP21, [2] and [5] for HP25, etc. (Or any kinda variation on a similar theme.) This could simply latch a CPU GPIO pin in turn connected to encoder to select, say, an 8K bank of EPROM containing emulation code. The keyscan software, external to emulated firmware, would monitor for an "emulation switch" and change contexts. Or, just loads a few pointers to new code body and opcode decode/opcode emulation routines. Either way, this is maybe 50 bytes of code or a dozen lines of C code.

My definition of OS includes task switches, semaphores/mutexes, etc. even for a tiny 2-4KB RTOS. None of this is not needed here. We have one thread of operation w/occasional interrupt (if even necessary).

> Quote:
>
> I know that Eric's software runs on embedded Linux because I've ported it to pdaXrom on a clamshell Zaurus. So if I were doing the work, Linux would save me time and effort.

I have not seen the code lately but the core of Eric's emulation would be at least nearly platform independent. It's just moving data around in some emulated registers and performing some very very simple operations upon them. It wouldn't be hard to recast that to entirely neutral platform if necessary. The Linuxy stuff is only for display and KB traps and probably quite separable.

> Quote:
>
> But what really is attractive to me about a fully modern platform housed in a well loved high-end antique case is the possibility of the wizardry being invisible on the one hand, and very obvious on the other. What I mean is that an HP-97 emulation running on this platform could be nearly indistinguishable from a "real" 97.

So would mine. And that's what Eric is probably talking about too - doing a 41C-like project on a 97 platform.

[quoteA low end system could achieve that too, I concede your point. But the high-end system could serve out the same calculator software over an integrated network to my desktop. [/quote]

Why go to that grief? Just run the regular Ericware emulation. No need for 'server'.

> Quote:
>
> Eric has some really, really cool software in Nonpareil. It all works with an X11 interface. I have no doubt that he could adapt most of it to run with physical keys instead of virtual ones, but the graphical whiz-bang could come along for free!

It is very cool - for a PC Win or Linux box. On raw native simple hardware it's not needed, and I'd bet he'd agree with me.

> Quote:
>
> So what I see is a calculation appliance that could be the best of all possible worlds.

Ooooh, statements like that scare me ;)

> Quote:
>
> would have a desktop PC interface as well as the physical one.

I'd think at best just squirting text files over RS232 or onto a CF or SD card would be fine.

> Quote:
>
> It would have enough computational power to make it a serious contender for the kinds of problems that are solved on PCs nowadays. (Matlab, R and many other such apps run fine on Linux, of course.)

The only reason calcs had higher-order stuff like that was because calcs came of age when minicomputer time was valuable. As calcs evolved, PCs were too expensive for late HS and also colleget math students.

Anyone doing 'big math' on a calc has my sympathies. For that I use Matlab/Maple, etc.

Calcs are good for general 'playing with numbers'. Don't even need Solve & Integrate (unless it were for core of a calc-based application that I wanted - for example, ballistics for me.)

The HP48, 49 got so complex, to me, that they're lost causes. They solve problems that can be more appropriately solved elsewhere. I had a 48SX and gave it away. Someone else gave me another 48 and I gave that one away too.

Bill Wiese
San Jose, CA USA

Re: Printing Scientific Calculators - there were some non-HPs...

*Message #10 Posted by **Howard Owen** on 23 Aug 2005, 1:06 a.m.,*
in response to message #9 by Bill Wiese

This discussion may indicate why it's difficult to actually bring one of these projects to fruition. There are divergent views on what makes an ideal machine. I'll try to lay out my value system for you, to give you an idea of why I make proposals like the one above.

I hear your complexity argument. I also think the HP48 is overkill for a calculator. It seems to me that the complexity issue might have been as or more important a factor than cost in the loss of the education market to T.I. for example. I like the simple interface of the HP-97 and the HP-41.

But while I think the HP48 missed the mark of usability, I have lots of fun playing with its power. If I'm near my desk and I need to run a quick calculation, I use the 97. If I'm elsewhere, the 15C is handy. But if I sit down to have fun playing with a fascinating calculating machine, the HP-48 competes on an equal footing with any machine in my collection. So I appreciate a "gee-whiz" factor in my work, and in my hobbies.

But still there's the fact that I would choose the 97 over any machine I know to do strictly numeric computation. The great, easy to read display, the big fat keys that are perfect for all ten of my thumbs, the convenience and audit trail of the printer and the simple but powerful programming model I can call on if there's repetitive work all combine to make the machine seem ideal for that sort of stuff.

So here I have what might at first glance seem to contradictory values: simplicity in form and function, and complexity in pursuit of computational power and elegance. But they aren't contradictory. Complexity can be hidden from the user. Well crafted interfaces can do that. Now,

> Quote:
>
> Using existing HP desk calcs - whose KBs and cases and displays are often still in good shape - would be wonderful. For an HP9X desk calc, power and space are nonissues.

Oh, yeah! What is more elegant, more ergonomic, better designed or more appropriate for its task than the zenith of HP small desktop calculators? So I'm enthusiastic about that aspect. But why stop in the late 80's with the technology upgrade? If we want to implement a modern memory architecture, why not go all the way? I mean, cannabalizing (hopefully non-working) Topcat calculators to turn them into "frankencalcs" (In Luiz Vieira's memorable words) is never going to be a production effort. These would all be custom jobs to greater or lesser degree.

A digression about PDAs. They make lousy calculators, I'm sure we can agree. The reason is they aren't designed for that sort of thing, and so lack appropriate features like good keyboards. I have a Treo 600 smart phone. It's a PalmOS device with a keyboard that is fully alphanumeric, but so incredibly cramped that I'd rather chew glass than have to type on it for very long. Why do I put up with it? Well, combining the phone and the PDA means I only have to carry one device instead of two. But put the guts of the PDA into an HP97, and I think you have something that is greater than the sum of its parts.

So if you are going to do a custom job, why not customize to the hilt? What could you gain from that? Well, emulators like Nonpareil could run pretty much unchanged, for one thing. A new UI class or three would have to be written, but if that's done carefully, then it wouldn't have to be repeated for each new simulation. (I know that there are dependencies on the UI that Eric would like to remove. This could be the opportunity to do that.) You'd also gain instant compatibility with the 21st century. Forget USB, go for WiFi. Or just implement a CF slot or two and let the user decide how to fill them. Finally, there are oceans, mountains, planetoids of code out there being written for Linux, and most of it available for inspection and use under the GPL. Maybe 1/100th of 1% would be relevant to a project like this, but the total amount is really, staggeringly huge, so those end up not being bad odds.

Which also means I can't really tell you all the benefits that might accrue from making the hardware and software more capable than they need to be for the job at hand. My imagination, like everyone else's has limits. But those limits aren't the same for everyone. that means someone else could easily imagine something I'd struggle with, and vice versa. Making the machine as programmable as possible means you have a better chance of accomodating the next really good idea, whatever it might be.

Printing from RPL models

*Message #11 Posted by **James M. Prange (Michigan)** on 22 Aug 2005, 7:51 p.m.,*
in response to message #3 by Howard Owen

Agreed, being able to print to a separate printer isn't quite the same, but it can be quite useful, especially when the printer is "handheld" sized.

The 48gII and 49g+ can print via "RedEye" IR to the HP 82240A/B printers, and some Martel Instruments printers, but the range is greatly reduced. Of course the 28C/S and 48S/SX/G/GX/G+ will print to these via IR. Note that the 49G doesn't have any IR capability.

The 49g+ will also print via IrDA if you set it to print "via wire" and transfer via IR. Conn4x's "screen capture" capability depends on setting the calculator to both print and transfer via wire (meaning USB for the 49g+), and then doing a PRLCD operation.

The 48S/SX/G/GX/G+/gII and 49G can print via "RS-232 compatible" wire too, if set to both print and transfer via wire. If set to print "via wire" and transfer via IR, these models (except the 49G) will print via "Serial IR", which can be captured on another calculator using the INPRT program or one of its variants. It shouldn't be too terribly difficult to build a Serial IR to RS-232 adapter; maybe such adapters are commercially available?

In all cases of "via wire" printing, "special characters" can be translated, depending on the setting in the reserved variable IOPAR (which can be set with the TRANSIO command). In general, printing of the 48 and 49 series is affected by the reserved variables PRTPAR and IOPAR, and system flags -33, -34, -37, and -38.

Regards,
James

Re: Printing from RPL models

*Message #12 Posted by **Howard Owen** on 22 Aug 2005, 8:21 p.m.,*
in response to message #11 by James M. Prange (Michigan)

I'd heard the 49G lacked the IR port, but I wasn't sure about the 48GII.

To me, the appeal of the 48/49 machines is the sheer geek glory of hundreds of built in functions and a powerful programming model. (Models, actually.) I would never use the keyboard on one of those machines, even one of the well-built 48s, as a matter of preference to do ordinary calculation with. The keyboards cram too much into a small space for them to be easy to use.

Re: Printing Scientific Calculators - there were some non-HPs...

*Message #13 Posted by **James M. Prange (Michigan)** on 22 Aug 2005, 9:54 p.m.,*
in response to message #2 by Bill Wiese

Yes, my Sharp EL-5520 "Scientific Computer" can print to the Sharp CE-102 "Printer and Cassette Interface", and, with various level shifters, can communicate via RS-232 as well.

No doubt if the calculator is to be used only at a desk, a built-in printer is preferable, but if you want to also carry the calculator around, a separate printer seems better.

It's been a long time since I've really used the EL-5520, but if I recall correctly, in "CAL" mode, it's a non-programmable "scientific" calculator, and in "BASIC" mode it's programmable.

Regards,
James

Re: Printing Scientific Calculators

*Message #14 Posted by **Eddie Shore** on 22 Aug 2005, 10:42 p.m.,*
in response to message #1 by John Limpert

That would be nice to see printing calculators again. The only ones I know of were produced in the 70s. I have a TI-58C attached to a printer.

HP produced two printing calculators, HP19C and HP29C.

Re: Printing Scientific Calculators

*Message #15 Posted by **Eric Smith** on 23 Aug 2005, 3:18 a.m.,*
in response to message #14 by Eddie Shore

> Quote:
>
> HP produced two printing calculators, HP19C and HP29C.

The HP-29C didn't have a printer. It was the non-printing equivalent of a 19C.

HP's calculators with built-in printers (standard or optional) were:

- HP-10 (but not the 10B or 10C)
- HP-19C
- HP-46
- HP-81
- HP-91
- HP-92
- HP-95C (allegedly still in "production hold")
- HP-97
- HP-97S
- HP 9805
- HP 9810
- HP 9815
- HP 9820
- HP 9821
- HP 9825

Strictly speaking, only the HP-10 and HP-19C qualify as "handheld", although the HP-9x (Topcat) series are close. I've used an HP-97 as a handheld, but it's awkward.

Re: Printing Scientific Calculators

*Message #16 Posted by **don wallace** on 26 Aug 2005, 1:39 a.m.,*
in response to message #15 by Eric Smith

This is quite sideways to topic (hp) but in 1985 I used to repair Canon desktop computers (in Brisbane, Queensland, Australia).

The BX-10 (IIRC) had a built-in thermal printer as well as a small CRT. Nice old machine with BASIC and all trig and transcendentals (not sure about the accuracy).

The beast packed a motorola MC6800 clocked at 2 MHz with 32 kB ram and similar amount of inb-oard firmware. One could load and dump to in-built mini-cassette for storage. CRT did dot and line graphics.

One of our cleints did custom roof truss design with them.

On the subject of coconut elulation, this subject interests me. I wonder how many people (if any) would be interested in a custom engineered pin-for-pin replacement for the coconut CPU. I am not sure, but such a thing (with really massive enhancements) might be do-able with QFP (quad flat pack) components. That puts it at but within the limit of something which could be made by hand...

Dreaming for a minute, one could clock a nice 8 or 16 bit CPU at 64 times the native speed (24 MHz) or down at 16 x (5.7 MHz) for lower power consumption. Doing the emulation in a high end PIC with flash rom and flash ram would give you a very, very nice "calculator".

Custom 30 pin "chip" could be retro-fitted into old coconut PCBs...

Just a thought...

Anyone interested, let me know (write to me)

Don W donwallace63@yahoo.com.au

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Xpander on ebay

*Message #1 Posted by **Karl-Ludwig Butte** on 21 Aug 2005, 10:19 a.m.*

Hi all,

there's an HP Xpander on sale at ebay at the moment from Australia with a link to hpcalc.org. This web-page contains the following warning: "Note: All Xpander prototype units are the property of Hewlett-Packard. It is illegal to sell or buy these units, and they must be returned to HP if HP requests it. Please be warned before attempting to buy or sell one on eBay -- the auction could be cancelled, or the seller could be a fraud and you would have no recourse."

How serious one should consider this warning and how big is the risk that this auction is a fraud ? Has anyone experience with this ? Thank's for your opinion and information in advance.

Karl

Re: Xpander on ebay

*Message #2 Posted by **Thibaut.be** on 21 Aug 2005, 12:52 p.m.,*
in response to message #1 by Karl-Ludwig Butte

All distributed Xpanders were prototypes, basically a PDA running on Win CE, that were distributed to some teachers for feedback.

HP decided not to commercialize the Xpander and did not care that all protos were returned. Some persons had the chance to gather several on those and made a lot of $$$ on ebay in reselling them. The price is usually close to $500.

I own one that I never use but I thought it was valuable in a collection to have an item that was not even sold. I think we would all love to own Dave's 95C.

Regarding the (c) mention I guess the seller does not bother and should not be to much worried by HP. After all, I'm free to resell my Xpander as I legally purchased it, am I not ?

Ebay could eventually consider this item not valid, but we all know that ebay is a seller driven business and unless you can prove one is trying to avoid ebay fees, they mostly leave the auction run.

As for an example, I recently bought an ice machine to a 1000+ feedback wholeseller. You can easily see that it uses several 0 feedback ID's to make sure the auction reaches a minimum amount, on nearly all their $100+ items. I told this story ebay, and they said there was nothing to prove I was right...

Re: Xpander on ebay

*Message #3 Posted by **Eric Smith** on 21 Aug 2005, 2:59 p.m.,*
in response to message #1 by Karl-Ludwig Butte

The claim that all Xpanders are property of HP is incorrect. A fair number were sold or given away to HP

employees, and HP has no further say in the disposition of those units.

Re: Xpander on ebay

*Message #4 Posted by **sjthomas** on 21 Aug 2005, 9:31 p.m.,*
in response to message #1 by Karl-Ludwig Butte

> Quote:
>
> "Please be warned before attempting to buy or sell one on eBay -- the auction could be cancelled, or the seller could be a fraud and you would have no recourse."

How is this different from any other ebay auction? Does [hp] jump in to guarantee auctions of non-prototype hp equipment? [/sarcasm]

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Looking for manual for Forth41

*Message #1 Posted by **Geir Isene** on 21 Aug 2005, 3:29 a.m.*

Anyone has an english manual for the Forth41 in pdf format? Does it even exist?

Re: Looking for manual for Forth41

*Message #2 Posted by **John Pierce** on 21 Aug 2005, 11:07 a.m.,*
in response to message #1 by Geir Isene

It took me several years to find a hardcopy of the manual, but copy of the is available on the MoHPC DVD.

Re: Looking for manual for Forth41

*Message #3 Posted by **Miki Mihajlovic** on 21 Aug 2005, 1:09 p.m.,*
in response to message #2 by John Pierce

Where have you found the HP-41 FORTH manual on MoHPC DVD? The only thing I found is FORTH for HP-71. Maybe I am missing something?

Re: Looking for manual for Forth41

*Message #4 Posted by **Geir Isene** on 21 Aug 2005, 2:12 p.m.,*
in response to message #3 by Miki Mihajlovic

Right. I have the DVD. No Forth41 manual. If anyone could pdf a copy, I'm sure it would be a nice addition to the DVD. In the meantime, I'm eager to get a pdf copy sent to me :)

Re: Looking for manual for Forth41

*Message #5 Posted by **John Pierce** on 21 Aug 2005, 4:36 p.m.,*
in response to message #4 by Geir Isene

The MoHPC DVD has a manual entitled "HP-41 Translator Pac Owner's Manual" as the second entry under the "Calculator ROM Manuals" section. I believe this is the manual you are looking for. Best regards, John Pierce

Re: Looking for manual for Forth41

*Message #6 Posted by **Howard Owen** on 21 Aug 2005, 5:02 p.m.,*
in response to message #5 by John Pierce

That's for the 71B. According to the old journals, it's based on the 71B Forth ROM, but with additional words that implement an HP-41 emulator *on the 71B*.

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treasured HP-29c displaying jiberish

*Message #1 Posted by **Hal Bitton** on 21 Aug 2005, 2:51 a.m.*

I have a 29c which I bought new in the late 70's. When the last battery pack for it finally died, I read on a forum (I think this one) that you could just use AA's, put into the battery pack. I tried this and it worked great for a couple of weeks or so. Then, suddenly one day, it started displaying ridiculous results to keyboard entries (it usually displays 1500 when I hit CLX, and other number keys give random large positive and negative numbers. Occasionally it will display properly, but not very often.

Any ideas? Will cleaning any of the circuit boards help? Thanks in advance for any help. Hal

Re: treasured HP-29c displaying jiberish

*Message #2 Posted by **Bram** on 21 Aug 2005, 4:18 a.m.,*
in response to message #1 by Hal Bitton

> Quote:
>
> I have a 29c which I bought new in the late 70's.

Me too. And back then I also have used AA's which went well all the times. But I've read somewhere that the surplus voltage can be harmful to the calc. Also there's a risk of inadvertently charging the batteries with the adapter. Since then I've never used AA's anymore. I even charge the NiCd's or NiMh's (both work fine) always outside the calc, for I've read that the charging circuit is critical to the rechargables in the old times. If you can get them, 500 or 600 mAh NiCd are the best choice to use.
I cut the middle bar from the battery pack, fixed the springs with a piece of double sided tape and am now able to replace cells very easily.

> Quote:
>
> Occasionally it will display properly, but not very often.

I do hope it's not too late. Return to rechargables immediately.

O! And don't ever connect the calc to the mains without rechargables in it. That's definitaly harmful.

Re: treasured HP-29c displaying jiberish

*Message #3 Posted by **Vassilis Prevelakis** on 21 Aug 2005, 5:13 a.m.,*
in response to message #1 by Hal Bitton

make sure that the batteries make good contact with the terminals inside the battery compartment.

These terminals are very unreliable.

I have an HP-21 and I have been using it with alcaline batteries for the last year or so and I only have

problems every time I change the batteries and have to make sure that they make good contact.

**vp

Re: treasured HP-29c displaying jiberish

*Message #4 Posted by **Jon** on 21 Aug 2005, 6:04 a.m.,*
in response to message #1 by Hal Bitton

Hi:

I read this article of katie long time ago and it was very helpful with an old HP-25 HP Articles forum (nº267) by Katie Wasserman. I had also an HP-29C with the same problem as yours and, although it was not tested with that model, I tried this solution. ¡¡¡ IT WORKS !!!

I think that it is worth you try it.

Regards

Jon

Re: treasured HP-29c displaying jiberish

*Message #5 Posted by **don wallace** on 1 Sept 2005, 10:27 p.m.,*
in response to message #4 by Jon

I think you have an intermittent electrical connection in your calculator. Data is getting scrambled while traversing the buss. Maybe you have some damage, but if the calc ever behaves normally you can basically rule this out and the actual logic is okay.

If you are really keen I can fix it for you...

Don W

Re: treasured HP-29c displaying jiberish

*Message #6 Posted by **Hal** on 5 Sept 2005, 11:39 a.m.,*
in response to message #5 by don wallace

Thanks Don for your response, My 29C is working normally now, aside from the fact that I have to reposition the battery pack occasionally to get it to come on. I think your intermittent connection theory is right on the money. It seems to be the battery contact buttons on the circuit board. I was thinking maybe re-tinning them with some fresh solder would help. What do you think? Hal

Re: treasured HP-29c displaying jiberish

*Message #7 Posted by **don wallace** on 5 Sept 2005, 6:40 p.m.,*
in response to message #6 by Hal

Ah! That's right! Thye had "rivets", didn't they?

(I remember an old friends 33E...)

Yes, for sure. But I'd try lightly sanding them with wet and dry emery paper, first. Tht's probably all you need to do.

You may have acracked track or the rivet may not be making contact with the PCB track it's attached to...

DW

Re: treasured HP-29c displaying jiberish

*Message #8 Posted by **David Smith** on 7 Sept 2005, 3:49 p.m.,*
in response to message #7 by don wallace

I now clean Woodstock contacts by placing a good sized drop of De-Oxit contact cleaner on the contact and then use a wire brush attachment in a Dremel tool. It cleans the contact very well and does not remove as much metal as sandpaper.

Re: treasured HP-29c displaying jiberish

*Message #9 Posted by **David Smith** on 3 Sept 2005, 11:39 a.m.,*
in response to message #1 by Hal Bitton

A lot of funky HP problems can be fixed by cleaning the circuit boards with 91%+ isopropyl alcohol. Old solder flux, etc (often invisible) seems to the problem. Many machines had a least a few parts hand soldered at the factory and they never seemed to clean the flux on them, but even "clean" boards can have problems.

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New arrivals at the Series80 site

*Message #1 Posted by **Vassilis Prevelakis** on 21 Aug 2005, 1:36 a.m.*

I have uploaded the programs and manuals for the BASIC Training Pac for both the HP-83/85 and the HP-86/87.

They are available at: http://www.series80.org/Programs/HP85-TrainingPac and http://www.series80.org/Programs/HP87-TrainingPac respectively.

My thanks to Jim Battle for the the two manuals (the Basic Training manual and the Supplement) and the software for the HP-86/87.

Many thanks to Bob Hahm for the HP-83/85 software.

**vp

Re: New arrivals at the Series80 site

*Message #2 Posted by **Vassilis Prevelakis** on 22 Aug 2005, 6:30 a.m.,*
in response to message #1 by Vassilis Prevelakis

More new stuff:

In the manuals section (http://www.series80.org/Manuals) you will find the Introduction to the HP-86B and a (short) instruction sheet for the HP-82912A and HP-82913A Video Monitors (the 12-inch is the one used with the 86B, while the 9-inch is usually used with the HP82163A HP-IL Video Interface.

Many thanks to Jim Battle for contributing these manuals.

**vp

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HOW TO RESET A HP 48G

*Message #1 Posted by **Jorge** on 21 Aug 2005, 1:32 a.m.*

Hi,I have a HP 48G with an "invalid card data" message.How can I reset it to get rid of the warning,it shows everytime I turn it on.Thanks

You can try...(was: HOW TO RESET A HP 48G)

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 21 Aug 2005, 2:05 a.m.,*
in response to message #1 by Jorge

Hi, Jorge;

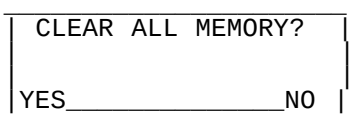
you can try resetting the calculator:

```
press [ON] and hold it;
press [C] and release it;
release [ON].
```

The calcualtor resets to a known condition. It is not supposed to clear memory contents. If it does not work, a hardware reset is available by carefuly removing (and placing in a safe place) the upper-right rubber feet, facing the back of the calculator, and gently inserting the tip of an unfolded paper clip in the small hole you'll find in the rubber-feet recess. As you feel the paper clip tip cannot go any further, it means you succeeded closing the reset contact in the mainboard. Hold the paper clip for a few seconds (three?), remove it and turn the calculator on again. If you still see the message, chances are you have some library installed in the calculator that is searching for some resource in a card. If yours is an HP48G (and not a GX), I see no way to originate this sort of message from an actual invalid data card, only from a program or library.

If neither of the procedures below succeed, I`d suggest trying a memory clear procedure:

```
press simultaneously [ON], [A] and [F];
release each of them in the opposed order;
you'll see the message:
```




```
if you decide for [NO], all memory is cleared.
```

If you want to keep current data and do not want to clear all memory contents, then wait for some other suggestions. I`d actualy like to know what else to do, too! q8^)

Success!

Luiz (Brazil)

Re: You can try...(was: HOW TO RESET A HP 48G)

*Message #3 Posted by **Jorge** on 21 Aug 2005, 4:40 a.m.,*

in response to message #2 by Vieira, Luiz C. (Brazil)

Thanks Luis and Howard for your help.I reset it,but the warning still shows when I turn it on.It is not a GX.

Re: HOW TO RESET A HP 48G

*Message #4 Posted by **Howard Owen** on 21 Aug 2005, 2:40 a.m.,*
in response to message #1 by Jorge

If you really have a GX instead of a G, perhaps you also have a RAM card that isn't initialized?

If you dont mind losing the contents of your port RAM (not user memory,) a less drastic thing to try is left-shift 2 (Library), NXT, PINIT, That will initialize all the port RAM found in slot one and/or two. Then try turning the calc off, then on and see what you get.

Edited: 21 Aug 2005, 2:42 a.m.

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HP 6S Solar - mini review

*Message #1 Posted by **John L. Shelton** on 20 Aug 2005, 8:12 p.m.*

Just for grins, I ordered a new-in-blister-pack HP 6S Solar. I figured it would be fun to experiment with HP's cheapest calculator. From the Museum description, I expected a minimal-feature machine. I was surprised to find a calculator fully worth the USD $8 I paid (shipping included.)

Although algebraic, not RPN, this is a full-featured calculator that is more powerful than my favorite HP-45.

It offers the following advantages over the HP-45:

- LCD display and solar power - always on, never needs recharging.
- 42 keys instead of 35
- slim size really does fit in a shirt pocket
- animal-friendly non-leather protective case. (Well, it's a cheap brown plastic envelope made out of environmentally non-friendly oil, but let's be polite and say something nice about it.)
- instruction manual in English and French.
- 6 levels of "stack" using parentheses
- Base 2, 8, 10, and 16 arithmetic with bit-logic operations
- more trig functions
- Fraction mode, allowing entry of numbers like "four and one-third" (4 1/3) Fraction calculations stay in fractions until mixed with decimal numbers, then get converted. E.g. 1/3 + 1/3 = 2/3, but 1/3 + 0.25 = 0.5833333333.
- Fixed or Floating display
- single-digit correction "backspace" key for editing entry

There are a few drawbacks:

- No RPN. Whoops.
- Inexpensive manufacture; probably will last 5 years, not 50.
- Statistics are 1-dimensional, not 2-d
- Only one memory location "M", plus a stack-constant
- Manual is poor quality without the traditional intelligence and useful examples
- Keyboard layout is non-intuitive. Example: the four (shifted) functions for display modes (Fix, Flo, Sci, Eng) are not on adjacent keys. And the "shift" key is labeled "INV".

I have not had a chance to check accuracy. The manual claims internal 11-digit arithmetic, displayed as 10 digits. Mantissas go up to E+99. There are no thousands-group display symbols. The decimal point is easy to read. Mantissas are in a smaller font, so are clearly distinguished from the Radix. Like some non-HP calculators, fractions are shown with a very strange notation (because the display digits are 7-segment.) Keyboard feel is acceptable, at least for its price. Keys are rubbery, but make a positive click as they engage; I have not found any missed or doubled keystrokes.

Performance is lackluster. 2^5 = 32 takes about 2 seconds. There is no "OFF" key, common on solar calculators. I prefer solars that do have an off key; that allows the internal capacitor to charge up a bit, rather than running low. The calculator works OK in a darkened room with a single 60 watt lamp, but display contrast isn't great. In a sunlit

room, display contrast is just fine.

All in all, a cute, semi-useful calculator with an HP brand name on it.

Re: HP 6S Solar - mini review

*Message #2 Posted by **Norris** on 22 Aug 2005, 6:12 p.m.,*
in response to message #1 by John L. Shelton

I've pointed out before that the 6S Solar is a superb field calculator.

The 6S Solar is small, thin, and light, and fits easily in a folding clipboard. It's already on whenever you open the clipboard. The display is legible in any kind of light, from flashlight to direct sun. And it apparently never, ever, ever runs out of power.

People in this forum rave about the shirt-pocket size and long battery life of Voyagers. Yet a 6S Solar is clearly far superior in both of these respects.

Does the 6S Solar have drawbacks? Most certainly. There is no RPN or programmability. The keys rock -- but not in a good way. It is clumsy with sexagesimal math, and so it is not handy for timed tests or surveyed angles. And sadly, it is no longer readily available or cheap.

For comparison, I recently got a Casio FX-260 for field use. The Casio offers some advantages. It has a better keyboard (still not great, but better). It offers real sexagesimal math. And it is still cheap and readily available.

But the Casio still does not match the 6S Solar in other respects. Most importantly, it has no battery backup. This means that it is awkward or impossible to use in dim light. It also means that the contents of the display and memory are lost whenever you close the clipboard.

Furthermore, the Casio is a tasteful brown color, which makes it easier to lose if you set it down on the ground. It is much less conspicuous than the 6S Solar, which has a flashy metallic faceplate. I suspect that the 6S Solar can generate enough bling-bling to serve as an signalling mirror on a bright day, but I have not actually tried it.

Bottom line: the Casio FX-260 is OK, but the 6S Solar is still my #1 choice as the best scientific calc for outdoor use on foot. You can easily carry it anywhere, and you'll never have to worry about bringing extra batteries.

Edited: 22 Aug 2005, 6:22 p.m.

Re: HP 6S Solar - mini review

*Message #3 Posted by **GE** on 23 Aug 2005, 5:05 a.m.,*
in response to message #2 by Norris

The 6S is rugged and reliable, it's my main machine at work.

However, I have a complaint that might seem silly : the [AC] key reverts to degree mode ! Aaaargh !!!! Every time I press that one key I curse HP for this misfeature.

Another minor point : press 0 . 1 2 3 4 5 6 7 8 9 Now press 1 - it is ignored. The machine always displays the leading zero, which is useful to no one (I agree however that no one needs 10 digits of precision in real life).

Leading zeroes

*Message #4 Posted by **Karl Schneider** on 24 Aug 2005, 12:40 a.m.,*
in response to message #3 by GE

GE's post, modified by me to omit the leading "0":

> Quote:
>
> press . 1 2 3 4 5 6 7 8 9 Now press 1 - it is ignored. The machine always displays the leading zero, which is useful to no one...

The HP-41 does not automatically display the leading zero as a sub-unity number is entered without it, but will display it when the number is fully "committed" by ENTER or an operation. Thus, it will allow entry of a tenth digit (1 in your example), but not any more, as it has a 10-digit display.

The Voyagers are the only "high-quality" HP calc's with a 10-digit display (10C/11C/12C/15C/16C) that came along afterward. They will automatically display the leading zero as the number is entered without it, then refuse to accept a tenth digit.

I disagree with you -- leading zeroes are useful in that they clearly indicate that there is a radix to the far left of the number, which might otherwise be overlooked. Since the US uses a period for the radix, this is important for prevention of errors.

That's why the numbers are properly written "$0.26", not "$.26".

-- KS

Edited: 24 Aug 2005, 12:47 a.m.

Re: Leading zeroes

*Message #5 Posted by **GE** on 24 Aug 2005, 4:59 a.m.,*
in response to message #4 by Karl Schneider

You're right, there should be no leading zero in my example. Actually, the 41 may accept a tenth digit, but the point was that the 6S does not.
I like this little beast, as a "lost-able" or "stolen-able" machine.

By the way, I found another 'bug' in the forum software : when using the buttons below the text area to compose a message, it inserts the marker at the end of the current text, no matter where the insertion point is at the time.

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HP 35 adapter voltage

*Message #1 Posted by **Michael** on 20 Aug 2005, 5:47 p.m.*

Hello, what should be the correct voltage at the three pins of the connector of the HP 35 adapter? Thank you for your answers in advance.

Re: HP 35 adapter voltage

*Message #2 Posted by **Randy** on 20 Aug 2005, 7:11 p.m.,*
in response to message #1 by Michael

See Classic Charger Schematic for the internals. As viewed from the rear of the calculator, the left pin is battery charger supply (~16vdc open circuit), the center pin common and the right pin ~4-5vdc which powers the calculator when plugged in.

HP 35 adapter voltage

*Message #3 Posted by **Bernhard** on 20 Aug 2005, 7:15 p.m.,*
in response to message #1 by Michael

On the plug you see three pins, one with - one with + and one blank. The - is the ground reference. The + is the current source for charging, use an amperemeter to see about 50...60 mA there. The blank one is the positive supply which is about 3.6 Volts at full load (at a 25 Ohms resistor). You can't use a voltmeter without load resistor there because the circuit within the charger needs a load to work.

There are two most common problems with these adapters. 1) broken wire at the plug, cut open the plug, resolder, and reglue. 2) Bad Electrolytic capacitor in the adapter, then excessive ripple (seen by oscilloscope with calc as a load) or chaos in the display when attempting running calc from the adapter. Both can be fixed.

Regards, Bernhard

Re: HP 35 adapter voltage

*Message #4 Posted by **Michael** on 21 Aug 2005, 5:09 a.m.,*
in response to message #3 by Bernhard

It seems my adapter is broken at least by two ways: The blank pin shows correctly cca 5V DC, but on the plus pin there is upper half of the sinusoid, peak cca 15V, but the inverted lower part is missing completely, so peaks come only in one half of the period. It seems that one half of the diode bridge is faulty and moreover the capacitor is bad, too. Would it be possible to dissasemble the adapter without causing any damage to it?

Re: HP 35 adapter voltage

*Message #5 Posted by **Tony Duell** on 21 Aug 2005, 9:28 a.m.,*
in response to message #4 by Michael

I've only worked on the UK, US (dual-voltage) and car versions of the adapter, but on those there are 4 small screws on the bottom. Take those out, the case comes apart and you can get to the PCB.

On the dual-voltage version, the voltage selector switch falls apart when you remove the PCB. Make sure you don't lose any of the parts!

You must, of course, unplug it from the mains before opening it!

When re-inserting the screws, turn them counterclockwise until they seem to engage in the original threads, then tighten them. That way, you don't re-cut the threads in the plastic. It's less likely to strip that way.

Re: HP 35 adapter voltage

*Message #6 Posted by **Michael** on 21 Aug 2005, 10:52 a.m.,*
in response to message #5 by Tony Duell

I have the original old style recharger, US model 82002A. There are no screws visible, so it's probably unrepairable without visible damage.

Re: HP 35 adapter voltage

*Message #7 Posted by **Bernhard** on 21 Aug 2005, 6:08 p.m.,*
in response to message #6 by Michael

Dear Michael,

before trying to open the charger I'd advise you repeat the measurements on the plus pin towards the minus pin properly using an amperemeter on the plus pin (Only there !), see my post #3. Or put a known load resistor (such as 50...75 Ohms) there and then use the scope to see the voltage on the resistor, it should correspond to I = 50...60 mA (U = I * R) and not have much ripple. Measuring the active current source at the plus pin with a scope (no load) means that the voltage on the plus pin will fluctuate as the Electrolytic is charged and discharged by the sinusoid. If you saw 120 Hertz repeat rate (double the line frequency), the rectifier diodes most likely are good anyway. Then, if you put the 25 Ohms load resistor on the blank pin (against the minus pin) and still see about 3.6 Volts DC there, without larger dips below this value (dips at 120 Hertz), then the Electrolytic also most likely is good. So I don't see which problem you might have with your charger. To me, it seems to be good, at least based on the info you have posted.

best regards, Bernhard

Re: HP 35 adapter voltage

*Message #8 Posted by **Michael** on 22 Aug 2005, 10:27 a.m.,*
in response to message #7 by Bernhard

Hello Bernard, maybe my post was not correctly written, English is not my native language. The image at the oscilloscpe looks something like this: _n_n_n_n so IMHO half of the diode bridge should be faulty. Otherwise the image should look like nnnnnn. And if the capacitor would be OK, it would hold the steady voltage, since it couldn't be discharged when no load was present. So IMHO also the capacitor must be broken, otherwise the image without any load at the plus pin should look like this: _____ and so even with one diode burned. Now when the adaptor is attached to the calculator, erratic numbers appear and dissapear.

Re: HP 35 adapter voltage

*Message #9 Posted by **Bernhard** on 23 Aug 2005, 5:19 a.m.,*
in response to message #8 by Michael

Hi Michael,

I already had the symptom of erratic (flickering) garbage numbers when the calc is operated from the charger several times (the calc does not take any key entries), and replacing the Electrolytic capacitor always has fixed it. I never found any faulty diodes.

best regards, Bernhard

Re: HP 35 adapter voltage

*Message #10 Posted by **David Smith** on 22 Aug 2005, 5:02 p.m.,*
in response to message #6 by Michael

Al the HP35 adapters are screwed together. Some have the screws under the corners of the label. Also some used torx screws or even security torx screws (#6 if I remember corrctly). A very common failue is a bad electrolytic filter capacitor. The most common failure is broken wires in the calculator plug.

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HP-67/97 special "synthetic" cards

*Message #1 Posted by **Geir Isene** on 20 Aug 2005, 4:15 p.m.*

I have heard rumors of special cards that enables some tricks on the HP-67 or 97. Anyone here having access to these cards and can send me a set of copies?

Re: HP-67/97 special "synthetic" cards

*Message #2 Posted by **Eric Smith** on 21 Aug 2005, 3:49 a.m.,*
in response to message #1 by Geir Isene

I don't have any of those cards, sorry.

A word of warning, though. Don't ever try to print "non-normalized numbers" (NNNs) on the 97. On some 97s, printing a number containing a hexadecimal "F" digit can cause the PIK chip which controls the printer to leave some of the drivers turned on, which burns out the printhead in a few seconds. If you ignore the warning and try to print NNNs anyhow, if you smell smoke or notice any other funny behavior from the printer, turn off the calculator IMMEDIATELY, and you *might* save the printhead. There is unfortunately no source for replacement printheads other than cannibalizing other Topcat series calculators.

Whether a given 97 has this problem apparently depends on whether the PIK chip was made by Mostek or AMI, but I'm not sure which is which. I wouldn't risk it on any 97.

On the 67 it is safe to play with NNNs. Aside from amusing displays, it isn't very practical.

The 67/97 have six undefined instruction codes. On the 67 it is possible to enter some from the keyboard using key sequences with simultaneous presses of two keys. On the 97 this is not possible, because the PIK chip has a hardwired keyboard encoder that rejects phantom keys. In any case, the six undefined instruction codes all execute as NOPs on both the 67 and 97.

Re: HP-67/97 special "synthetic" cards

*Message #3 Posted by **David Smith** on 22 Aug 2005, 5:05 p.m.,*
in response to message #2 by Eric Smith

I have been thinking about building a printer interface card that would allow the use of 82143A printers in the HP97, etc. It would need a DC-DC converter and a microcontroller to adapt the different speeds of the print mechanisms.

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HP-IL over Cat5 - Compatible?

*Message #1 Posted by **Howard Owen** on 20 Aug 2005, 2:17 p.m.*

The HP-IL spec says cable can be up to 100 meters long and that it must have 100 Ohms impedance. I measure ~50 Ohm resistance on a single strand of Cat5 twisted pair cable that is many 10s of meters long. The Cat5 spec calls for 100 Ohm impedance, so I assume that's the sum of two strands or 1 pair. The HP-IL spec calls for sheilded twisted pair on lengths over 10 meters.

My question is, despite the HP-IL spec, has anyone had success using UTP (Cat5 or other) to connect HP-IL devices? I'd like to save money on the cable, but I'm not willing to go hacking on my existing cables without some idea the project may work. 8)

Re: HP-IL over Cat5 - Compatible?

*Message #2 Posted by **Tony Duell** on 20 Aug 2005, 2:37 p.m.,*
in response to message #1 by Howard Owen

The '100 ohms' impedance of the HPIL cable refers to the characteristic impedance of the cable, and not the DC resistance of one of the conductors. The chararacterist impedance is more a property of the dielectric (insulator) and the dimensions of the cable.

You cannot measure characteristic impedance with a DC ohmmeter (which is what I assume you used) -- about the only intstrument that will measure it is a time-domain reflectometer.

I can't remember the characteristic impedance of Cat5, but it should be a 'standard' value. For the use that Cat5 is normally put to, it would be a rather important parameter. I would guess it's somewhere around 100 ohms, but I wouldn't bet on it.

Re: HP-IL over Cat5 - Compatible?

*Message #3 Posted by **Howard Owen** on 20 Aug 2005, 3:05 p.m.,*
in response to message #2 by Tony Duell

Yes, the spec says 100 Ohms.

I'm a rank amateur when it comes to electronics. I read the wikipedia entry on impedence, saw where it mentioned that for a steady state circuit, the impedence == resistence (since inductors are closed and capacitors are open.) and assumed that if the Cat5 spec said 100 Ohms, it meant it was the same over the operating range of the cable. I tested the resistence for the only data point I could collect, since I don't have a TDR, or a function generator or a test oscillator. But I think the spec may save me trouble there.

The question I have is the STP vs UTP issue. 100 Ohm STP is scarce. Most STP is 150 Ohm stuff (for token ring I think.) There's 100 Ohm "Screened Twisted Pair" (ScTP) which has a shield around the cable bundle, but the pairs themselves aren't shielded. If the HP-IL connectors were commonplace, I wouldn't hesitate to hack a couple of cables to pieces and just give it a shot. But while you can scare them up from time to time, and while I do have more than I presently need, the fact that they aren't manufactured anymore makes me reluctant to start using the side cutters.

Re: HP-IL over Cat5 - Compatible?

*Message #4 Posted by **Eric Smith** on 21 Aug 2005, 3:52 a.m.,*
in response to message #1 by Howard Owen

I suspect that Cat 5 UTP should work fine, but I haven't tried it.

I think the requirement for shielding is a case of HP being overly conservative. UTP should be fine. Using non-twisted cable for more than 10 meters might well be problematic though.

Where are you going to get connectors for the ends? Or are you just trying to lengthen some existing cables?

Re: HP-IL over Cat5 - Compatible?

*Message #5 Posted by **Howard Owen** on 21 Aug 2005, 9:17 a.m.,*
in response to message #4 by Eric Smith

I was planning on hacking on two existing cables to produce a single lengthy one with two connectors on each end. The idea is to extend the loop from my computer room to the bedroom. Sort of an HP-IL LAN. 8)

Re: HP-IL over Cat5 - Compatible?

*Message #6 Posted by **don wallace** on 24 Aug 2005, 4:51 a.m.,*
in response to message #5 by Howard Owen

Hi Howard.

Tony is right. But all this is somewhat beside the point for you.

I would use flexible copper wire rather than CAT-5 which is semi-rigid single core wire and as the connectors may move around a bit you may end up with an open circuit and no loop. Thats not all that good for the HP-IL driver chip in the long run.

If you do not live near a radio station and you make sure your MOBILE PHONE is NOWHERE NEAR the loop (!), then you can use very light speaker cable for the HP-IL. The impedance is not dead rightbut it will work fine over the length you are talking about.

The HP-IL is designed to use in the control of among other things, RF (radio frequency) measurement equipment. This equipment or more properly the stuff it tests, generates interference which would stop HP-IL dead in it's tracks and probably do damage if the power level was high enough.

Since I assume you are not testing RF equipment at home twisted pair or even speaker wire shuld be fine for you at home.

If you are nervous then you can use twin core shielded audio coaxial cable. But be sure the shield is connected to ground and both signals wires are not connected to anything but the HP-IL pulse transformers. If you have a technical (good electronics repairman) friend with a CRO they can probably help you if the link doesn't work. Electrical "Reflections" can be seen (as ringing) using a CRO.

I would not use UTP CAT-5 cable for this app. myself. Just my opinion.

Further quiries, just write to me.

Don Wallace donwallace63@yahoo.com.au

P.S. Hope this helps.

Re: HP-IL over Cat5 - Compatible?

*Message #7 Posted by **don wallace** on 24 Aug 2005, 7:23 a.m.,*
in response to message #6 by don wallace

Hi Howard.

To clarify some omissions I made:

Very light speaker wire (instead of speaker wire).

RF equipment would stop HP-IL OPERATING OVER UNSHIELDED CABLE dead in it's tracks. That's why the HP-IL ssytem uses shielded cable.

HP-IL operates over a BALANCED LINE. In plain english this is two wires (shielded) which are both "floating" with respect to "ground" (a reference point) and "driven" with respect to EACH OTHER.

That is, you don't have one wire connected to ground.

When a "1" and then a "0" is sent, you get, on the cable: _ WIRE#1 ----------/ \--_/------------ _ WIRE#2----------_/--/ \------------

This is called a "differential signal" over a "balanced transmission line". It is inherently IMMUNE to NOISE. The impedance you are talking about (cable impedance), is the high frequency IMPEDANCE the two wires present to the pulse transformers. It's dependent on the insulating medium between them (which determines the CAPACITANCE) and the INDUCTANCE of the wires themselves...

Try the Wikipaedia on these terms, as you already know, it's really cool.

Please forgive my rough ASCII ART... ;-)

Don W

When a

Re: HP-IL over Cat5 - Compatible?

*Message #8 Posted by **Howard Owen** on 24 Aug 2005, 10:34 a.m.,*
in response to message #7 by don wallace

Thanks for the information, Don.

I have some questions.

- The short haul (<10 meters) HP-IL cable isn't shielded, is it? The cable feels very flexible, and the wires are quite thin.
- Your opinion on CAT-5 is that the solid core makes it unsuitable for mating to the HP-IL connectors? Or is there something else that makes it problematic?
- What is the issue in the gauge of the wire? Why would thin speaker wire be more suitable?

Thanks for the pointer to Wikipedia on impedence. It was helpful to reread the entry. I was already familiar with "balanced" circuits from using microphones with that feature. Also I read the discussion in the HP-IL spec that emphasized the good immunity to noise this offers.

Wikipedia to the rescue on "CRO"! In the states, we tend forget the "Cathode Ray" part and just say "Oscilloscope". If we want to shorten it, "scope" is often used.

Regards, Howard

Edited: 24 Aug 2005, 10:35 a.m.

Re: HP-IL over Cat5 - Compatible?

*Message #9 Posted by **don wallace** on 24 Aug 2005, 9:06 p.m.,*
in response to message #8 by Howard Owen

Hi Howard. You wrote: (my replies interspersed like so)

I have some questions.

The short haul (<10 meters) HP-IL cable isn't shielded, is it? (Don't know, don't own one. Perhaps not but I'm guessing)

The cable feels very flexible, and the wires are quite thin. (It could still be very light coax)

Your opinion on CAT-5 is that the solid core makes it unsuitable for mating to the HP-IL connectors? (yes)

Or is there something else that makes it problematic? (no)

What is the issue in the gauge of the wire? (convenience and it's light current use so thin gauge is fine)

Why would thin speaker wire be more suitable? (It's CHEAPER!...)

Thanks for the pointer to Wikipedia on impedence. It was helpful to reread the entry. I was already familiar with "balanced" circuits from using microphones with that feature. Also I read the discussion in the HP-IL spec that emphasized the good immunity to noise this offers. (Cool! I'm into audio too.)

Wikipedia to the rescue on "CRO"! In the states, we tend forget the "Cathode Ray" part and just say "Oscilloscope". If we want to shorten it, "scope" is often used. (ROFLMAO. I must be showing my "age" ;-)

Regards, Howard (Cheers, happy HP-ILing... I'm a smidgen jealous...)

Re: HP-IL over Cat5 - Compatible?

*Message #10 Posted by **Howard Owen** on 24 Aug 2005, 10:01 p.m.,*
in response to message #9 by don wallace

Thanks, Don! You've been a big help.

Re: HP-IL over Cat5 - Compatible?

*Message #11 Posted by **Garth Wilson** on 25 Aug 2005, 7:33 p.m.,*

in response to message #6 by don wallace

I've used unshielded HPIL in the control of an RF test setup where we were doing repetitive production testing power amplifiers at 175MHz. No problem at all. Cell phones start at about 900MHz IIRC, and the HPIL transformers and circuitry would be much too slow to respond to, or interfere with, the cell phone stuff.

Characteristic impedance (Zo) is the impedance a cable will appear to have for RF when the load is at that impedance, regardless of length. IOW, for 50-ohm load out at the end of a 50-ohm cable will still appear to be 50 ohms, no matter how long the cable is. If the cable is sufficiently long, there will be a substancial amount of power lost in it, and of course it will introduce the propagation delay; but you'll still see 50 ohms looking into it. If the load is something other than the cable's Zo, some of the power fed into it will be reflected. For steady-state RF, you can use the Smith chart to determine the various effects like SWR, return loss, and the complex impedance looking into the cable. If the cable is long enough to present substancial losses, you'll need the attenuation data to get the right results with the Smith chart. What's more important with the fast digital work however is the reflections you get when the transmission line's Zo does not match the load. Those reflections will cause unwanted triggering of registers or otherwise be erroneously interpreted as data and cause problems. The cable would have to be pretty long to cause this kind of trouble with the slow edge rates of HPIL.

I have not tried to measure HPIL's voltages, rise times, or load impedances, but I don't think it would be difficult to get an extension cable to work. The transmission-line losses of 20 meters at the frequencies of interest will be minimal. IIRC, cat-5 cable is 100 ohms, which I think is what someone said HPIL wants. (I can't see the post now while writing the response.)

Re: HP-IL over Cat5 - Compatible?

*Message #12 Posted by **don wallace** on 25 Aug 2005, 9:45 p.m.,*
in response to message #11 by Garth Wilson

Hi all. Hi Garth.

In my posts to Howard I was being *exceedingly* cautious as I don't own any HP-IL gear.

The cellulars are very very (ultra ;-) high frequency. However, I have noticed serious interference with computer monitors (internal frequency response in the low MHz range for the gun drivers and deflection circuit operating frequency range of up to only say 40 kHz) from cell phones at close range.

Cell phones, as they are a spread-spectrum device and they frequency hop slowly, do give some LOW FREQUENCY MODULATION of the RF.

Also, the cell phones use data compression and idle their transmitters when there's no speech to save power, so the transmitters operate in a burst mode most of the time. The resultant "keying" of the RF on and off does generate a lot of hash. Also, they generate surprising pulsed levels of power, maybe half a watt or so?

I would imagine that one would not have trouble unless the mobile was within six inches (maybe three?) of the HP-IL cable. The wire conductors are close together in the cable so the differential signal would be quite small.

I also forgot about the effect the pulse transformers would have as effective RF chokes in limiting the transfer of power to the HP-IL chips. However I'm not sure about the possibiliy of some capacitive coupling... but the calc is not grounded so it shpouldn't matter...

Once in the HP-IL driver chip output driver, any RF would get recitifed by the junctions and you would need a bit of power to do damage, but how much power would get generated I am not sure. By that time of course, your link would not be still working as the data bits would be too noisy.

But yeah Garth you are dead right of course. You used it there so you would know. I was thinking of you and your worklab as I wrote that post.

Don W

Re: HP-IL over Cat5 - Compatible?

*Message #13 Posted by **don wallace** on 25 Aug 2005, 9:57 p.m.,*
in response to message #12 by don wallace

I forgot something:

Speaker wire should wr\kr just fine.

On a different subject related to SHIELDING, many years ago as a fellow student one my my mates at uni told me that while working in the high voltage lab his hp41 lost all memory contents while in it's pouch. he asked me what could done about it.

I told him to line the pouch with Comalco ALFOIL. He did so and reported compete success (!)

The alfoil cooking foil acted as a simple Farady Cage ;-)

Don W

Re: HP-IL over Cat5 - Compatible?

*Message #14 Posted by **Howard Owen** on 26 Aug 2005, 1:44 p.m.,*
in response to message #1 by Howard Owen

Well, it works.

To all you hard core EE types, let me just say, I'm glad you're here. I'm a software guy. I figured it would be fun and interesting to hack on hardware as a hobby. But I lack skills in that area. Now, I'm not talking board design or anything like that. I'm talking basic electronic tech manual skills, like soldering. I've actually gotten fairly OK for crude work, once I got myself a temprature controlled iron and figured out that it has to be *really hot* to do any good. But I still appreciate the help and input I get from the more experienced folks here.

I happen to have a spool of Cat5 here in my work cabinet. That, and the fact that the specified impedence of Cat5 matches the HP-IL's spec, and that for lengths over 10 meters, that same spec calls for twisted pair are what motivated me to consider this approach. Don's warnings regarding the problem of mating the solid core Cat5 wire with the stranded HP-IL cable gave me pause, however. So I figured I'd solder decapitated HP-IL connectors onto Cat5 cable, and cover them with shrink wrap in an attempt to protect the awkward mechanical mating of the dissimilar wires. Through trial and error, I found that the following process worked pretty well:

1. Cut the heads off an HP-IL cable. (This is one of those "puckering" moments for an inexperienced electronic tech who is jumping into the unknown!)
2. Strip about 3/4" off the ends of a CAT5 pair and both wires of one end of the decapitated HP-IL cable.
3. If this isn't your first end, *mate the other end of the HP-IL to the one you are about to solder.* This makes it easier to be sure you solder the right wires.

4. Mount the wires to be soldered in some sort of frame. I use one of those el-cheapo soldering stations with the magnifying glass and alligator clips on rails. I remove the glass (since I use a larger illuminated one) and put each end of the work into one of a pair of clips. On the HP-IL side, the hard plastic connectors are a good place to appy the clip. On the Cat5 side, the cable itself is OK.
5. If this isn't your first end, check the end you already did to see which one of the Cat5 wires to solder to which HP-IL cable. The connections should be "straight through" as the mated cables will show.
6. Cut a two inch piece of 3/16" shronk wrap tubing and pass the Cat5 pair through it.
7. cut two one inch sections of 1/16" shrink wrap and thread *one* of the wires through each.
8. The bundle of shrink wrap should be able to move at least an inch away from the work, because you are about to apply lots of heat there. 8)
9. Maneuver the stripped ends so that they overlap each other on the same plane
10. Bend the *Cat5* wire around the *HP-IL* wire. This is the opposite of what the wires "want" to do. The reason is, the solid core Cat5 wire will retain its shape, which the soft HP-IL cable will conform to. This means that it will stay in place, which allows you to solder with both hands free.
11. Make only two to three revolutions around the HP-IL cable depending on the length of the stripped wire. This makes a nice flat arc to place the soldering iron tip on.
12. Heat your iron to above 600 degrees, Fahrenheit. I use 640. Tin the iron.
13. Place the soldering tip underneath the arc of the entwined wires at one end of the arc.
14. Count to three, moderately slowly
15. Apply the solder to the top of the wires, above where the iron is placed. It should immediately melt.
16. draw the iron along the underside of the wire bundle while dragging the (shortening line of) solder along the top.
17. Remove the iron and solder from the work.
18. After cooling and inspection, trim off excess wire at both ends of the new join.
19. If this is your second connector, you have reached your earliest opportunity to test the cable. If you find a problem here, you'll save youself some work compared with finding it later. Test continuity through both conductors. You got the right ones? Good. Be sure the cable doesn't short at either end and plug it in to a test bed. I used EMU71 running on a PC to CAT a real 9114 on a loop that included my cable.
20. Slide the small shrink wrap sections over the soldered wires and heat them until snug. (I use a cheap heat gun which works a lot better than the iron.)
21. If you don't get all the conductor covered with the shrink wrap (oops) dress it with electrician's tape.
22. Slide the larger shrink wrap over the two wrapped joins and shrink it into place.
23. Test the cable again!
24. You probably want to HP-IL out *and back* with the same cable. If so, do a second pair like the first on the same cable. (But with the gender switched, of course. You should have both a male and a female HP-IL connector at each end.)

And it works with about a 45' cable!

But that joint is still brittle. The shrinkwrap doesn't seem to do the trick. The stress occurs in the Cat5 copper just on the edge of the solder joint. Any ideas?

Update: It was brittle while I was trying to appy the shrink wrap. After I got that applied, I had no further trouble. It's undoubtedly still brittle, but protected somewhat by the plastic tubing. A radical bend at the end of the solder joint could still ruin my whole day, so I'm careful with it.

Edited: 26 Aug 2005, 8:56 p.m. after one or more responses were posted

Re: HP-IL over Cat5 - Compatible?

*Message #15 Posted by **don wallace** on 26 Aug 2005, 4:11 p.m.,*
in response to message #14 by Howard Owen

USE THIN TWIN PLASTIC COVERED SPEAKER CABLE-!

Don P.S. CAT-5, for HP-IL, INDEED! (just fooling about the mock indignation) Sounds like someone doesn't trust me!

Re: HP-IL over Cat5 - Compatible?

*Message #16 Posted by **Howard Owen** on 26 Aug 2005, 4:19 p.m.,*
in response to message #15 by don wallace

Well, I understood your objection, and tried to design around it.

The main deal for me is the fact that it's twisted pair, and the spec calls for that over 10 meters. The fact that the impedence is right also influenced me. And also there's the fact that Cat5 packs eight conductors - four pairs - into the cable. That means I only have to run one 50' cable instead of two. Plus, I have that big 'ol spool. 8)

Re: HP-IL over Cat5 - Compatible?

*Message #17 Posted by **don wallace** on 26 Aug 2005, 8:31 p.m.,*
in response to message #16 by Howard Owen

Hey, man, it's cool ;-)

dw

Re: HP-IL over Cat5 - Compatible?

*Message #18 Posted by **don wallace** on 31 Aug 2005, 5:44 p.m.,*
in response to message #14 by Howard Owen

Hi Howard.

General info for intrepid hobbyists like yourself (good onya!):

FYI, a soldering iron should be set at very close(+/- 5deg.) to 310 degrees celcius (deg.F? where's my calculator ;-)

The drama is measuring a temperature that "high" if you don't have any industrial thermometer gear...

The main rules for soldering are: 1: Cleanliness IS godliness: (keep your wires, iron [and for Mil-Spec work, the solder as well] clean)

2: DO NOT MOVE the wires before solder has set. 3: Avoid opens and shorts if at all possible! 4: Avoid wiring errors (!) 5: Avoid over-heating semiconductors (!)

Cheers,

Don

Re: HP-IL over Cat5 - Compatible?

*Message #19 Posted by **Howard Owen** on 1 Sept 2005, 2:46 p.m.,*
in response to message #18 by don wallace

Thanks for the info, Don.

> Quote:

> FYI, a soldering iron should be set at very close(+/- 5deg.) to 310 degrees celcius (deg.F? where's my calculator ;-)

That works out to 590 degrees F. (599 F for 315 C.) So I'm "a bit" high in my estimate. 8)

I assume this has something to do with the melting point of standard rosin-core solder? Do different solders call for different temperatures, or is it more material dependent?

> Quote:
>
> The drama is measuring a temperature that "high" if you don't have any industrial thermometer gear...

I use a soldering station from Radio Shack with temperature sensing built in. It was under $100.00, so I imagine it isn't the highest quality obtainable.

> Quote:
>
> The main rules for soldering are:
>
> 1: Cleanliness IS godliness: (keep your wires, iron [and for Mil-Spec work, the solder as well] clean)
>
> 2: DO NOT MOVE the wires before solder has set.
>
> 3: Avoid opens and shorts if at all possible!
>
> 4: Avoid wiring errors (!)
>
> 5: Avoid over-heating semiconductors (!)

With the procedure I outlined here, my soldering tip is nowhere near an IC, thank goodness! I'm working my way up to dealing with ICs and PCBs slowly.

> Quote:
>
> Cheers,
>
> Don

Thanks for the tips!

Edited: 1 Sept 2005, 2:53 p.m.

Re: HP-IL over Cat5 - Compatible?

*Message #20 Posted by **don wallace** on 1 Sept 2005, 6:35 p.m.,*
in response to message #19 by Howard Owen

Hi Howard.

In answer to your last post:

H.O.: That works out to 590 degrees F. (599 F for 315 C.) So I'm "a bit" high in my estimate. 8)

D.W: That's ok. Better a ittle hot than a little cold...

H.O.: I assume this has something to do with the melting point of standard rosin-core solder? Do different solders call for different temperatures, or is it more material dependent?

D.W.: Without boring people here, Material Science is interesting if you don't have to study to pass an exam on it. Solder (for electronics) is an alloy of lead and tin. When mixed these metals change both the melting point and the characteristics of the alloy when "freezing".

The solder for electronics work is about 60% lead 40% tin. Ratios vary a bit but not much. The reason for this is that this ratio constitutes a "eutectic mix" of the two elements. A eutectic mix has the special property that the two components (lead / tin) both "freeze at the same time" put simply. This means the sloder will solidify rapidly and the chance of slight movement while this is happening causing "crystalline" or "cold" solder joints is minimized.

For plumbing you want the solder to go plastic for a while so it can be "wiped" (c.f. lead wiping from fifty years ago).

Brazing is similar to soldering but the metals are different (copper/tin=bronze [from memory]) but the process is very similar just at much higher temperature.

H.O.: I use a soldering station from Radio Shack with temperature sensing built in. It was under $100.00, so I imagine it isn't the highest quality obtainable.

D.W.: That's fine. Once you get your "chops" you shuld be able to do anything with that iron...

H.O.: With the procedure I outlined here, my soldering tip is nowhere near an IC, thank goodness! I'm working my way up to dealing with ICs and PCBs slowly.

D.W.: Suggestion; get some old electronics and try removing components. This is good practice and you will improve with time.

Cheers,

Don W

Re: HP-IL over Cat5 - Compatible?

*Message #21 Posted by **don wallace** on 1 Sept 2005, 10:23 p.m.,*
in response to message #20 by don wallace

I keep forgetting things...

Plumbers lead: a different ratio of lead and tin...

Brass=copper+tin? Bronze=copper+zinc?

For practice soldering easy stuff (cable terminbations and audio attenuators with resistors) is good to start with. That hadrware is very forgiving and if you use your fingers to hold the parts you will rapidly get an idea f what "too much heat for too long" means...

Non-destructive desoldering can be quite hard to do when you are beginning...

Final note: When soldering or desoldering, the thing is JOINT TEMPERATURE. This is dependent on good thermal conduction from iron tip to joint metal (both parts). So have enough solder to ensure the joint gets hot (the solder blob conducts the heat...) but not too much so you're swimming in it...

Have fun...

Don W

Re: HP-IL over Cat5 - Compatible?

*Message #22 Posted by **Howard Owen** on 2 Sept 2005, 12:05 a.m.,*
in response to message #21 by don wallace

Thanks for all the good advice, Don.

I do have plenty of old PCBs around that I can practice on. I just haven't squared the 'round tuit' up to now. I have practised desoldering using braid. I took apart a 41C single memory module and desoldered the PCB from the contact fingers. That went pretty well. And I've done several cables and odds and ends. My intermediate goal is to be proficient enough to do a 2X memory module using Cristoph Klug's instructions. That requires soldering jumpers between PCB's, on parts that average $50.00 apiece on eBay, and I need two! So I'm not going to attempt that until I've got concrete evidence I have a good chance of succeeding. 8)

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LIF interchange (71B|75C|41C) <-> 85B

*Message #1 Posted by **Howard Owen** on 20 Aug 2005, 1:26 p.m.*

I have just taken delivery on a 9121D dual floppy unit. I hooked it up to my 85B and saved a couple of files onto a single sided disc. Then I placed this disc in my 9114 and did a CAT of the drive from my 71B. To my joy, the catalog appeared, albeit with unknown (to the 71B) file types listed against the HP85 BASIC files. Next I tried serving out a LIF image of one of Vassilis' HP85 disks to the 71B with EMU41. The idea was to copy these to the 9114 and thus sneakernet software onto the 85. Unfortunately, the 71B reported "Unknown file type" on any attempt to copy the files out of the virtual LIF disk and onto the 9114.

Does anyone know how to manipulate the LIF file type from a 71B? There must be a LEX file somewhere that lets you diddle the bits on disk. (I can do this in Linux, but while the resulting file should copy using the 71B, the result on the 85 would be an incorrect file type.)

Re: LIF interchange (71B|75C|41C) <-> 85B

*Message #2 Posted by **J-F Garnier** on 21 Aug 2005, 3:31 p.m.,*
in response to message #1 by Howard Owen

Hi Howard,

The basic HP-71B can't copy file of unknown format, but if you load the JPC ROM into Emu71 (or in a HP-71B), then you will be able to copy foreign file from one disk to another (but not to load them into the HP71 /Emu71 of course).

J-F

Edited: 21 Aug 2005, 3:33 p.m.

Re: LIF interchange (71B|75C|41C) <-> 85B

*Message #3 Posted by **Howard Owen** on 21 Aug 2005, 4:02 p.m.,*
in response to message #2 by J-F Garnier

Oh, cool! Thanks, JF!

Did I mention that this guy's software is great?

Re: LIF interchange (71B|75C|41C) <-> 85B

*Message #4 Posted by **Howard Owen** on 21 Aug 2005, 5:56 p.m.,*
in response to message #2 by J-F Garnier

No joy, I'm afraid. The JPC ROM (jcpromx.bin) correctly handles LIF files for HP-75 and HP-41, but not for HP-85.

Your software is still cool, though. 8)

Re: LIF interchange (71B|75C|41C) <-> 85B

*Message #5 Posted by **Howard Owen** on 21 Aug 2005, 9:10 p.m.,*
in response to message #2 by J-F Garnier

This is turning out to be kind of fun. The JPC ROM has a file type LEX that recognizes other handheld machine's files. So HP-75 and HP-41 file types are recognized by the 71B (or by EMU71) when that ROM is loaded. But it doesn't cope with HP85 file types. However, looking through Joe's LEX file index, I ran across EXTFILES, which is described like so:

> Quote:
>
> EXTFILES “External Files Poll Handler”. This lexfile does not add any keywords to BASIC, but extends the number of file types that the HP-71 recognizes. The HP-71 normally recognizes only BASIC, KEY, TEXT, SDATA, DATA, LEX and BIN file types, and refuses to copy files into memory (or from disc to disc) if they are of any other type. The FORTH ROM allows a new file type, FORTH files, to be copied, and identifies these files by putting “FORTH” into their catalog string. The EXTFILES lexfile takes this idea a step further. It makes just about every file type known to the handheld community recognizable to the HP-71, and not only allows it to copy them, it identifies them in their catalog listing. No longer do we need to decipher file type code numbers. SIZE: 502 bytes.

"Great," I thought, "this is just the code the JPC ROM used." But the part about "every file type known to the handheld community" made me decide to try it out. It's included in lexfl1.zip from JF's site. Sure enough, when I loaded it into EMU71 (after turning off the JPC ROM) I was able to list a LIF image of the HP-85 games pac with "PROG8" as the file type! Next I tried 'COPY "BLACKJ:3" to ":6"', with the 6th HP-IL device being my 9114, and I got "HPIL ERR:File Protect".

Bummer. Well, I know I skimmed past the informationo on how to remove that protection somewhere in the PPC or HPPC archives. I seem to recall it uses two characters as the unlock key, so brute force should work pretty well if nothing else. More research is called for. Good thing I enjoy that sort of thing. 8)

Re: LIF interchange (71B|75C|41C) <-> 85B

*Message #6 Posted by **Howard Owen** on 22 Aug 2005, 12:15 a.m.,*
in response to message #2 by J-F Garnier

As many will know, the "protected" status of a LIF file is merely a different file type in the directory. I believe there is also another method of locking up files that may involve encryption, but this isn't it. Just finding the appropriate unprotected type number of the file type and changing it in the directory is enough to allow the file to be copied. This is trivial when you are dealing with an image of the disk, of course.

Circumventing copy protection is not my usual modus when dealing with computers. My dislike of the DMCA notwithstanding, I usually try not to mess with that sort of thing. But the bits in this case were free to copy in the form of a disk image, but not as individual files. I believe that makes circumventing the non-protecting copy protection OK. That's a self serving interpretation, but I'll stick by it. 8)

Re: LIF interchange (71B|75C|41C) <-> 85B

*Message #7 Posted by **J-F Garnier** on 24 Aug 2005, 6:42 a.m.,*
in response to message #6 by Howard Owen

Congrat Howard!

Despite my approximative suggession, you made it!

J-F

Re: LIF interchange (71B|75C|41C) <-> 85B

*Message #8 Posted by **Howard Owen** on 24 Aug 2005, 9:48 a.m.,*
in response to message #7 by J-F Garnier

Thanks, Jeff!

It's a little cumbersome, but I've now copied over several of the disks available at Vassilis' site.

One other item of interest: the 71B thinks the disks have less capacity than they actually do. I recall reading about this in the PPC journals, together with a hack for getting around it. At any rate, it means that I have to copy the files to the real floppy in two passes. So here's the process:

1. Copy an HP-85 disk image to EMU71's hdrive2.dat
2. CATalog the disk to see if there are protected files
3. Use a hex editor in another window to modify the file type fields to the unprotected types.
4. Format a floppy *on the HP-85/9121*. (The 85 won't be able to read a disk formatted by the 71B)
5. Put this floppy in the 9114
6. Write a 71 BASIC program to copy the files from the LIF image to the 9114
7. Wait until the copy bombs out with "Disk Full"
8. Put the floppy back in the 9121
9. Format another floppy in the second 9121 drive
10. Write an HP-85 BASIC program to copy the files from the first floppy to the second
11. Delete all the files on the first floppy and PACK it. (Faster than reinitializing.)
12. Put it back in the 9114
13. Finish copying the balance of the files remaining in the disk image
14. Sneaker net the disk back to the 9121
15. Copy the rest of the files to the second floppy

The thing that stands out for me in trying to get stuff done on these old machines is the amount of grunt work involved. The above process is an example. On Linux, I do some bash scripting with a little Perl mixed in, or else (more rarely) a full-blown Perl program, and I get 99% of what I need done with comparatively little effort. the extra work in these 20th century models isn't just due to the more primitive tools available, though. It also has to do with the number of incompatible systems you have to traverse in order to get things done.

Re: LIF interchange (71B|75C|41C) <-> 85B

*Message #9 Posted by **Vassilis Prevelakis** on 24 Aug 2005, 4:49 p.m.,*
in response to message #8 by Howard Owen

```
Howard Owen wrote:
>   4.Format a floppy on the HP-85/9121. (The 85 won't be able to read a disk
formatted by the 71B)
```

False! The 85 can read disks formatted by the 71B (and the 41C).

You are just using the wrong drive. The 9121 is SINGLE sided, while the 9114A/B are DOUBLE sided. If you use a double sided drive with you 85 (e.g. the 9122) you will be able to read 9114A/B disks.

BTW note that to use the 9122 with the HP85 you will need the EMS rom (available from http://www.series80.org).

**vp

Edited: 24 Aug 2005, 4:50 p.m.

Re: LIF interchange (71B|75C|41C) <-> 85B

*Message #10 Posted by **Howard Owen** on 24 Aug 2005, 5:47 p.m.,*
in response to message #9 by Vassilis Prevelakis

Gee, I happen to have a 9122 gathering dust. How do I get the EMS ROM of which you speak? (On my real 85B, that is.)

Re: LIF interchange (71B|75C|41C) <-> 85B

*Message #11 Posted by **Vassilis Prevelakis** on 24 Aug 2005, 9:36 p.m.,*
in response to message #10 by Howard Owen

You can download the ROM image from the Series80 web site then you need either the 82929A Programmable ROM drawer or a ROM emulator (somebody posted a link some time ago).

**vp

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your opinion of the HP49G

*Message #1 Posted by **NA** on 19 Aug 2005, 5:36 p.m.*

wat do u think?
i think its an amazing calc.

Re: your opinion of the HP49G

*Message #2 Posted by **Vassilis Prevelakis** on 19 Aug 2005, 11:04 p.m.,*
in response to message #1 by NA

You want to start a flame war?

OK, I think it sucks. Its too big, the enter key is too small, it has RPL instead of RPN. The colour scheme is ugly and it looks cheap.

There.

**vp

Re: your opinion of the HP49G

*Message #3 Posted by **NA** on 26 Aug 2005, 8:53 a.m.,*
in response to message #2 by Vassilis Prevelakis

it has RPN u idiot. u no mabey u should use it before u talk!!

Edited: 26 Aug 2005, 8:54 a.m.

Re: your opinion of the HP49G

*Message #4 Posted by **Wayne Brown** on 26 Aug 2005, 3:11 p.m.,*
in response to message #3 by NA

> Quote:
>
> it has RPN u idiot. u no mabey u should use it before u talk!!

Perhaps you should learn to use the English language properly before you attempt to write. You also should learn the difference between an **RPL** machine and a classic **RPN** programmable calculator. It might save you the embarrassment of calling someone an "idiot" when it's clear you don't understand what he meant.

Re: your opinion of the HP49G

*Message #5 Posted by **Howard Owen** on 26 Aug 2005, 3:42 p.m.,*
in response to message #4 by Wayne Brown

wtf? u !grok sms???

Wuz speling gt t do/nytng? u no w i mean?

vwls sk, mn.

Re: your opinion of the HP49G

*Message #6 Posted by **James M. Prange (Michigan)** on 27 Aug 2005, 3:25 a.m.,*
in response to message #5 by Howard Owen

Well, I figured part of that out. What spelling (and grammar) has to do with things is consideration for those who may be trying to read what you've written. Your sloppiness seems just plain rude; surely you're not that ignorant of standard spellings.

That said, none of us are perfect, so the occasional typographical error, misspelling, or grammatical error is best ignored.

Regarding RPL versus RPN, personally, I consider RPL to be an enhanced form of RPN, but even I realize that in this forum, "RPN" usually refers to the (in some ways) simpler 4-level stack "Classic RPN".

Regards,
James

Re: your opinion of the HP49G

*Message #7 Posted by **Howard Owen** on 27 Aug 2005, 8:19 a.m.,*
in response to message #6 by James M. Prange (Michigan)

That was sarcasm, James, and not aimed at you. Please accept my apology if it seemed otherwise.

Whether "NA" is genuine or a troll, his typographical peculiarities are typical of "texting" services like IRC or AIM. The point of the severely garbled English used on those services is to reduce typing time, thereby increasing the rate of conversation. In particular, users of SMS - Short Message Service - tend to employ this strategem. Since they are typing their messages on mobile phone keypads, the economy of typing "u" instead of "you" is significant.

But using that abbreviated style on a forum like this is suspicious. If we are to take "NA" at face value, then he (or she) must be fairly young and stupid, not to have encountered the full use of English in an online setting. But this same stupid person supposedly uses the HP-49G. Whatever else you may think about that machine, it's not for the dim-witted. (For that, we have TI, of course. 8)

So I think it's more likely that "NA" is a role being played by someone else.

Re: your opinion of the HP49G

*Message #8 Posted by **James M. Prange (Michigan)** on 27 Aug 2005, 9:07 a.m.,*
in response to message #7 by Howard Owen

Sorry Howard, I was thinking that I was replying to "NA".

I hadn't heard of SMS. Trying to type something from a telephone keypad must difficult; don't they realize that they can simply talk into a phone?

In any case, as he posted on this forum, I expect that he was typing from a keyboard which includes the full alphabet, and I regard typing "u" instead of "you" as being rude.

Regards,
James

The typing of "u"

*Message #9 Posted by **Gene** on 27 Aug 2005, 9:55 a.m.,*
in response to message #8 by James M. Prange (Michigan)

While I don't like the ever increasing internet shorthand typing, it is very very common among those who spend much time using instant messenging software.

Abbreviations have been used a lot over the years (such as LOL, TTYL, IMO, IMHO, ROFL, etc), younger people are now abbreviating lots of stuff.

I see it in the emails my kids are sent from their friends.

It's not rude, it's just different.

You and I are free to dislike it, but that doesn't mean it's rude as such.

For me, it just means I don't understand what is being said many times, but then, most of the time when I see things like that, I don't care if I understand or not. :-)

Re: The typing of "u"

*Message #10 Posted by **James M. Prange (Michigan)** on 27 Aug 2005, 10:20 p.m.,*
in response to message #9 by Gene

I do understand the usefulness of abbreviations, particularly on the small screens of telephones, or, for that matter, calculators, as long as the intended reader will understand what the abbreviations mean.

Youngsters always invent new slang, and if today's kids think that it's "cool" to write "u" for "you", "2" for "to" or "too", and so on in their personal messages, that's fine with me. But I still think that it's rude to use it where "standard" writing is expected, as in this forum or the comp.sys.hp48 newsgroup.

Regard,
James

Re: The typing of "u"

*Message #11 Posted by **bill platt** on 29 Aug 2005, 10:57 a.m.,*
in response to message #10 by James M. Prange (Michigan)

In ham radio, using morse code, many many things are abbreviated. "thanks" is "tnx", "for" is "4", "you" is "u", "from" is "de" (from the french word) "over" is "k", "out" is "sk" etc etc etc.

Re: The typing of "u"

*Message #12 Posted by **gene** on 29 Aug 2005, 12:48 p.m.,*
in response to message #10 by James M. Prange (Michigan)

but how does anyone know that "standard" writing is expected here?

I do agree that too many of these abbreviations will inhibit the communication of ideas, but I was able to make out what the original poster intended.

Are we all getting "old" and cranky or can we all learn a few new tricks?

And, is it really worth the effort to get irritated or should we go with the flow?

Re: The typing of "u"

*Message #13 Posted by **Howard Owen** on 29 Aug 2005, 1:58 p.m.,*
in response to message #12 by gene

I can only speak for myself on the matter of tolerance toward different communication styles. If I can understand what's being said, I'm unlikely to complain about the way the information is delivered. But in this case, the poster turned belligerent with very little provocation. I think that the response to his abuse included the annoyance many of us felt regarding his spelling and grammer. That's probably not fair, but it is natural and understandable.

Re: The typing of "u"

*Message #14 Posted by **Wayne Brown** on 29 Aug 2005, 2:44 p.m.,*
in response to message #13 by Howard Owen

> Quote:
>
> I think that the response to his abuse included the annoyance many of us felt regarding his spelling and grammer.

In my case, although I find NA's writing style very annoying, I wouldn't have mentioned it (or responded at all) had I not been irritated by the rude response NA made to Vassilis. But it's human nature, when offering one piece of criticism, to bolster it by throwing in any other complaints that happen to be lying around handy. ("I think your political opinions are completely wrong -- and by the way, that tie you're wearing is really ugly.")

Lest anyone attribute my criticism to being "old and cranky," I should mention that I have been equally annoyed for most of my 50 years of life by advertisers and marketers who think it's cute to replace "C" with "K" and "S" with "Z" in product names. I also can remember being disgusted in grade school with things like Valentines that said "I luv u 4-ever." I guess I've been old and cranky since childhood. :-)

Let's stay "old and cranky"...

*Message #15 Posted by **Karl Schneider** on 29 Aug 2005, 3:33 p.m.,*
in response to message #12 by gene

As this is a Forum, and not a chat room, proper writing should be expected. Let's stay "old and cranky" about it.

I've found on this forum and Usenet groups that there usually is a strong (positive) correlation between the quality of someone's writing and the quality of his ideas. Review the posts of Valentin Albillo, Eric Smith, and "Norris" for examples of what I consider "highest quality". For examples of mediocre or poor writing with corresponding value of philosophy, those can also be found...

-- KS

Edited: 29 Aug 2005, 3:38 p.m.

Re: your opinion of the HP49G

*Message #16 Posted by **Howard Owen** on 27 Aug 2005, 9:57 a.m.,*
in response to message #8 by James M. Prange (Michigan)

Yes, I agree.

In Europe, SMS is free or low cost. So messaging is popular among people who can't afford to inflate their phone bills. That includes many young people, among whom SMS is very popular.

In the US, SMS is treated as a premium service by the carriers. So naturally, it hasn't caught on here.

Re: your opinion of the HP49G

*Message #17 Posted by **Karl Schneider** on 19 Aug 2005, 11:53 p.m.,*
in response to message #1 by NA

A reasoned opinion?

The Good: It has impressive mathematical capabilities that improve upon those of the 48G series. It is solidly built and acceptably reliable.

The Bad: It is rather impractical as a general-purpose handheld calculator, due to its RPL-based, complicated HP-48 paradigm. It has software bugs. It has no IR printer link and is not expandable. Unhinged keys cannot be pressed quickly in sequence.

The Ugly:Goofy, hard-to-read dark-blue-and-red-on-light blue color scheme.

Are you actually referring to the successor KinHPo 49G+? That present model is faster and better-looking, but less reliable. It is expandable and has the IR printer link, I believe. Everything else in my critique applies equally.

-- KS

Edited: 19 Aug 2005, 11:55 p.m.

Re: your opinion of the HP49G

*Message #18 Posted by **Don Shepherd** on 20 Aug 2005, 12:15 a.m.,*
in response to message #1 by NA

You know, lots of folks have spoken against this calculator, but I don't think I've seen anyone mention one of its most amazing (IMHO) features: essentially unlimited word size for integers. Every calculator I have ever seen, and most PC applications, have a fixed word size for integers, usually 32 or (more rarely) 64 bits. This calc, like Mathematica, has no such limits. You enter 2^750 and it shows the full 226-digit number. I personally think this is great! But that's just me. I agree that RPL programming is not as straightforward as RPN, and I'm an RPN fan. But I have seen some folks build some great RPL programs. I think the 49G+ is an impressive machine, despite some of its shortcomings.

Re: your opinion of the HP49G

*Message #19 Posted by **Vieira, Luiz C. (Brazil)** on 20 Aug 2005, 2:55 a.m.,*
in response to message #1 by NA

Hello, NA;

please, correct me if I am wrong, but it seems that you are "new on the block"; is that correct?

This is mainly because your three entries in this forum (so far) relate to the HP49G (shouldn't that be new HP49G+?). I myself sometimes post questions related to the new calculators, but I try to keep the subject as restricted as possible. Yeap, guilty as charged... <8^(

You see, most of the questions here are related to the earlier models (that's why we are at the Museum of HP Calculators...), their operation, some particularities and, most important, how to keep them 'alive'...

Well, no harm so far. I have at least one of each: 28S, 48SX, 48G+, 49G, 48GII and 49G+. I consider the HP48G as the best of the series because of many reasons. Because of the fact I got used to easily find anything I want in the HP48G, I think it is sometimes hard to easily find some resources in the HP49G. Now that both the HP48GII and 49G+ share the same keyboard, I feel as trapped twice...

But I must confess that having a calculator with upgradable OS is a bless. Both HP49G and 49G+ offer this particular feature, and I like it very much. I think any new calculator should offer such resourcefull feature. Add to this the SD card access and now I count on a 256MBytes(+) user-memory calculator. Now it`s worth getting acquainted with its reources.

If we go ahead and talk about SYSRPL and machine language... What about another forum?

Best regards.

Luiz (Brazil)

PS - as I`ve seen that sometimes a particular call may cause people to feel uncomfortable, please, consider my words as just some sort of common sense, already expressed feelings. O.K.?

Edited: 20 Aug 2005, 2:57 a.m.

Re: your opinion of the HP49G

*Message #20 Posted by **Geir Isene** on 20 Aug 2005, 5:00 a.m.,*
in response to message #19 by Vieira, Luiz C. (Brazil)

The RPL vs. RPN arguments come up now and then. This is one of the two most usual arguments between the old and the new HP calcs. The other being build quality. The two divisions do not coincide. HP went from RPN to RPL and later discarded the build quality.

As for the RPL vs. RPN; For me this constitute an indecision of which calculator I should settle for as my primary calc - my HP-41CX or my HP-48GX. Both are of good build quality.

The advantages of the 48 are many: Greater mathematical power, multiline screen suitable for graphing and text entry, far more sophisticated programs (like being able to use the 48 as an IR remote control), it's faster and has much more memory. But the RPL is somewhat tragic. I love the direct control and efficiency of the old RPN. When opting for structured programming, I would go with Forth. But not RPL. It is cumbersome and the programming environment is not as well suited for debugging as either RPN or Forth.

The advantages of the 41 are also many: Great program control and efficiency through RPN, it's very extensible through modules, peripherals and HP-IL, it's smaller than the 48 and it's clock accuracy is better (important for the UAC :).

Now, what I miss is a better programming language and programming environment for the 48. Being able to program the 48 with 41 RPN would be great. And no, I do not mean a 41 emulator. I mean programming the **48** with RPN. Or having real ANSI Forth on the 48. That would rock. Then I would use my 48GX as the primary calc. In the meantime I toggle the two.

Re: your opinion of the HP49G

*Message #21 Posted by **NA** on 26 Aug 2005, 8:56 a.m.,*
in response to message #19 by Vieira, Luiz C. (Brazil)

some what new.. yes. but i have had my calc since it came out.

Edited: 26 Aug 2005, 8:57 a.m.

Re: your opinion of the HP49G

*Message #22 Posted by **I, Claudius** on 20 Aug 2005, 5:33 a.m.,*
in response to message #1 by NA

If you can get over the rubber keys and frozen hamster-butt color:

1 MB of memory, same as a 48 with a 1 MB card. Memory structure with the Filer is outstanding. Using the ARCHIVE command to port 2, the calc is completely crash-protected. Very good CAS,actually more included commands than a TI89. Numeric and symbolic derivatives, integrals, difeqs, matrices, etc... Infinite precision arithmetic. Equation and matrix writers. Choice of fonts,mini-font is superb. Familiar RPN interface. Much faster than a 48. Flash upgradable OS, although there hasn't been a new one for the first 49 is many years, probably will never be upgraded again. Available on eBay as new old stock for less than $100 currently, compare that with $300 up for a 48GX.

Edited: 20 Aug 2005, 5:36 a.m.

Re: your opinion of the HP49G

*Message #23 Posted by **Thibaut.be** on 20 Aug 2005, 8:35 a.m.,*
in response to message #22 by I, Claudius

I think it's a great calculator, full of amazing features, but far too complicated to use on a daily basis.

I still consider the 42S as the best advanced calculator ever made.

Re: your opinion of the HP49G

*Message #24 Posted by **NA** on 26 Aug 2005, 9:00 a.m.,*
in response to message #23 by Thibaut.be

there is something called a manual and trial and error. after a while u get used to using the calc and then its like a piece of cake.

Re: your opinion of the HP49G

*Message #25 Posted by **Howard Owen** on 20 Aug 2005, 1:13 p.m.,*
in response to message #1 by NA

This has been *very* civil so far.

As a relative newcomer to this forum myself, I appreciate the concise laying out of opinions regarding the newer HP calculators. I had heard fragments of these opinions in other threads, but this one summarizes those attitudes pretty well.

Regarding the HP-42S, other than the very early programmable models, whose maximum program length was tiny, I never could figure out why you'd pay so much for a calculator where you had to key in all your programs by hand. But now I begin to understand why the 42S commands a premium on eBay: It's the most advanced and developed example of the old-school RPN HP technology.

Edited: 20 Aug 2005, 1:14 p.m.

Re: your opinion of the HP49G

*Message #26 Posted by **Tony Duell** on 20 Aug 2005, 2:55 p.m.,*
in response to message #25 by Howard Owen

My $0.02....

About the 42S : I hate it. Yes, I have one, but I only use it for on-the-fly calculations (it spends much of its time on my workbench, if it gets mangled then I don't really care). It strikes me it's a 41 with all the good bits (synthetics, modules, HPIL, card reader, etc) taken out. I really can't understand why people prefer it to the 41 series.

About the 41 series : I love them _as programmable machines_. There are a lot of useful modules, HPIL is one of the best-designed interfaces ever, it's well-built. I've lost count of how many of them I've got ;-)

About the 48 series : I love those too. I have no problem with the RPL 'infinite stack', I like being able to push any object -- not just a real number -- onto the stack. I feel that RPL has got rid of many inconsitancies in the old-style RPN -- for example the kludge that is indirect addressing. The RPL idea, put the object and the variable name onto the stack, then STO, seems more logical.

About the 49G : This was the first HP calculator I ever wrote a letter of complaint about (and, I may add, didn't get a reply from HP). The build quality is poor. I hate the keyboard. The first few firmware versions were so buggy as to be unusable. However I do like the arbitrary-size integers, and the exact mode.

About the 49G+ : Can't really comment, after the 49G I am not likely to buy another new HP calculator. And I have no intention of builg a machine with a Useless Serial Botch port. RS232 is much more useful.

And a couple more :

The 67 : Love it. Solid build, does what it claims. I love the LED display, and it external storage (the magnetic cards) which I regard as essential. Quite like the 97 too, but that's harder to fit in a pocket.

The 9100B : Quite simply the most elegant piece of electronics it's been my pleasure to work on. Beautiful.

The 9810 : Another quite elegant design. Good keyboard and display, sensible I/O bus (unlike the 9100).

Re: your opinion of the HP49G

*Message #27 Posted by **Geir Isene** on 20 Aug 2005, 3:40 p.m.,*
in response to message #26 by Tony Duell

My NOK 0.02:

The 42S: Compared to the 41, it's inferior. Yes it is faster, has more memory, two-line display and is smaller (thinner). But, as Tony points out, the magick of the 41 was discarded.

More on the 48 vs. the 41. I disagree that the indirect addressing is a kludge. It is one of the most elegant features of the old calcs. There are quite a few times I have been forced to write more involved software for lack of indirect addressing (like in RPL or even Ruby).

As for the LED displays - these are my absolute favorites. The HP-97 is my primary calculator at work. Since I do not own a 67, the 41 or 48 gets to be the only real choice to carry around.

Re: your opinion of the HP49G

*Message #28 Posted by **Tony Duell** on 21 Aug 2005, 9:23 a.m.,*
in response to message #27 by Geir Isene

I think you may have misundersood me. Indirect addressing is a great feature, it's just that the way it's done on HP calculators is a mess, and doesn't fit the 'RPN model'.

I think it would have been 'cleaner' to have at least one more stack level, and for STO, etc, to take the register number from top of stack.

In other words, both arguments for STO (the number to store, and the register address to store it in) should be entered before pressing STO. That's how other functions work in RPN after all.

Re: your opinion of the HP49G

*Message #29 Posted by **Geir Isene** on 21 Aug 2005, 2:16 p.m.,*
in response to message #28 by Tony Duell

That would be way cool - like having an indirect indirect addressing. Taking the address from X to indirectly address would give you two levels of indirectness. But in the spirit of merging program steps, I don't think that STO IND 00 is so bad. In the spirit of Forth, even STO 00 would be wrong.

Re: your opinion of the HP49G

*Message #30 Posted by **Howard Owen** on 20 Aug 2005, 4:11 p.m.,*
in response to message #26 by Tony Duell

My brain may be calcifying, but RPL has been giving me pain. I think it's because I want to grasp it completely, the way I understand C, or Perl, or the 41C. I run into trouble because it's not just RPL, but the vast number of functions available in the 48G (for example) that I have to know in order to be

expert. I had a practise back in the 1980s, when I was first learning to program, of coding Euclid's algorithm on each new system and/or programming language I encountered. The first system I did that on was the 41C, which was also the first machine I learned to program. Anyhow, I reverted to my old practise to try to break through this impractical "I want it all, now" desire of mine with the 48. A concrete problem has always been a boon to me. I know the 48GX I used probably has a GCD function. I know the Sparcom Math card does, but that's not the point of the exercise. Here's what I came up with. It expects the two numbers to test on levels 1 and 2. It consumes these, and leaves the GCD in level 1:

```
<<
  WHILE DUP 0 # REPEAT
    DUP 3 ROLLD MOD
  END
  DROP
>>
```

Update: the "0 #" isn't required, since any non-zero numeric value is logical true. So the routine could be <<WHILE DUP REPEAT DUP 3 ROLLD MOD END DROP>>, which is even more unreadable.

So, that's short and sweet. It also isn't recursive. That's good because I dont know how you'd do recursion without names. (RPL has named routines and variables, I know. I just didn't use them for this example.) I then set out to code the same algorithm on my HP-41CX. This is probably a good deal better than the first time I coded this algorithm in 1982 or so. It turned out to be quite similar to the 48 version, in fact:

```
01 LBL 01
02 STO Z
03 MOD
04 X#0?
05 GTO 01
06 RDN
```

That's even more concise. The inputs and output are the same as for the 48 version.

The "Forthian" vocabulary of the 48 is less familar to me than the 41C's language. I learned Forth, back in the day, along with many other languages I never used for real coding problems. So the lack of practise hurts. And six months from now, if I don't continue to code on the 48, I'll forget that "3 ROLLD" is equivilant to "ROT SWAP" for example. The 41's language is so ingrained, and so much simpler, that I won't have that difficulty with its code until my dying day, assuming I keep my mental acuity that long. 8)

So I think I may be able to start enjoying the 48 more if I ask less of myself at one sitting. I may not master the device ever, since there is a lot to know that isn't interesting or relevant for me. But If I can find a way to pick through what is there, I may do better, and enjoy it more.

Edited: 20 Aug 2005, 5:59 p.m.

Re: your opinion of the HP49G

*Message #31 Posted by **Walter B** on 21 Aug 2005, 2:53 a.m.,*
in response to message #30 by Howard Owen

I agree with your opinion about the 48 and also (earlier in this thread) about the 42s being the top calculator of "the old line". My background: I started in 1976 with a 25c, moved to an 11c in 1982, a 32s in 1990 - and started collecting 10 years later, having some 48 and a 42s now, too. Nowadays I'm no more using my calc every day. Just want to add my 0,02 Euros:

BIG, BIG PLUS (compared to earlier and later models I know): The 42s is the one and only

programmable POCKET calc I know with:

- a quality keyboard (elegant + reliable + user friendly (not overloaded) = a pleasure to look at and use) AND
- well designed output (informative and readable, no kryptic codes, just the necessary information in good order) AND
- straightforward programming AND
- easy debugging (readable programs instead of keycodes) AND
- more than sufficient memory for practical life (never had to count steps or registers - if I really need more, I go to a PC).

SPACE FOR IMPROVEMENT (IMHO):

1. The dot matrix display was ok at that time, but is far off what's state of the art today. Contrast is even poor compared to the LCDs of cheaper Pioneers. Space or better resolution to display 1 or 2 lines more would be nice, too.
2. The keys of the Pioneers and later models are a step back from the earlier keys starting with hp65. A 2nd shift key would have allowed for more direct accessible functions - sometimes I find it difficult to remember where a particular function is hidden.
3. I admit something like a catalog is necessary to access as many functions as are implemented in this calc. But this catalog is just too cumbersome for "quick and dirty" calculations.
4. Regarding expandability and I/O capabilities in a calc, the 41c (cv, cx) is 2nd to none. In my worklife, however, I prefer a compact calc I can put in a pocket of my shirt or jacket without making me look out of balance (hope that's understandable ;)). And nowadays, I don't like these zippered belt cases no more - I'm neither a sheriff nor a handyman.

This is my point of view.

Edited: 21 Aug 2005, 2:58 a.m.

Re: your opinion of the HP49G

*Message #32 Posted by **Thibaut.be** on 21 Aug 2005, 1:17 p.m.,*
in response to message #31 by Walter B

> Quote:
>
> more than sufficient memory for practical life (never had to count steps or registers - if I really need more, I go to a PC).

You've got the point !

I'm no one to counterdict Tony Duell, butjust want to bring my 2 €c. The 42s is definitely not the most powerful calc ever made, but certainly one of the most practical to use.

IMHO, I also love the 41, and even if I deeply regret there is no mass storage available to the 42S, it's still somehow superior on a daily use with its dot matrix dual line screen, higher memory and faster execution.

Again, should we need more, let's go to a PC...

There have been a few polls in the past and the 42S was the preferred calculator of the

community.

Re: your opinion of the HP49G

*Message #33 Posted by **GE** on 23 Aug 2005, 4:51 a.m.,*
in response to message #32 by Thibaut.be

There is something else that the 42 (or 41) has : the capability to suspend a program at any time. When my train arrives at the station, I just press [R/S], switch off the calc and voilà, it is ready to resume the calculation later without losing the work already done.

Not only this, but you can go to program mode and review or modify to your heart's content without losing the results calculated so far, you can restart from the same point or somewhere else (paying attention to GSB/XEQ levels however).

Try it on a so-called "structured programming" language. These are maybe smart but in that case are really painful (reminds me of the discussion of 'GOTO').

That capability to stop at any time, to edit on the fly, to resume without losing anything, is missing from 48s and other later machines (a weak point for other nice machines from Sharp too...).

Re: your opinion of the HP49G

*Message #34 Posted by **Thomas Okken** on 23 Aug 2005, 10:07 a.m.,*
in response to message #33 by GE

> Quote:
>
> There is something else that the 42 (or 41) has : [...] you can go to program mode and review or modify to your heart's content without losing the results calculated so far, you can restart from the same point or somewhere else (paying attention to GSB/XEQ levels however).

The 41 and 42 (maybe all keystroke-programmable HPs?) clear the RTN stack when you edit a program, so if you edit a program on the fly while it's suspended in a subroutine, it won't return to the caller.

And, if you stop/turn the 41 off during a program

*Message #35 Posted by **Gene** on 26 Aug 2005, 3:35 p.m.,*
in response to message #34 by Thomas Okken

certain flags are cleared when turned on again.

The state of the machine is subtly different with an on/off in between.

Of course, if you're not using anything reset by an on/off, it won't matter.

Gene

Re: your opinion of the HP49G

*Message #36 Posted by **frank** on 22 Aug 2005, 7:35 a.m.,*
in response to message #1 by NA

Highly capable for the 20-60$ they are currently selling for. I think the low price is a carry over from the deep discounts needed to get rid of the first edition 49G+ with the bad keyboard. I happened to get a first of the new version 49G+ from Amazon for the $77 and free ship. I suspect the 49G low price will not last, and it will become a collectable in it's own right. Not but a few years ago, the 48GX was selling for under $100 on ebay, as an example.

Re: your opinion of the HP49G

*Message #37 Posted by **I, Claudius** on 22 Aug 2005, 8:32 a.m.,*
in response to message #36 by frank

What is the serial number of the unit you received, and how would you rate it? As a comparison, I got to play with a CNA515... and it was the first decent 49+ I've seen, all others prior were just plain junk due to lousy keyboards.

Re: your opinion of the HP49G

*Message #38 Posted by **Ed Look** on 27 Aug 2005, 4:17 p.m.,*
in response to message #37 by I, Claudius

Really? I have one (exchanged from HP) which s/n begins with a 4. How is the keyboard better? Does it no longer not register at times? Does it simply feel better? Different key materials???

(Should I re-exchange for this newer issue?)

Re: your opinion of the HP49G

*Message #39 Posted by **I, Claudius** on 27 Aug 2005, 4:40 p.m.,*
in response to message #38 by Ed Look

Yes, definitely exchange again. The newest units have a different key design (metal dome inserts), which are a marked improvement. This is only half the fix, though, the other half is ROM 2.0

Re: your opinion of the HP49G

*Message #40 Posted by **Ed Look** on 9 Sept 2005, 10:15 p.m.,*
in response to message #39 by I, Claudius

Oh, boy, I just saw this reply tonight 9/9!

Thanks! I surely will do it then... as soon as I can get to it!

Re: your opinion of the HP49G

*Message #41 Posted by **Crawl** on 13 Sept 2005, 9:31 p.m.,*
in response to message #40 by Ed Look

How does that work, exactly? You can exchange a 49G+ under warranty with no questions asked? And what do the metal dome insets improve? Response and/or durability?

your opinion of the HP49G

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HP-71B + 96KB Port 5 == short battery?

*Message #1 Posted by **Howard Owen** on 19 Aug 2005, 4:08 p.m.*

I have two 71Bs now, The first one came with a 96K module plugged into the card reader port. I thought that was pretty cool, but I started noticing difficulty with powering the machine on. If I wasn't hooked up to AC, I tended to get "Memory Lost". Checking the batteries, they were indeed flat. This wasn't a huge deal as I could reload what I wanted from my 9114, but it was annoying. I switched the expansion RAM over to the second machine when it arrived, and discovered that its batteries too were dead, after only 24 hours in the machine.

My question is, generally, how much life do people get out of a set of alkaline AAA cells in the 71B? I may just be leaving the darned things on by mistake, assuming they have an "auto off" feature.

Re: HP-71B + 96KB Port 5 == short battery?

*Message #2 Posted by **Tom Sherman** on 19 Aug 2005, 8:43 p.m.,*
in response to message #1 by Howard Owen

Howard,

The 71B has a very slow resting metabolism, and when off it should maintain memory for many months on a set of alkaline AAA batteries. If left on by mistake, it should turn itself off automatically after ten minutes.

From what you have said, it sounds as if that 96K memory module has a short of some sort. In my experience, a 71B with 4K, 32K, or 64K front port RAM modules, or with a 128K card-reader port module, can still retain memory for many months on a set of batteries.

It is certainly possible for a faulty RAM expansion module to cause rapid battery drain. This has happened to me twice with expansion cards for my HP Omnibook 300/425/430 computers. I elected to throw the expansion cards away rather than lose the long battery-life in those computers. You will no doubt want to do further testing before taking such drastic action with that 96K module.

Good luck in solving the mystery,

Tom

Re: HP-71B + 96KB Port 5 == short battery?

*Message #3 Posted by **Howard Owen** on 19 Aug 2005, 9:36 p.m.,*
in response to message #2 by Tom Sherman

Is 96K a strange number for port 5? You mentioned 128K modules, which would seem to be more sensible. Maybe it's missing 32K, and that's another symptom.

Re: HP-71B + 96KB Port 5 == short battery?

*Message #4 Posted by **Tom Sherman** on 19 Aug 2005, 10:49 p.m.,*
in response to message #3 by Howard Owen

My only experience has been with the 128K module for the card-reader port, but 32K and 64K were also made for that port, so 96K is not unlikely. Someone else on this forum can probably tell us whether a 96K was made.

Tom

Re: HP-71B + 96KB Port 5 == short battery?

*Message #5 Posted by **Tom Sherman** on 20 Aug 2005, 10:08 a.m.,*
in response to message #3 by Howard Owen

Howard,

According to this thread from the archives:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv001.cgi?read=2052

a 96K RAM module was made by Handheld Products for the 71B card-reader slot. That is probably what you have. And they were apparently quite rare -- a consolation to a collector, if not to a user!

Cheers, Tom

Re: HP-71B + 96KB Port 5 == short battery?

*Message #6 Posted by **Howard Owen** on 20 Aug 2005, 12:06 p.m.,*
in response to message #5 by Tom Sherman

Thanks for the reference!

Re: HP-71B + 96KB Port 5 == short battery?

*Message #7 Posted by **don wallace** on 1 Sept 2005, 10:37 p.m.,*
in response to message #6 by Howard Owen

Hi Howard.

I have no direct experience with those products but I think you may have a defective (static damaged) 128k memory module. Maybe it's a four chip module (32k per chip) and one ram chip is faulty or electrical connections to it inside the module are are bit funny (bad). If so then that may explain botht the odd size and the rapid power drain you get. The fact that it runs indicates to me it's probably quite salavageable.

I used to fix video arcade gae equipment so I've seen some real bizarre logic faults in my time. It sounds like maybe even you have a case where one or two chip select lines to one memory chip has been lost (open circuit) and it is (1) not "selecting" and (2) leaking power when system is shutdown. CMOS draws power at a high leakage level of up a few milliAmps if the logic control pins are left floating (open circuit)... and there are mains electric fileds around, which get picked up by the high impedance inputs and affect the circuitry (putting nodes all through the chip in a partially on (=leaky) state...).

Just a hunch, hope this helps...

Don W

Re: HP-71B + 96KB Port 5 == short battery?

*Message #8 Posted by **Howard Owen** on 2 Sept 2005, 1:20 a.m.,*
in response to message #7 by don wallace

I wondered about that. 96K seemed like a strange number. I believe the ports on the 71B take a maximum of 128K, without bank switching.

I've just been leaving the machine connected to line power all the time. The extra RAM is too useful for me to risk cracking the module open at the moment. (It has screws, so "crack" is metaphorical, probably.) I'm also deterred by the fact that I'd be clueless as to how to diagnose any fault that wasn't apparant from corrosion or heat damage. If they used standard RAM, I guess I could dig up pinouts for the ancient parts. And I'd presumably have three to 6 good chips to compare to one to two bad ones. But I'm nervous about sticking probes onto the pins of CMOS parts.

Re: HP-71B + 96KB Port 5 == short battery?

*Message #9 Posted by **don wallace** on 2 Sept 2005, 1:59 a.m.,*
in response to message #8 by Howard Owen

Howard.

When you get a round tuit ;-) you could always take photos and e-mail them to me or post them here. That would help.

The approach I would take is to find out if the chips are socketed (unlikely) and swap chips. Failing that, if possible write software which tries to read and write to particular bytes. You won't see much with a 'scope, let alone a multimeter, but if the chips are socketed or other wise can be electrically disconnected (disconnect the "chip select line from the pc board and tie it "off" [usually +5 volts=logic 1]") that takes it out of circuit. A meter is good for checking power supply is good n all memory chips, though (first step I would take).

Assuming four 32kB chips (big assumption), doing this to each chip, one notes what memory capacity the machine reports or which bytes don't exist when peeked and poked ;-). When you find a chip which doing the above on gives no change, you have found your problem.

The other (perhaps better) way to do things is to use an electronic multimeter in OHMS mode (NOT the continuity test mode!), to check to see if all the common buss lines are intact from chip to chip.

(In ohms mode, the meter generates 0.3 volts across the tips, quite safe. In continuity mode it puts 3 volts across the tips with more current behind it. The logic chips may not tolerate such "abuse". I am being cautious, but that pays...)

In general do tests with all equipment power off and batteries removed! When working on the logic, touch a GROUND buss first to put yourself at the same potential as the logic to avoid static damage.

For example, one can check the address buss one line at a time, then the data buss, power supply rails and also the chip enable control lines. Laborious, but effective.

Also, if you had a practised eye you could look for "cold solder joints". I used to fix WYSE WY-60 terminals and they were notorious for really bad solder joints to the

stainless steel jumper wires that were used in copious numbers to avoid the cost of manufacturing a double sided PCB. They were a real pain in the ass, so I found it better to do all the joints that looked even slightly suss in one hit. That always worked...

Also, chip sockets sometimes give trouble.

Hope this helps.

DW

Re: HP-71B + 96KB Port 5 == short battery?

*Message #10 Posted by **Garth Wilson** on 2 Sept 2005, 4:47 a.m.,*
in response to message #1 by Howard Owen

I have a 96K RAM in my main HP-71's card reader port, made by CMT. They offered 32K, 64K, 96K, 128K, and 160K in the card reader port. I wished I could have gone for the whole 160K, but memory was expensive at the time, and I set a budget and got what I could afford. (Later I did buy another 64K front-port RAM when I was able though, again CMT.) My card-reader RAM port numbers there are 5.00, 5.01, and 5.02. My batteries need changing maybe every year or two, but I have a friend who only has a 32K (I think) front-port RAM in his 71 and his batteries don't last nearly as long. I wonder if your internal module battery is not just dead, but maybe even shorted. It does seem however like the power-down memory-protection circuit should make the AAA batteries' current unable to get to the lithium battery.

There was a company at that time where you could send your 71 and have them install 256K of RAM internally, so it didn't take up *any* of the ports.

A couple of years ago I got to wondering if the old lithium batteries might leak, and if I should take them out. I called up CMT to ask if these batteries were capable of leaking, but there was no longer anyone there who even knew what an HP-71 was. What a shame! They took the stance though that if in doubt, you better remove the batteries. With the scores of files I have stored in there, I'd have to take some time to move things around to remove the modules, take the batteries out of them, and plug them back in with their memory lost, ready to re-load. I never did all of that, but I did open up the card-reader-port module without removing it, and found a little battery with leads. If memory serves me right, it was about the size of a shirt button. It showed no signs of leakage. I just put a sleeve over it and put things back together. Again if memory serves me right, I saw no IC packages in there-- just dice with little blobs of epoxy over them, right on the PC board. In any case, you certainly won't find DIPs or sockets if you have the CMT module.

The brushed aluminum piece around the LCD seems to be grounded internally through a very high resistor value for static-dissipation purposes, but it would be good to verify that before counting on being able to avoid damaging CMOS parts when you probe them by keeping a finger in contact with that aluminum. Does anyone else here know?

Re: HP-71B + 96KB Port 5 == short battery?

*Message #11 Posted by **don wallace** on 2 Sept 2005, 6:13 a.m.,*
in response to message #10 by Garth Wilson

Yeah, ESD protection scheme for sure Garth. Being metal, the face would store a charge.

DW

Re: HP-71B + 96KB Port 5 == short battery?

*Message #12 Posted by **Howard Owen** on 2 Sept 2005, 11:32 a.m.,*

in response to message #10 by Garth Wilson

There's no maker's mark on the outside of the module. Just a serial number. There are two screw holes. One has a very tiny torx head for which I don't have a small enough driver. The other looks into the module showing the side of one chip and part of the PCB. That side is held down with electrician's tape. The two halves of the module case don't mate very well, and you can see the PCB, plus chips on *both* sides.

I suspect that what I have here is a hardware hack that went horribly wrong. 8) ("Horrible" is overstating the case. The RAM works as RAM.)

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accessing the internet on your calc

*Message #1 Posted by **NA** on 19 Aug 2005, 1:10 p.m.*

did you know u can access the internet on your HP49 calc using special software!!!! link to software below.
Navigator 0.08

http://www.hpcalc.org/images/hpcalc1.jpg

Edited: 19 Aug 2005, 1:16 p.m.

Re: accessing the internet on your calc

*Message #2 Posted by **Geir Isene** on 19 Aug 2005, 2:30 p.m.,*
in response to message #1 by NA

Any chance of getting this for the HP-48G?

Re: accessing the internet on your calc

*Message #3 Posted by **NA** on 19 Aug 2005, 5:31 p.m.,*
in response to message #2 by Geir Isene

yes!!use this link.
Navigator 0.07

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HP 49G Memory recover

*Message #1 Posted by **NA** on 19 Aug 2005, 9:34 a.m.*

is there software for the calculator that can recover port memory. http://www.officemart.ru/image/vitrina/uk-hp.jpg

Edited: 19 Aug 2005, 12:19 p.m.

Re: HP 49G Memory recover

*Message #2 Posted by **I, Claudius** on 20 Aug 2005, 5:49 a.m.,*
in response to message #1 by NA

RPN Mode - The command [:2:Home ARCHIVE] will store all your directories with programs, note files, plots, custom keys, etc, securely in in the Flash ROM of Port 2. The command [:2:Home RESTORE] will restore the saved Home setting of the archive.

If you have favorite flag settings, save them as a list. For example, {-117 SF -116 SF} 'Flags' STO. Then after the restore operation, put the Flags file on the stack, then EVAL. The same can be done for the ->KEYTIME command, if you have a favorite setting of that.

Re: HP 49G Memory recover

*Message #3 Posted by **NA** on 26 Aug 2005, 8:51 a.m.,*
in response to message #2 by I, Claudius

in already know that. but i want software for the calc that can recover port memory

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assembly and test of mldl2000 system

*Message #1 Posted by **don wallace** on 18 Aug 2005, 8:37 p.m.*

Hi all.

I wonder if anyone out there wants their MLDL2000 kit put together and tested?

If so, please write to me at:

donwallace63@yahoo.com.au

People can also talk with me by writing to me first and scheduling a internet telephone call via Skype.

Yours faithfully,

Don Wallace mobile Tel: +61432 261 292

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Museum Update Proposal

*Message #1 Posted by **Walter B** on 18 Aug 2005, 8:38 a.m.*

Quite often I find informations about vintage calcs I am looking for in the paragraph "Other". There I read repeatedly:

> Quote:
>
> This page lists calculators that are too new to be considered museum pieces.

This is certainly true for the KinPo models. I leave it for discussion whether they shall be granted access to the museum at all (I see no need). But there was more than metallized and/or coloured plastic earlier, which is not covered yet.

Proposal: Let's describe the last models with our beloved big ENTER key. ...the real thing! And if this will support the strive for new quality calcs showing this key again, also this will be OK for me ;)

On the scientific side, I think of the models 20s, 21s of 1989, 32sii of 1991 and the 48g family (g, gx, g+) starting 1993. Regarding financial ("business") calcs, I've no idea. But I'm confident enough folks in this forum know it by heart.

Nobody can argue we are too nervous (losing our towel), starting a description of these "junior veterans" 16 years after the first appeared. I am willing to help with pictures and/or writing some text, if wanted and within my possibilities.

Of course its up to the curator to decide about an update, the time and way to do it. I just wanted to express my feelings - perhaps some folks share them.

Just my 0,02 Euros.

Re: Museum Update Proposal

*Message #2 Posted by **Gordon Dyer** on 21 Aug 2005, 5:21 a.m.,*
in response to message #1 by Walter B

I agree with you, it would be nice to see the calc list expanded.

Re: Museum Update Proposal

*Message #3 Posted by **Karl Schneider** on 21 Aug 2005, 5:44 a.m.,*
in response to message #1 by Walter B

To summarize it concisely, I would just advocate that a separate section be created to cover the entire Pioneer series. The last ones made, to my knowledge (20S and 32SII), were discontinued in 2002. They are museum pieces now, but certainly much "alive".

Of course, I don't like to stridently recommend additional uncompensated work tasks for the Curator. Perhaps those with something to contribute should sumbit material about Pioneers for inclusion. I recently posted to the Forum a table that categorized the models by class and function.

Several of the models are covered in MoHPC already, but there are 11 Pioneer models in total -- nine originals and two second-generation upgrades. It's a reasonably-formidable task.

-- KS

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For advanced HP41 user

*Message #1 Posted by **Christoph Klug** on 18 Aug 2005, 7:51 a.m.*

Dear HP41 enthusiasts,

If you are working with HP41 and EMU41 and have available one or more powerfully accessories like Zenrom, Zeprom, Hepax, Eramco RAM-Box, W&W RAM-Box, MBK-Profiset, Clonix, NoVRAM or MLDL2000, than the following source would be helpfully for you :

www.hpcc.org / calculators / HP41 / Datafile Articles / HP41 and EMU41 Uploading ROM plug in modules

With best regards from Germany – Christoph Klug

Re: For advanced HP41 user

*Message #2 Posted by **Wilson (Bill) Holes** on 18 Aug 2005, 10:11 a.m.,*
in response to message #1 by Christoph Klug

Excellent job Christoph!! I'm sure many will find your article very useful. Keep up the good work!!

Best Regards, Wilson

Re: For advanced HP41 user

*Message #3 Posted by **don wallace** on 18 Aug 2005, 7:18 p.m.,*
in response to message #2 by Wilson (Bill) Holes

Hi Chris! Hi WIlson.

Excellent article Chris. Will read it in detail when I get more time (applying for an I.T. job with Local Government right now...)

By the way, if anyone wants re programmable ROM modules manufactured I am happy to oblige. Also, can do the programming for those who don't want to buy blank modules and program them.

Just tell me what ROM images you want written into the module.

I am also designing some custom modules for direct serial data link to the PC and for direct multi-channel analogue data logging. Please write to me for more details. If you want to speak with me directly you can schedule a call to me using Skype.

Yours faithfully,

Don Wallace donwallace63@yahoo.com.au

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Your Opinion of 17BII+ Calculator?

*Message #1 Posted by **Jeff** on 17 Aug 2005, 10:42 p.m.*

I did a search but couldn't find anything. My apologies if this has been discussed here before. I was wondering what you thought of the 17BII+.

Many thanks!

Re: Your Opinion of 17BII+ Calculator?

*Message #2 Posted by **Chris Dean** on 18 Aug 2005, 3:16 a.m.,*
in response to message #1 by Jeff

If you only want limited mathematical functionality (log, 10^x, ln,exp,N! and Pi) then it is great. The SOLVE function is a reasonable programming tool providing the user is aware of the L() and G() functions which are undocumented in the Owners manual Edition 1. These allow the user to to store and retrieve variables. The variables need to be registered first. There is a range of other functions that are available to the user IF, MAX, MIN, MOD, IP, FP, SUMMATION etc

There are articles and messages on this site for this calculator illustrating the power of the Solve function and how to use it to improve the mathematical functionality (sin, cos, tan ....).

It is a nice size calculator and has a reasonable 'HP' feel about it.

I found mine to be easier to program than an RPL calculator such as the 49G+ but very limited functionality wise in comparison.

Re: Your Opinion of 17BII+ Calculator?

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 18 Aug 2005, 4:29 a.m.,*
in response to message #1 by Jeff

Hi, Jeff;

I own many HP calculators, and I have some financial models (37E, 38E/C, 12C, Platinum, 14B, 17BII, 19BII, 10BII and recently an HP17BII+). I mainly use scientific models, but when needed, I prefer using either the HP12C or the HP17BII.

I must confess I did not use all features available in the high-end models (HP17BII, HP19BII and HP17BII+), but I tested each example in their manuals. Some features I take as necessary, others are not used that much, but if you need currency conversions, be aware of time and date, set appointments, use a custom set of expression to solve for any arbitrary variable or work with more than one single cash flow data set, then the HP12C cannot follow you. You`ll need something like the HP17BII+.

I must tell you I prefer the HP17BII or the HP19BII for the HP17BII+. Keyboard feel/reliability and layout are determining in this choice of mine.

And to tell you the very truth: if it is algebraic/RPN selectable instead of algebraic-only, I'd go for the HP14B. I like using it, but sometimes I key in one number, press [INPUT], key in the second and press some two-number function keys ([+], [÷], etc) waiting to see the answer... My bad, I know, my bad...

I bought the HP17BII+ in order to know about it and to be able to use it as it is. I just complaint about the right-most, top row key: it fails from time to time. All of the rest is fine so far.

Best regards.

Luiz (Brazil)

Re: Your Opinion of 17BII+ Calculator?

*Message #4 Posted by **hugh steers not logged in** on 18 Aug 2005, 9:58 a.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

its a bit plastic, but if you can get it cheap its not so bad.

http://www.voidware.com/calcs/hp17biiplus.htm

Re: Your Opinion of 17BII+ Calculator?

*Message #5 Posted by **bill platt** on 18 Aug 2005, 4:09 p.m.,*
in response to message #4 by hugh steers not logged in

hugh,

are you aware that you will automatically log in as long as you use your regular password? That way, you can avoid the odd name.

drop me an email if you want.

regards,

Bill

Re: Your Opinion of 17BII+ Calculator?

*Message #6 Posted by **hugh steers** on 19 Aug 2005, 7:50 a.m.,*
in response to message #5 by bill platt

this message means it worked. thanks bill!

Re: Your Opinion of 17BII+ Calculator?

*Message #7 Posted by **Vincent Weber** on 19 Aug 2005, 2:58 p.m.,*
in response to message #1 by Jeff

The HP17BII"+" is a piece of crap.

I will justify this rather bold statement with some hard facts:

First of all, the pastic keys feel so cheap, noisy, and not reliable. Even the most controversial chevron keyboard of the 33S feels better than that !! Second, the SOLVE function is completely messed up compared to the good old 17BII. The first edition did not have the L() and G() most useful functions at all; the second one has them, but forces you to register the variables first for them to work properly, which you never had to

do on good old' 17BII. A good example of KinHPO QA standards. Third, the solver can't even work properly at times - something as simple as L(A:2*x)+G(A)=8 can't even find a root!

Give it a miss, and shop for the good old 17BII on ebay - a wonderful calculator.

Cheers,

Vincent

Re: Your Opinion of 17BII+ Calculator?

*Message #8 Posted by **Jeff** on 24 Aug 2005, 6:43 p.m.,*
in response to message #1 by Jeff

Thanks for your input. I returned it. It has some nice features, but I am going to stick with the despised 12C Platinum. I don't like the size of the 17BII+, and with the case, it's monstrous! There are several useless features, too. And why isn't there a USEFUL conversion tool - distance, speed, size, etc.?

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difficult decision

*Message #1 Posted by **Mark Crispin** on 16 Aug 2005, 12:34 a.m.*

I now have two HP-65 calculators.

One (which I reported on earlier) has had the card reader pinch roller replaced by a previous owner. I also had to open it up, and remove and reinstall the motor; the motor squealed and eventually failed, but a tiny bit of Break-Free CLP completely repaired it. The rear label ("useful conversion factors") is quite obviously pulled back and the pulled back areas no longer adhere. It is now fully functional, including card reader, and cosmetically is about 85% condition.

The other is a virgin. It's newer (s/n 1606A 03xxx vs. 1333A 15xxx) in about 95% cosmetic condition. The rear label is the "user aids", and appears never to have been pulled back. The card reader's pinch roller has defintely turned to goo, but otherwise the calculator is fully functional.

I am trying to decide whether or not to do one or both of the following two restoration steps:

1) I have a replica rear label on order for the fully-functional 85% calculator. It's the newer style "user aids" because the vendor's "useful conversion factors" label has an obvious error ("B" instead of "8"). I would, of course, retain the old label after removal.

2) send the 95% calculator to the nice folks at fixthatcalc for a pinch roller transplant.

Here's where I'm having trouble.

The replica label would be less-authentic. But, as a calculator that is actually being *used* (I fully intend to submit some new programs to the MOHPC), it would be a desirable restoration especially since the old label is vulnerable to further damage.

Then again, replacing the pinch roller isn't fully-authentic either. Perhaps a virgin calculator in 95% condition should be left as a virgin, unsullied by any restoration. As long as the other one works, I have no need for a working card reader in the virgin, and I can always have it changed later.

My original plan was to keep one, and sell the other (with a working card reader). Now, I am tempted to change the label on the non-virgin, leave the virgin untouched, and keep both.

I'd like to hear feedback from other members of the forum.

Re: difficult decision

*Message #2 Posted by **Hewlpac** on 16 Aug 2005, 10:51 a.m.,*
in response to message #1 by Mark Crispin

You have hit the nail on the head...

I think you will be happiest keeping both calculators. One for use and programming and the other for the cosmetically optimal condition. Putting a replica label on for your enjoyment is no issue and you can replace it

with the original should you sell it in the future.

If you want to use your better unit you will need to replace the roller but what do you gain?

difficult decision

*Message #3 Posted by **Ronald** on 16 Aug 2005, 2:33 p.m.,*
in response to message #1 by Mark Crispin

Hi,

I agree: Keep both.

In respect to the replacement label: Personally I have no problem with that label, as long as you keep the original label stored away, so it can be replaced later if needed.

About "FixthatCalc", does anyone knows if they are able to repair without that it shows on the label, I assume you will always note it has been peeled off one time ?

Ronald

Re: Classic labels

*Message #4 Posted by **Randy** on 16 Aug 2005, 8:48 p.m.,*
in response to message #3 by Ronald

It's an aluminum foil. No matter how hard you try, there will be some evidence the corner was peeled. Same corner, different angles:

http://fixthatcalc.com/images/PDRM0098.JPG http://fixthatcalc.com/images/PDRM0099.JPG

Re: difficult decision

*Message #5 Posted by **David Smith** on 16 Aug 2005, 3:22 p.m.,*
in response to message #1 by Mark Crispin

I prefer machines with folds on the original label over replica labels. I would just keep the original label on the calculator.

Don't replace the screws under the label and then reglue the label corners down. I usually remove all traces of the old adhesive with alcohol, then use a rubbery contact cement (made by Elmers). You brush it on the calculator case and the label (make sure it does not pool in the label crease), let dry, then stick the label to the case and rub with a soft cloth. This cement can be easily removed in the future.

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French Spice models

*Message #1 Posted by **Tien** on 15 Aug 2005, 9:49 p.m.*

Hi,

I own the French versions of HP-32E and HP-34C (Spice models). I just wonder if there is some kind of "switch" inside the Spice calculator which allows to change the decimal mark from "," to "."? From a manufacturing point of view, would such a "switch" likely exist so the same hardware could be used to build the US and European versions?

--Tien

Re: French Spice models

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 15 Aug 2005, 11:43 p.m.,*
in response to message #1 by Tien

Hi, Tien;

in fact there is a small jumper that acts like this switch you mention. As you know, the 'E'-series Spices do not have continuous memory as the 'C'-series units have. Each model has a different DC converter: the one in the 'C'-series allows the RAM to be fed while the calculator off.

Some time ago (more than two years) Katie Wasserman added an image to one thread showing that the 'comma-or-dot' jumper was placed in the very DC converter PCB. I`m adding an image of mine (scanned) showing the jumper as it's seen in one of the DC-converter PCB's, but I do not remember which one is it: a 'C'-series or an 'E'-series Spice.

http://www.logeng.com.br/images/comma_jumper.jpg

I also do not remember if having it closed means dot as radix mark or the opposite; please, forgive me.

I think that adding a small dip-switch (or smthng like it) that could be accessed through a small cut in the back of the calculator would actually do the job of easily switching from one mode to the other.

Thanks to Katie for showing the path...

Cheers.

Luiz (Brazil)

Re: French Spice models

*Message #3 Posted by **Tien** on 16 Aug 2005, 12:20 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Thanks Luiz!! That's very helpful information. I will definitely check out these comma-or-dot jumpers.

But I won't cut their backs for sure :-) :-). They mean a lot to me ... We went through the French high school together before I took them with me to the US.

--Tien

Re: French Spice models

*Message #4 Posted by **Gerson W. Barbosa** on 16 Aug 2005, 8:16 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Hi Luiz,

Nice picture. Now if I ever get one of these, I know where the jumper is. It seems, however, that Tony Duell was the first one to mention the jumper here. I found this old thread last week, when looking for exactly that kind of information:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv006.cgi?read=10251

Cheers,

Gerson.

Re: French Spice models

*Message #5 Posted by **Vieira, Luiz C. (from Brazil)** on 16 Aug 2005, 9:44 p.m.,*
in response to message #4 by Gerson W. Barbosa

Hello, Gerson; thanks for the link (and the motivation 8^)

I am not so sure, but I remember that Katie mentioned the Spices jumper about the same period in time. She also added a picture as well, but I could not find it (I know it is here somewhere...)

Best regards and thanks again.

Luiz (Brasil... as it is in Portuguese, with ´s´)

Re: French Spice models

*Message #6 Posted by **Tien** on 16 Aug 2005, 9:56 p.m.,*
in response to message #4 by Gerson W. Barbosa

Luiz and Gerson: many thanks again for the info!!

--Tien

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HP-35 display problems

*Message #1 Posted by **Robin F.** on 15 Aug 2005, 2:56 p.m.*

I have an HP-35 with a bad display: it only shows one digit on two of its segments, like this:

```
5     5
3     3
8     8
```

etc. When I input a long number, the display becomes brighter and brighter, and the numbers blur into an '8'. My guess is that the cathode driver is broken, and keeps on enabling these two digits instead of cycling through the display. Is it likely that this is indeed the cause, or could it also be caused by a bad connection somewhere?

HP-35 display problems

*Message #2 Posted by **Bernhard** on 15 Aug 2005, 6:06 p.m.,*
in response to message #1 by Robin F.

If you have an oscilloscope, look at pin 14 of the main PCB whether the signal is OK (pin 1 is on the right side when looking into an opened calc), this is the START of the display cycle. The STEP comes from the anode driver IC (1818-1029) pin 6 and goes to cathode driver pin 9. This should allow to find the causation either in the anode driver, cathode driver, contact spokes or the ARC chip. If you happen to have a HP45, too, you might swap PCBs - they are compatible.

regards, Bernhard

Re: HP-35 display problems

*Message #3 Posted by **David Smith** on 16 Aug 2005, 3:25 p.m.,*
in response to message #1 by Robin F.

I have seen the caused by old (often invisible) solder flux residue. Clean the keyboard traces around the display (and mayby the CPU card) very well with 91%+ isopropyl alcohol.

Re: HP-35 display problems

*Message #4 Posted by **Robin F.** on 17 Aug 2005, 6:44 a.m.,*
in response to message #3 by David Smith

I've already cleaned out a lot of green junk (copper oxide?) that was all over the inside of the calculator, maybe that's the problem. I'll try to clean some more, but what exactly do you mean by "keyboard traces"? You mean the traces on the keyboard PCB?

I don't have an oscilloscope, but by using a small loudspeaker with a 5 kOhm resistor I found out that the RCD signal is present, but I heard no "Step" signal (the one from the anode driver to its neigbour). Is it likely that the anode driver breaks in this way, or do you think something else is wrong? If it's just the Step signal, would it be possible to replace it by dividing the system clock or something like that?

Re: HP-35 display problems

*Message #5 Posted by **David Smith** on 17 Aug 2005, 4:13 p.m.,*
in response to message #4 by Robin F.

I would clean everything in sight. Most of the problems seem to occur around the IC and display chips, but the keyboard is scanned by the display signals. Problems can and do occur in the traces to the keyboard matrix. If you have access to an ultrasonic cleaner, you can try cleaning the circuit boards with it.

Re: HP-35 display problems

*Message #6 Posted by **Tony Duell** on 18 Aug 2005, 7:49 a.m.,*
in response to message #5 by David Smith

I thought that on the classics, the keyboard was scanned by the Control and Timing chip on the logic board, whereas the display was scanned by the cathode driver.

ACT-based machines (Woodstocks, Topcats, etc) use the cathode driver to scan both the keyboard and display, but I didn't think classics did.

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SOLVE on 15C

*Message #1 Posted by **John** on 15 Aug 2005, 11:20 a.m.*

How does one use the SOLVE function on the 15C? I have misplaced my copy of the manual and would like to figure this one out.

- John

Re: SOLVE on 15C

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 15 Aug 2005, 12:50 p.m.,*
in response to message #1 by John

Hi, John;

first of all, you should express the expression to be solved in terms of a program, with a unique label in memory and a RTN as its last step (no [R/S] because it would stop SOLVE execution after a first scan, as well). The RTN is not necessary if the program is the last program (or the only one) in memory.

Consider that your program uses the stack information as the estimative for your reference variable, the one that the expression must be solved for. The SOLVE internal routine samples your program with the given estimates, so it leaves the a copy of the estimated value in all of the four stack registers, as an aid to help writing your program. Like this: solve the following equation for x.

```
y=x^3-2×LN(ABS(x)+1)
```

A possible program that represents this expression could be:

```
f LBL 0
  3
  y^x
  x<>y (x xchange y)
g ABS
  1
  +
g LN
  2
  ×
  -
g RTN
```

As you can see, we consider that a copy of the estimated x is available in all of the four stack registers.

After loading this program, enter two initial guesses (separated by [ENTER]) where the program should start searching for a root and press

```
f SOLVE 0
```

The [0] after f [SOLVE] means the SOLVE routine will search for a LBL 0 and sample it till it returns a zero.

If the root is not in the range you suggest, chances are that the SOLVE routine finds it anyway.

Hope this helps for now. If you need further advice, let us know.

Best regards and success.

Luiz (Brazil)

Edited: 15 Aug 2005, 12:52 p.m.

Gnarly problem, Luiz! [SOLVE on 15C]

*Message #3 Posted by **Karl Schneider** on 18 Aug 2005, 1:50 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Hello, Luiz --

Your example for John was actually a tough equation to solve, and especially for the HP-15C! Was that intentional? He might be disappointed in the performance of his fine HP calculator...

```
y=x^3-2×LN(ABS(x)+1)
```

This equation has solutions for y = 0 at x = 0 and x = 1.153299. There is a local minimum of y = -0.727258 at x = 0.637971. The solution at x = 0 is also a local maximum.

However, the solution at x = 0 is difficult for the HP Solve routine to obtain, because of the characteristics of equation's absolute value and natural logarithm functions at or near that point.

The slope dy/dx of the equation is

$3x^2$ - 2/(x+1) for x > 0
$3x^2$ - 2/(x-1) for x < 0

So, the slope is +2.00 for x = 0-, and -2.00 for x = 0+, and not defined at x = 0.

The 15C could obtain the solution at x = 1.153299 with certain choices of first guesses (including -0.1 and +0.1), but unsuccessfully tried to "home in" on x = 0 for first guesses near, but straddling 0. "Error 8" (NO ROOT FOUND) would result for some other choices.

The HP-32S and HP-32SII did better at obtaining the root at 0, but also tended to find the other root.

-- KS

Edited: 18 Aug 2005, 2:04 a.m.

Re: Gnarly problem, Luiz! [SOLVE on 15C]

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 18 Aug 2005, 4:42 a.m.,*
in response to message #3 by Karl Schneider

Hi, Karl;

thank you for your comments. You`re right about the equation, but I did not mean to show such a 'darn' example... I actually did not take much care about the equation behavior, though.

I thought about an example were programming skills would be needed and I wrote the expression solely based on programming. I added 'ABS' and '+1' to avoid forbiden conditions, but I was aware of poles as I used 'x^3' and 'LN'.

After writing and loading the program from the equation, I ran it twice, first with x=1 and then with

x=2. As the y values returned with reversed signal, I ran the SOLVE with 1 and 2 as initial estimates. After a few seconds, the 1.1533 was shown in the display.

I was waiting for John's comments and feedback so I'd explain why I used such example. Now I see that I could use a better, more reasonable (and perhaps more generous) one. Anyway, now that you added such detailed analisys, I think my 'not so good' choice served with another purpose, instead.

Thanks, Karl. I myself added some of your considerations to my own after reading your post. I understood and, in fact, am aware of them, I actualy was lazy enough not going ahead as you've gone. My bad...

Best regards.

Luiz (Brazil)

Re: Gnarly problem, Luiz! [SOLVE on 15C]

*Message #5 Posted by **Karl Schneider** on 20 Aug 2005, 5:14 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Luiz --

Yes, indeed, your problem was (unintentionally?) revealing about the behavior of HP Solve on several RPN calc's. I'll try it on an RPL model or two.

The solution at x=0 lies in the "crook of a roofpeak", and the 15C/32S/32SII tend to approach the solution asymptotically, in ever-smaller increments, if they don't give up first. Solutions are readily obtained if a positive offset is added to the equation (say, 0.2). Then there are three solutions for the equation.

BTW, have you tried out my updated AC Power Transfer program in the MoHPC Software Library for the 32/33 models? It may be the finest power engineering program ever written for those platforms. (Of course, it's not a real powerflow solver, such as you wrote for the 42S.)

-- KS

AC Power Transfer [after "Gnarly problem, Luiz!", from "SOLVE on 15C"]

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 20 Aug 2005, 11:16 p.m.,*
in response to message #5 by Karl Schneider

Hi, Karl;

you wrote:

> Quote:
>
> Yes, indeed, your problem was (unintentionally?) revealing about the behavior of HP Solve on several RPN calc's.

You bet I did not intend to! d8^)

Now for the oter facts: thanks for telling me about the AC Power Transfer with the HP32/33. I

have not been visiting the library for a while, now I have a good reason to go there. About the HP42S, you brought to my mind that I still need to correct the output of my Load Flow program for the HP42S. Now that I have a 32K RAM HP42S, I'm gonna test it with a large array... I remember solving a 10-line power array with the original 8K RAM HP42S and it computed the output array correctly, just failled to show it. The original version was 510 steps long, and as soon as I have it working properly I`m posting about it.

I still have the 144-step partial listing of a first version writen for the HP41CX (could only build the Y-bus). As I bought the HP42S at that time, I ported the program and used the HP42S complex- and matrix-handling resources to go ahead with less subroutines and program steps. I wonder if it would have been possible to do what I wanted to in the HP41CX; I mean, if it would be possible to perform all necessary operations to compute the final current array with the HP41CX... I guess so!

Best regards and thanks again, Karl.

Luiz (Brazil)

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When will HP make a good calculator again

*Message #1 Posted by **John** on 15 Aug 2005, 9:53 a.m.*

I was shopping for a calculator for my daughter this morning and I cam across a calculator that had a brushed metal face on it, a nice heavy feel to it, nice sturdy buttons, and overall, it was a quality looking unit. I was glad to see it. The only problem, it wasn't an HP. It was a TI BA-II Plus Pro.

When is HP going to wake up and make the quality units they used to?

- John

Re: When will HP make a good calculator again

*Message #2 Posted by **Namir** on 15 Aug 2005, 10:11 a.m.,*
in response to message #1 by John

No! HP has no financial interest in putting so much resources to restore the old HP glory in calculators. That glory is history now.

Re: When will HP make a good calculator again

*Message #3 Posted by **Ron Ross** on 15 Aug 2005, 10:43 a.m.,*
in response to message #1 by John

Hp isn't going to make a quality calculator like the Hp15c or Pioneer line again, because the majority of engineers won't buy it. Look at the Hp12c (the new one, that lists for $65-). Add $20 to that cost for an Hp15c (different manual and startup costs, keys etc and market strength). So Hp could market an Hp 15c for $85. vs Hp presently sells the Hp33s for $50. Which would you buy as an engineer (99% of us are Cheap Ba#$%^'s!). The quality of the two would be the same (ie chinese Hp 12c is comparable to the Hp33s). Both are compariable to the quality of the BA-II Plus (I suspect a bit less, but I can't complain about the keyboard quality on my Hp33s, but the decimal point warrents someone getting a butt kicking!, though this has been improved in the most recent releases).

If you really needed the extra math features of the Hp15c, your money would be better spent on a graphics, and if you don't need the matrix features or complex math, the Hp33s is certainly more capable and easy to use for run of the mill programming and customization (AND its only about HALF the cost!!!). And don't underestimate the power of marketing (vs reality), 32K RAM vs a meager 0.4K (I am sure they could add more, but anything less that 32K would lose in the marketing snow job that would be shown on the box).

The simple truth is the market is flooded with $10-20 scientifics that are fairly capable for most people. RPN commands a premium, but that too is a very small market for Hp to exploit.

I would have loved to see a return of the Hp20s with an RPN selection option and priced at $30. But that would probably eat into the sales of the new Hp33s and take $20 (Hp33s at $50 and no better made than the Hp20s) of pure profit from Hp's (and nobody else's) pocket. As far as price vs quality, nothing really beat the Hp20s at $30. It was an algebraic only calculator though and not all that feature packed either. But it was a decent scientific, made with Hp quality. It was also an AOS vs the new idiot proof EOS system that is

provided with all newer calculators (ie there are some exceptions, notiably the cheapest Sharps and some other low end calculators). I actually prefer the AOS over the newer EOS as you can save some keystrokes, but a moot point in most cases.

Ah well, I will end another rant.

Re: When will HP make a good calculator again

*Message #4 Posted by **John** on 15 Aug 2005, 11:00 a.m.,*
in response to message #3 by Ron Ross

Ron,

Actually, I already have a 15C, a 48GX, 16C, etc, so I have good calculators, but I just wish HP would get their but in gear. I was shocked when I saw the TI with the metal face and the solid build. All very simple things to do. I just don't get why they don't do the same with the current models.

As far as the 33S, I'd never buy one because of the keyboard layout.

- John

Only When...

*Message #5 Posted by **I, Claudius** on 15 Aug 2005, 6:53 p.m.,*
in response to message #1 by John

HP will never produce any decent calcs again until they stop outsourcing their engineering to the cheapest offshore firm (Kinpo) and bring R&D back under the HP umbrella. HP needs to make a firm commitment by forming a USA based calculator division staffed with the best and brightest. Only when this happens, which is probably just a pipe dream...

Re: Only When...

*Message #6 Posted by **Namir** on 15 Aug 2005, 7:55 p.m.,*
in response to message #5 by I, Claudius

I agree with you .. especially about the pipedream part ... **so the folks who want to bring the HP-15C back should stop dreaming ... whip up your wallets and start ordering expensive HP-15C from eBay if you really mean it!!!**

Re: When will HP make a good calculator again

*Message #7 Posted by **Bill Wiese** on 15 Aug 2005, 11:52 p.m.,*
in response to message #1 by John

HP will never make a good calc again - except by accident.

They're essentially order agents for customized Kinpos. The HP calc staff are marketing folks with a bit of consumer electronics background. Fred Valdez and that Goh chick are not math or engineering people. They're probably quite puzzled, in fact, at our fascination with older calcs, don't understand why we love real true 4-level RPN (as opposed to that multilevel crap on HP48s), etc.

Kinpo, in turn, is yet-another-schlocky-Asian company. They have no brand identity or reputation to maintain or build upon. They live from one contract to the next, and I suspect they throw their own name on production overruns for other co's.

I wonder about the accuracy of their transcendentals, how they do rounding, etc. No Kahans in Taiwan, and no one takes the time to do things right.

HP calc div can now barely spec a decent calculator, let alone validate its correct/ proper operation (a la HP12C-Platinum bugs, etc.) - so how could they *design* one??

HP calc build quality has gone way down but may burble upwards just by sheer luck (I like the new HP10BII) - and it's a nice design. Wish they'd take that pacakge, put an RPN prog calc on it with a large ENTER key, and I'd buy 10 of 'em.

All the HP calc brains have gone. They probably can't even find source code or algorithm documentation or architecture manuals for any of their earlier calcs. And since Nut, Yorke, etc chips aren't made now they wouldn't even comprehend doing emulation of an old calc and would try to write code from scratch, introducing even more bugs since QC staff/procedures so trimmed-down. (A Sunplus 65C02 platform could emulate a 41CX quite nicely.)

Wouldn't be surprised if HP stopped making calcs. It's such a small line item it wouldn't even be noticed in their budget...

Bill Wiese
San Jose, CA

Re: When will HP make a good calculator again

*Message #8 Posted by **I, Claudius** on 16 Aug 2005, 7:26 a.m.,*
in response to message #7 by Bill Wiese

That "multilevel crap on HP48s" is one of the things that made the 48 series so good as it was similar to a pc. Could you imagine a pc math program, such as Mathematica, without a multilevel history?

The rest of your comment is dead on. All the good heads have long been let go. I'm sure all programming/manufacturing procedures have been lost as well. Heck, Kinpo couldn't even get HP to find manuals for the old calcs! Remember when Dave Hicks had to send copies of the old manuals to them?

It really does make one wonder, who is charge of the (modern-day) HP calculator I'm using? If no one is employed that is truly capable of programming it, how accurate are its results? How can I trust it for anything? Jeez, I might as well use a TI, sigh...

Re: When will HP make a good calculator again

*Message #9 Posted by **Mark Crispin** on 16 Aug 2005, 12:04 p.m.,*
in response to message #8 by I, Claudius

In my humble opinion...

We should address some of our concerns and desires to Kinpo, not to HP. Two things that can be said about "schlocky Asian companies": they pay attention (especially to matters which others ignore) and they learn from their mistakes.

On such matters they can be relentless. Yes, they are price-conscious, but quality also means something to them. Asians like to win on both price and quality.

Some of us are old enough to remember when "Made in Japan" was considered a mark of junk rather than of best-quality.

A generation ago, the best thing that you could say about a Toyota Corolla is that "it's a Chevy II, too bad Chevrolet doesn't make them any more." Nonetheless, people who wanted to buy a Chevy II bought a Corolla; and presently came to decide that a Corolla was a pretty good Chevy II. A damn good Chevy II.

Today, nobody thinks of a Toyota as the car you had to settle for instead of a Chevy.

This doesn't mean that Kinpo will listen to us and 6 months later come back with our dream machine. It'll take time, and there'll be ruts in the road along the way.

And let's face it. We know the type of product that we want. It doesn't matter if the label says HP or Kinpo. Since HP wants to market the cheap stuff, they wouldn't mind if Kinpo came out with its own line in the US. Who knows, maybe in 10 years we'll talk about Kinpos as being "the good stuff that HP used to make" or even "what HP would have made if they hadn't stopped making the good stuff."

Re: When will HP make a good calculator again

*Message #10 Posted by **Namir** on 16 Aug 2005, 12:40 p.m.,*
in response to message #9 by Mark Crispin

Okaaaaaaayyyy! Who will contact Kinpo????

Re: When will HP make a good calculator again

*Message #11 Posted by **Mark Crispin** on 16 Aug 2005, 2:00 p.m.,*
in response to message #10 by Namir

I'd be happy with a new model HP-35. To my mind, the HP-35 achieved perfection. There really needs to be a non-spacecadet RPN scientific calculator with HP-35 style standard display.

There's no rhyme nor reason to the layout on the HP-33s, and that chevron is ridiculous. The layout on the HP-30s is better, but its algebraic.

Re: When will HP make a good calculator again

*Message #12 Posted by **Bernhard** on 16 Aug 2005, 5:09 p.m.,*
in response to message #11 by Mark Crispin

I think the HP35 is a very fine calc, but it misses the engineering display format. And some simple form of programmability, just to allow for quick evaluation of functions, with maybe some simple conditional jumps, but nothing for which I'd need a manual, such as the ISG or DSG, or fancy indirect addressing. I don't need this on a calc, and if needed, I'd use a notebook computer and a real compiler instead. And it should have a good LCD display and good keyboard and need no battery (use solar cells). EEPROM technology would allow to keep programs stored even in darkness.

I think it even might be possible to achieve this with some of the larger japanese 4-bit microcontrollers they use in watches. If using a watch chip is not possible, and lowest possible power consumption is desired, a full custom chip needs to be done, but for an old and simple architecture like Classic or Woodstock this may use up only a man-year or so, if the designers do know all the secret tricks of the micropower guild. All this may be well within the reach of a smaller enterprise - and if they really want to do it, I think they still could find the brains who are able to it.

But somehow it did not happen yet - most likely, they don't see a profitable market. Otherwise, we could buy such calculators already.

Probably they did not forget the lesson from the 1970s when making calculators turned from a cash cow into a cutthroat business. The long and winding road of calculator history is littered with bankrupt and defunct companies that made them. I do always wonder how HP's calculator divison did survive these rough waters. There must have been some magic in their calcs. We all pretend to know that feeling - else we would not collect those calcs - but do we really know what it was ? Are we able to distill the essence of the special HP calculator feeling from our memories and calculator collections and will there be some daring entrepreneur who succeeds to put this essence, this soul into a new machine, so as to bring the feeling back ?

Then we would take such a new calc, admire its finish and quality manufacture, press some keys - aha - and if the magic is there, we will happily open our wallets and buy them. But if the magic is not there, and the feeling is missing, the project will be a certain failure. No good news for our daring entrepreneur - he might lose all the money he invested.

And we will wait forever for a good calculator.

Maybe the more viable road would be to set up a non-profit foundation which collects donations but guarantees nothing except that when enough money has been collected, a truly professional attempt will be done to design and build a few prototypes. Then, if this succeeds, and the prototypes happen to have that magic, starts to take prepaid orders and when a reasonable minimum lot size is together, have them manufactured and distributed.

Much like a lottery in which the player might win a damn good calculator, unavailable on the open market. What a thrill !

And also the acid test for the real - world feasibility of the business model - do those who now pretend to want good calculators back really dare to risk some $50 or $100 on such a venture ? If not, we could not reasonably expect some daring entrepreneur stand up and put his own money at risk.

Which is the current situation !

Re: When will HP make a good calculator again

*Message #13 Posted by **Howard Owen** on 16 Aug 2005, 3:26 p.m.,*
in response to message #9 by Mark Crispin

> Quote:
>
> On such matters they can be relentless. Yes, they are price-conscious, but quality also means something to them. Asians like to win on both price and quality.

I don't know about the generalization, but if you look at what Kinpo has up on its website, it's hard to avoid the conclusion that the models they make for HP represent their highest quality effort. Or at least those closest to what this group would define as "quality."

How much leverage do we have with a global company like Kinpo? How large a percentage of the overall calculator market do we represent? Is the (fast disappearing) cachet of the old HP prestige enouh to overcome our lack of market weight? I don't think so.

Guitars are mass produced, both in Asia and the United States. (Perhaps in Europe too?) The Asian versions used to be trash. But around the same time Japan set out to seriously conquer the North American automobile market, they also seriously attempted to make decent guitars. In one year, 1980, they bought nearly all of the world supply of straight-grained spruce suitable for acoustic guitar tops. In that year, Martin, then a premier American guitar maker, came out with the D25-K2, with top and body made out of Koa, a Hawaiian wood normally used for ukeleles. (I have one. Sweet instrument.) The Japanese crop that year, from Yamaha and Takamini were of good to excellent quality. Subsequent years saw the guitar market, both for electrc and acoustic instruments, tend toward two extremes. The mass produced instruments were of better quality, and could be priced so as to grow the size of the target market. They were not of the quality demanded by discriminating musicians, but those folks represented a small part of the market - numerically. In monetary terms though, a small fraction of *that* fraction had more weight, of course. And successful professionals simply weren't going to use inferior instruments in their careers. So at the other extreme, you saw the growth of hand made guitars by expert luthiers charging astronomical prices. The instruments they produced were and are reportedly of exceptional quality. I wouldn't know, not being able to afford one.

The point is, if we, as an elite group that understands what exactly it takes to make an excellent calculator, are willing to pay the frieght, then there is room for one or more "boutique" vendors of excellent calculators. I see also where several folks have had the idea of producing a community designed and built machine, presumably with donated talent and money. That might work, but there seems to be a lot of negativity hearabouts toward those efforts. I don't know any of the history, so please forgive my ignorant blundering if I'm stirring a pot in the wrong direction.

My final point is that it is useless to bemoan the decline of a company like HP. Without the willingness and capacity to fight corporate battles on a global scale, you don't have a chance of changing the behavior you object to. The way forward, it seems to me, is to take your desire for better quality to a new venue, like a community effort, or a boutique startup, or else move on to something else. There are still plenty of areas in this world that could use and would not scorn a fine sensibility of craftsmanship and quality.

Re: When will HP make a good calculator again

*Message #14 Posted by **Mark Crispin** on 16 Aug 2005, 6:25 p.m.,*
in response to message #13 by Howard Owen

> Quote:
>
> How much leverage do we have with a global company like Kinpo? How large a percentage of the overall calculator market do we represent? Is the (fast disappearing) cachet of the old HP prestige enouh to overcome our lack of market weight? I don't think so.

Wrong approach. We're not talking about reviving the old HP prestige; we're talking about a currently-unsatisfied market for a line of high-quality calculators. Concidentally, that market was once served by HP.

Put another way; we'd not be asking Kinpo to resume the production line on old HP calculators. We're asking Kinpo to produce new calculators that happen to share charactistics with the old HP calculators.

Re: When will HP make a good calculator again

*Message #15 Posted by **Bill Wiese** on 16 Aug 2005, 3:38 p.m.,*
in response to message #9 by Mark Crispin

> Quote:
>
> We should address some of our concerns and desires to Kinpo, not to HP. Two things that can be said about "schlocky Asian companies": they pay attention (especially to matters which others ignore) and they learn from their mistakes.

Maybe Japanese companies. But given Red China + HK (and to some extent Taiwan's) make-the-price-number at any cost, I've not seen good stuff come out from there.

The Chinese products offer a function, while Japanese products offer a quality end-result. Compare a Chinese vs Japanese stereo or digital camera - in general, the Japanese product is not only known for build quality but for quality output (images and sound).

> Quote:
>
> Today, nobody thinks of a Toyota as the car you had to settle for instead of a Chevy.

I do. Of course, Chevy's not making the Caprice V8 anymore - too bad, the idiotic soccer moms won.

There's not a single Toyota I'd want, including their pickup trucks. If I were given one, I'd sell it - and buy a Ford.

Some of us simply won't accept low-torque, front-wheel drive tin boxes designed for midgets.

> Quote:
>
> This doesn't mean that Kinpo will listen to us and 6 months later come back with our dream machine. It'll take time, and there'll be ruts in the road along the way.

Kinpo doesn't care what we think. We are never their customer. They're an OEM house. Kinpo's customers are HP and maybe TI and Casio.

This is much like the cellphone biz. Oftentimes we can't get phones w/features we want because Motorola, Nokia, etc. all sell into the carrier channel and only fraction of market is direct-to-consumer sales. So phones take on the characteristics that the marketing folks at cell carriers want, and there is less consumer pressure because folks are locked into contracts, averse to changing carriers, etc - that is, phone features are somewhat decouples from marketplace and phone vendor is isolated from end-user.

Bill Wiese
San Jose, CA USA

OT: cars!

*Message #16 Posted by **bill platt** on 16 Aug 2005, 5:52 p.m.,*
in response to message #15 by Bill Wiese

Hey Bill,

I think you are taking a flyer on the Toyota thing. Seriously, Fords have really poor

maintenance records compared to Toyotas. I know--I use them both--the fords have bad transmissions. The toyotas are more expensive, but have far more reliable transmissions.

Of course the Fords today are much better than 10 years ago--and have narrowed tha gap that was so extreme in the 80's.

I would say that the european ford (the focus) is superior to the domestic (contour, taurus). There was one bad year though. And the focus costs less than the Toyota and offers a better small wagaon platform. I may get one.

For GM, the small cars are nowhere near as good as the Toyotas--they are noisy, mushy, schlocky over-designerd fashionmobiles. Yet a Oldsmobile 88 (or the Buick equivb.) with 3.8 liter V-6 is a reliable battle wagon with superbe quality for the price. And at 22 mpg around town for a full-size car, is phenomenally efficient. And has leather and all that jazz. Perhapts the best total value in automobile today.

So I guess you really have to look at the details--or the specific offerings.

Re: OT: cars!

*Message #17 Posted by **Bill Wiese** on 17 Aug 2005, 7:46 a.m.,*
in response to message #16 by bill platt

> Quote:
>
> Hey Bill, I think you are taking a flyer on the Toyota thing. Seriously, Fords have really poor maintenance records compared to Toyotas. I know--I use them both--the fords have bad transmissions. The toyotas are more expensive, but have far more reliable transmissions.
>
> Of course the Fords today are much better than 10 years ago....

Well my comparison set is small simply because I will not purchase a front-wheel drive car. (In fact, they should be firebombed ;-)

Front wheel drive cars are good occasionally for soccer moms in wet weather, but the prime motivation for their being sold is that it takes 10-12 minutes less vehicle assembly time. (About 7 years ago, I toured the NUMMI plant in Fremont, CA - it produced small Toyota pickups and the Geo Prizm, which was really a Corolla. It took 10+ min less to build the more complex, option-laden Corolla than it did to build a strippy truck since the powertrain could be dropped in at once w/front wheel drive setup.)

So now I am limited to the cars I can buy even in US: Crown Victoria/LTD (cop car), Mustang, Vette, pickup/SUV. A coupla years ago I could've still gotten a Camaro or Caprice (cop car).

I care little about JD Power ratings. Those essentially equate minor issues (doorknob failure, say) with major ones (engine stops running) and just go by count.

I've owned new Fords since 1989 (trucks, and a Thunderbird) and one GMC truck. Never had problems other than a (Japanese) fuel pump. When you buy rear-wheel drive you get a real transmission, and if it has problems it's much easier/cheaper to work on than a front-wheel drive.

Toyota's now making almost-full-sized trucks. They're having quite a few engine problems w/that "I-force V8".

Glad I have a new F150. Next year or so I might get a Crown Victoria.

Bill Wiese
San Jose, CA USA

Re: OT: cars!

*Message #18 Posted by **HrastProgrammer** on 17 Aug 2005, 10:45 a.m.,*
in response to message #17 by Bill Wiese

Hi Bill & Bill,

How are you?

If there is a thing I reeeeeeaaaaaally like about America then this is a pickup :-)

I bought a brand new Nissan Pick-Up Navara Double-Cab, 133HP, 2.5 liters, turbo-diesel (I think it is called Frontier in USA) 3 years ago and I cannot describe the enjoyment of driving a big rear-drive truck compared to the regular car. Of course, there is some electronics inside the engine (unfortunatelly, you cannot buy a car without electronic engine management these days) but everything else is a pure mechanic including transmission (2H, 4H and 4L modes with limited-slip differential on the rear axle) and as primitive as you can expect from the 4x4 vehicle (more than 20 years old technology).

Other pickups you can buy here are Mitsubishi L200 (115 HP) and Mazda B2500 (109 HP). I don't know if Toyota HiLux is available. The only non-japanese truck is Ford Ranger (perhaps this is a F150 variant for Europe) but it comes, in fact, with an 109HP engine from Mazda B2500.

Best regards.

Re: OT: cars!

*Message #19 Posted by **Bill Wiese** on 17 Aug 2005, 8:01 p.m.,*
in response to message #18 by HrastProgrammer

Quote:

Hrastprogrammer wrote: If there is a thing I reeeeeeaaaaaally like about America then this is a pickup :-)

I bought a brand new Nissan Pick-Up Navara Double-Cab, 133HP, 2.5 liters, turbo-diesel (I think it is called Frontier in USA) 3 years ago and I cannot describe the enjoyment of driving a big rear-drive truck compared to the regular car. Of course, there is some electronics inside the engine (unfortunatelly, you cannot buy a car without electronic engine management these days) but everything else is a pure mechanic including transmission (2H, 4H and 4L modes with limited-slip differential on the rear axle) and as primitive as you can expect from the 4x4 vehicle (more than 20 years old technology).

> Other pickups you can buy here are Mitsubishi L200 (115 HP) and Mazda B2500 (109 HP). I don't know if Toyota HiLux is available. The only non-japanese truck is Ford Ranger (perhaps this is a F150 variant for Europe) but it comes, in fact, with an 109HP engine from Mazda B2500.

Hi, Hrast...

Congrats on your truck. Yes, they are called Nissan Frontiers here and have a pretty good reputation.

A decade ago I used to do 'power chips' for many cars, Nissan included. Their engine control units at the time were by a div. of Hitachi and used HD6303 CPUs (glorified 6800 variant) w/special external timing controller chip. Later, as I got out of that racket they were switching to a MELPS CPU (Mitsubishi 65C02 variants). Good chance they've switched to Hitachi H8s now.

The Mazda trucks are re-wrapped/re-badged Ford Rangers. The 105hp variant I believe is a 2.4L 4 cyl but not sure. Lotsa folks buy these trucks in US with 3.0L or 4.0L V6 engines.

These Nissan Frontier, Ford Ranger, Toyota pickup (we don't call 'em HiLux here, that's a non-US designation) are all considered small trucks in USA. The F150 is a full-size truck, and GMC and Chrysler (Daimler) also have rough equivalents in size, horsepower, tow capacity. Some of these trucks have V6 engines in 200HP range - my last GMC truck, in 2000, had a 4.3L Vortec V6 which was a solid engine, great lifespan, zero maintenance other than oil changes. My current 2004 F150 has a tried & true 4.6L V8 with around 240HP, and automatic. Large portion of trucks here ship w/automatic trans - esp as these days an auto tranny can shift as well as 90% of the population and no longer requires manifold vacuum to perform shifts.

You prob won't see too many F150s or GMC Sierras in Europe due to gas costs/taxes. They're a bit slow here too since gas has spiked to $2.75/gallon, but that's likely to drop back to $2.20 in a month or so. I get 20 miles/gallon on level freeway when no stop & go traffic.

I like my F150 because it has 2 regular doors and 2 smaller 'suicide' front facing doors to let you get at cargo behind the seat (there's around 18" of space there at bottom). I put a cross-bed toolbox on my bed and I now have more storage space, combined w/rear space back of seats, than most cars have.

I like trucks because I'm over 6'5" tall (that's 196+ cm) and I fit nicely. And, being rear-wheel drive, they're easy to fix.

Plus, this is America. You can put a gun rack on your truck - which'd be kinda silly on a Honda ;)

Bill Wiese
San Jose, CA USA

FWD/RWD [OT: cars!]

*Message #20 Posted by **Karl Schneider** on 18 Aug 2005, 2:53 a.m.,*

in response to message #17 by Bill Wiese

Bill, I don't like to drag out admittedly off-topic discussions, but several statements I couldn't let pass without rebuttal...

> Quote:
>
> Well my comparison set is small simply because I will not purchase a front-wheel drive car. (In fact, they should be firebombed ;-)
>
> Front wheel drive cars are good occasionally for soccer moms in wet weather, but the prime motivation for their being sold is that it takes 10-12 minutes less vehicle assembly time.

Huh?? FWD is ideally suited for compact cars without excessive power. A transverse-mounted in-line 4 or V-6 engine and one-piece transaxle (differential/transmission/axle) aligned with the front wheels provides a light and compact arrangement. Weight over the driving wheels, and no space-encroaching driveshaft well.

Of course, RWD is needed for carrying or towing heavy payloads (remember the low-powered, FWD Volkswagen Rabbit pickup of the 1970s?), and RWD (or especially AWD) is best for powerful cars.

I have two German cars from the 1980's -- one FWD and one RWD with limited-slip differential. The FWD car is surer-footed and much better-behaved on wet or slippery roads, even taking its newer all-season tires into account.

> Quote:
>
> When you buy rear-wheel drive you get a real transmission,

What does that mean -- higher torque and power ratings? That would be meaningful only if the vehicle has and needs the power...

> Quote:
>
> and if it has problems it's much easier/cheaper to work on than a front-wheel drive.

That would depend on the manufacturer and type of vehicle. There ain't nothin' cheap or easy about advanced performance cars from Porsche, BMW, Mercedes-Benz, Ferrari ...

-- KS

Edited: 18 Aug 2005, 3:03 a.m.

Re: FWD/RWD [OT: cars!]

*Message #21 Posted by **Bill Wiese** on 18 Aug 2005, 8:29 a.m.,*
in response to message #20 by Karl Schneider

> Quote:

> Bill, I don't like to drag out admittedly off-topic discussions, but several statements I couldn't let pass without rebuttal...
>
> That would depend on the manufacturer and type of vehicle. There ain't nothin' cheap or easy about advanced performance cars from Porsche, BMW, Mercedes-Benz, Ferrari ...
>
> -- KS

Karl,

Rear-wheel drive American cars (and for that matter the few Japanese cars, more likely trucks) are simply easier to work on. When you work on a FWD car, the packaging's awfully tight to fit everything in engine bay.

And the 'advanced' things about transmissions (BMW, MBZ, etc.) are often not the things that fail - simple things like valve bodies, etc. are the parts that fail.

Out here, the labor costs of work, diagnostics, etc. often exceed the actual parts costs given that labor is often $70+/hour. A transmission overhaul can cost a decent fraction of a car's price.

Since I, and many other Americans, refuse to buy underpowered compact cars, we avoid FWD cars too. We want horsepower and torque. Plus RWD cars often handle better, no torque steer, etc. - I note the significance that BMW & MBZ car lines, at least in N. America, have no FWD cars in it. They're all RWD, with a few AWD (all-wheel drive) variants. In my area, we don't have snow or ice so FWD benefits are especially moot.

It is pretty common for Ford Crown Victoria sedans (large V8 RWD sedan often used as police cars) as well as pickup trucks that are used as commuter vehicles, to have not had any transmission work other than oil/filter changes for 250K miles. Mustangs and Camaros, do well too provided they're not abused with racing-like starts.

Unfortunately car makers want to spend less assembly time and the buying public is willing to spend more repair $$ 100,000 miles later, with FWD.

I know of two Crown Vics in my area that have not had major engine or tranny work and have almost 300K miles.

I will never, never buy a FWD car.

Bill Wiese
San Jose, CA

Re: FWD/RWD [OT: cars!]

*Message #22 Posted by **don wallace** on 19 Aug 2005, 2:17 a.m.,*
in response to message #21 by Bill Wiese

HI all.

Couldn't resist this (very) off-topic thread.

This comment is rather sidways to the general line of discussion but:

Twenty odd years ago I suped up an old Chrysler Valiant (Dodge) 265 c.i. sedan (VH, 1972). I love old cars and the beauty of these beasts is the kettering spark system (no electronics at all ;-) and rear wheel drive makes engine and gearbox replacement do-able. No expensive c.v. (Not hp41...) joints to wear out and cost u and arm and a leg...

All I did was drop a 350 Holley carb on it and slipped in a custom high-lift 25-65 camshaft. Dramatic performance improvement and if one drove sedately it gave about 27 m.p.g. on the highway.

If you got under it, the thing would do about 50 m.p.h. in first gear, 85 m.p.h. in second and heaven knows what in top. Engine revs to just under 6000 rpm. Never been stupid enough to have it valve bounce.

The sad shock absorbers were replaced with vari-rate gas struts and I dropped soft compostion Yokahamas on the wheels to improve the fairly sad stock handling.

The result: a nice old car. Recently I found out that 25-65 is indeed the "magic number" and was common in speedway racing valiants in the 1970's...

Of course I would like to own a Lamborgini Diablo or Countach...

My last car was a Holden (Isuzu) gemini and it's a big step down to 1.5 litres (!) But I have found that it's how smart you drive that counts. I like watching people passing me in their fairly exotic BMW's Merc Benzes etc., (nice cars, of course) and then passing them (!)later on; the gemini will just do about 90 mph.

Don

Re: FWD/RWD [OT: cars!]

*Message #23 Posted by **Bram** on 19 Aug 2005, 6:41 a.m.,*
in response to message #22 by don wallace

HP (also) means horse power. I'm beginning to believe that we're busy mixing up things here.

;-)

Re: FWD/RWD [OT: cars!]

*Message #24 Posted by **Garth Wilson** on 20 Aug 2005, 6:17 p.m.,*
in response to message #20 by Karl Schneider

I had been resisting since it's so O.T., but I guess I'll give in and say something.

> Weight over the driving wheels

Not a valid argument. Some well-designed RWD cars (which are rare in the U.S. now) are approximately balanced anyway. Then when you add torque to the driving wheels, even more weight is borne by the rear. Unfortunately American and Japanese manufacturers like to put the front wheels too far behind the front bumper, and the

rear wheels too close to the rear bumper, and then they get a much heavier load on the front. European automakers seem to have figured this out.

> and no space-encroaching driveshaft well.

That "space-encroaching driveshaft well" strengthens the body though, so I suspect it allows the same amount of strength with a thinner, lighter sheet metal. It probably does not offset the greater weight of the driveshaft and rear end though.

I must second what someone said about reliability though. I don't know why there should be a correlation, but our FWD cars have needed multiple expensive transmission repairs, and the RWD ones have not.

Edited: 20 Aug 2005, 6:18 p.m.

Re: When will HP make a good calculator again

*Message #25 Posted by **Mark Crispin** on 16 Aug 2005, 6:14 p.m.,*
in response to message #15 by Bill Wiese

If you look on Kinpo's web page, you'll see that they're an OEM for Citizen (a Japanese company) as well. So I wouldn't be too quick to play the "Japanese stuff good, Chinese stuff crap" card.

It's a progression. The quality of goods coming out of Taiwan is steadily increasing. The same market forces that affected American companies is affecting Japanese companies -- Japanese workers are too expensive for consumer goods, and Taiwanese, Chinese, and Korean OEMs are stepping in to fill the void.

To return to the car analogy; a few years ago Korean cars were widely (and justifiably!) derided as crap. This year's batch, though, is getting some reluctant praise as being "not bad, not bad at all."

Don't forget as well that the cheap stuff (e.g., the four-function calculators on their web page) is what pays for the R&D on the good stuff.

Furthermore, I don't think that we should take our opinions so lightly. We aren't just calculator collectors (and thus easily dismissed as crackpots); we are also *engineers* who would pay a premium for the product we want.

What we want is not a single "one shoe fit all" calculator. I think that we want a product line with variation in feature set but with some characteristics in common (e.g., rugged construction).

Re: When will HP make a good calculator again

*Message #26 Posted by **Bill Wiese** on 16 Aug 2005, 3:30 p.m.,*
in response to message #8 by I, Claudius

Quote:

That "multilevel crap on HP48s" is one of the things that made the 48 series so good as it was similar to a pc. Could you imagine a pc math program, such as Mathematica, without a multilevel history?

Many of us despise the 48. It's too much, and in the wrong product. If I want to solve 'big math' stuff, I use Matlab, Maple, etc. on a PC. When I'm playing with numbers on a hand calc 4-level RPN is just right - I don't want that 'infinite' stack.

I disliked my 48 so much I gave it to a friend. Still happy with my 41CV.

Bill Wiese
San Jose, CA USA

Re: When will HP make a good calculator again

*Message #27 Posted by **I, Claudius** on 16 Aug 2005, 8:39 p.m.,*
in response to message #26 by Bill Wiese

You echo the sentiments of many here who yearn for a return of an era of small, pocketsize RPN calculators. Nothing wrong with this opinion, HP should do a remake of say, the 15C with the 32/33 ROM. For anything higher you say you use a pc based program. If you can order your work around this, fine.

For me there are times when a pc with my favorites, Mathematica and Matlab are not available. And then, my 48/49 series have done a terrific job with integration, systems of equations, unit conversions, even a difeq or two. Of course these are later checked on the pc, but the initial work was set up by hand, and done with the calc. I also have dozens of small RPL programs that quickly take the grunt work out of many operations Truly, my 49 is a useful, valuable tool that no scientific could ever begin to approach.

To despise the 48 is a shame. It may very well be the best all around calculator ever produced by any company.

Re: When will HP make a good calculator again

*Message #28 Posted by **Mike Sebastian** on 16 Aug 2005, 9:47 p.m.,*
in response to message #27 by I, Claudius

The Chinese are learning how to make decent calculators. One measure I use is the lowly one-dollar calculator.

I'll occasionally buy a one-dollar calculator to examine. I'll check out its usability, which includes the feel of the keys, how the keys are laid out, display readability, and how comfortable it is to hold (or how well it sits on a flat table). I'll also examine its general fit an finish. Then, I'll take it apart to check its internal construction quality.

In general, the quality of one-dollar calculators has improved dramatically in the past few years. The internal construction has improved dramatically. For most models, the PCB etching is clean and precise, the solder joints are clean (fewer cold solder joints), and the heat-seal is lined up squarely between the PCB and LCD. The quality of the molds, which directly affects the fit and finish has improved dramatically. And, the keyboards are also improving.

There are still junky one-dollar calculators being sold. But, there are others that are good quality and would be a good value at twice the price.

Edited: 16 Aug 2005, 9:49 p.m.

Re: When will HP make a good calculator again

*Message #29 Posted by **don wallace** on 19 Aug 2005, 2:22 a.m.,*
in response to message #28 by Mike Sebastian

Does anyone remember a company called SHEEN?

Or CORVUS?

Don Remember the '70's?

Re: When will HP make a good calculator again

*Message #30 Posted by **Namir** on 17 Aug 2005, 11:09 a.m.,*
in response to message #26 by Bill Wiese

Ditto ny friend!!!

When there is a big enough market to bother with (nt)

*Message #31 Posted by **.** on 17 Aug 2005, 6:47 a.m.,*
in response to message #1 by John

I said no text!

Re: When will HP make a good calculator again

*Message #32 Posted by **Eddie Shore** on 18 Aug 2005, 9:14 a.m.,*
in response to message #1 by John

Hopefully the quality will pick up again since Carly is gone. HP still has great software, but the hardware needs work.

The fact that HP recently downsized does not give me much hope.

On a side note, didn't HP use to manufacture HPs in America?

Great software?

*Message #33 Posted by **.** on 18 Aug 2005, 5:42 p.m.,*
in response to message #32 by Eddie Shore

What about the flickering screen, poor battery life, missing or badly debounced keys?

.

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DEV7571 BASIC Files?

*Message #1 Posted by **Howard Owen** on 15 Aug 2005, 1:06 a.m.*

In the Computer Journal of the PPC, Volume 3, Number 5, in the Trading Post coulmn, there's an ad for a utility called DEV7571 that allows the 75C to act as a KEYBOARD IS device for an HP-71B. I ran across KEYBOARD IS in some documentation and software I purchased recently, and the thought struck me that the PC keyboard would be nice to use with the 71. But the 75C will do in a pinch!

Does anyone know if this software has survived anywhere?. If so, can we track down the authors and see if they will accept money for it, or else release it to the small but eager world that awaits it?

Regards, Howard

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Question for HP-41 MCODE experts

*Message #1 Posted by **Monte Dalrymple** on 14 Aug 2005, 8:38 p.m.*

The David Assembler documentation lists three boundary conditions for the C=G instruction where the operation is strange. They all have to do with cases where the active pointer is (or was, or will be) pointing at the most significant nibble. Case 3 is when the pointer is decremented from pointing at the MS nibble immediately before the C=G instruction. This document explicitely states that this is for the DEC PT instruction only. But my reverse-engineered Nut CPU also does a similar thing for the case where the pointer is changed (from pointing at the MS nibble) with a PT=d instruction. In this case the behavior is identical to that listed for the DEC PT case, only relative to the new pointer value. Can anyone confirm that the original Nut CPU operates this way? Or is the operation "correct" in the case where the pointer is loaded with a new value, where it was previously a "B", followed immediately by C=G? Thanks in advance.

Monte

Re: Question for HP-41 MCODE experts

*Message #2 Posted by **Meindert Kuipers** on 15 Aug 2005, 2:49 a.m.,*
in response to message #1 by Monte Dalrymple

This is a bit too detailed for me, but I advise to look in the V41 sources as this emulator is very accurate. I have done this too for sorting out some details when developing my MLDL2000.

Meindert

Re: Question for HP-41 MCODE experts

*Message #3 Posted by **Monte Dalrymple** on 15 Aug 2005, 10:20 a.m.,*
in response to message #2 by Meindert Kuipers

Unfortunately the V41 operation in these cases was taken from the David Assembler bug description, and the source code has comments questioning the behavior. Thanks anyway.

Monte

Re: Question for HP-41 MCODE experts

*Message #4 Posted by **Mike (Stgt)** on 15 Aug 2005, 6:29 a.m.,*
in response to message #1 by Monte Dalrymple

I do not regard myself as an expert, but when I programmed my NutEm (Coconut emulator) I respected all CPU bugs (had a list from can't remember where) with a warning. Running the OS of the HP-41CX I had to discard all those warnings. So it is not clear for which CPU version was this bug list.

Ciao.....Mike

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41-CX Going for $560.00

*Message #1 Posted by **Howard Owen** on 14 Aug 2005, 2:45 p.m.*

It's new/old stock, but jeeze!

http://cgi.ebay.com/HP-41CX-Hewlett-Packard-Programmable-Calculator_W0QQitemZ5788552121QQcategoryZ11713QQrdZ1QQcmdZViewItem

Edited: 14 Aug 2005, 2:45 p.m.

Re: 41-CX Going for $560.00

*Message #2 Posted by **Matthias Wehrli** on 14 Aug 2005, 3:32 p.m.,*
in response to message #1 by Howard Owen

So just imagine what my HP-41CY in mint condition is worth!

Re: 41-CX Going for $560.00

*Message #3 Posted by **Howard Owen** on 14 Aug 2005, 4:25 p.m.,*
in response to message #2 by Matthias Wehrli

Yeah, I started to imagine, then decided not to ask.. 8)

Re: 41-CX Going for $560.00

*Message #4 Posted by **Namir** on 15 Aug 2005, 10:15 a.m.,*
in response to message #2 by Matthias Wehrli

Hi Matthias,

I guess beauty (or value in this case) is in the eyes of the beholder. An HP41CY is perhaps cool, but when you look at what it can do it falls way short compared to what for example Matlab, SPSS, and Mathematica (to name a few) can do for folks like me. My interest in the 41 line (and in otehr HP calculators) is nostalgic. But, faced with a choice of buying an 41CY or an SPSS version 13, I will certainly put my money in the software that can run circles around any version of the HP41.

Namir

Re: 41-CX Going for $560.00

*Message #5 Posted by **Tien** on 15 Aug 2005, 8:53 p.m.,*
in response to message #4 by Namir

I would rather use the shareware like Octave, Scilab or Maxima ... and use the money to growth my HP calculator collection ... :-)

Re: 41-CX Going for $560.00

*Message #6 Posted by **Namir** on 15 Aug 2005, 8:55 p.m.,*
in response to message #5 by Tien

These freeware lack powerful library modules that give the commercial packages even more power!

Re: 41-CX Going for $560.00

*Message #7 Posted by **Karl Schneider** on 14 Aug 2005, 3:40 p.m.,*
in response to message #1 by Howard Owen

This is one of the large batch of NOS 41CX's from 1990 that was discovered in a UK storeroom during 2002 or 2003. I was offered one at the time for $75 by a seller of these units, but I asked questions because the deal seemed too good to be true. After I saw the selling prices on dutch auctions, I wasn't cheeky enough to request the seller's offer...

These latest-manufuactured and unused halfnut 41's may well turn out to be the most reliable ones available. However, the solidness, key feel, and display are better on the fullnuts (1979-1984 + part of 1985?).

-- KS

$560 - not a record

*Message #8 Posted by **Randy** on 14 Aug 2005, 4:09 p.m.,*
in response to message #1 by Howard Owen

IIRC - they've gone for as much as $705.00 from the same seller.

Re: $560 - not a record

*Message #9 Posted by **Chan Tran** on 16 Aug 2005, 12:09 p.m.,*
in response to message #8 by Randy

I wonder what's a blanknut CX would go for?

Re: $560 - not a record

*Message #10 Posted by **Ronald** on 16 Aug 2005, 2:38 p.m.,*
in response to message #9 by Chan Tran

How much do you want to pay for it ?

I guess that at some time there is always someone who wants it desparately and will go to the end so it could be one time 300 another time 800 dollar.

F.e. the HP29C that went a day ago was relative cheap, I also remember it went for 400 euro.

As we say in Dutch: It is what the fool wants to pay for it.

Ronald

Re: $560 - not a record

*Message #11 Posted by **Chan Tran** on 19 Aug 2005, 3:26 p.m.,*
in response to message #10 by Ronald

Well I am just curious as I sold 1 of them for $150 and trade another for a card reader. I only sell or trade what I have extra of.

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2E5

*Message #1 Posted by **Bram** on 14 Aug 2005, 4:57 a.m.*

After a long time I just happen to click the bring-back-the-HP15C-site and notice that the calcs counter has reached well over 200.000
It has been dicussed before that HP wouldn't bother to make a few thousands of calcs, but I guess that this amount is becoming economically interesting, isn't it?

Re: 2E5

*Message #2 Posted by **Larry Corrado** on 14 Aug 2005, 6:55 a.m.,*
in response to message #1 by Bram

Yes, but how many of that 200,000 would really translate into sales? There's a big difference between filling in a number on a website and actually shelling out the money. Also, with only 3300 users having checked in, that averages some 60 HP 15Cs each. Very doubtful! I suspect that some joker(s) punched in some big numbers to make an average like that.

Also, re the $400 average EBay price: I bet the selling price would fall very rapidly if the supply increased significantly. I believe economists call a supply-demand relationship like that "inelastic."

Bottom line: I don't think the site provides much evidence for big 15C demand.

Larry

Re: 2E5

*Message #3 Posted by **Chris Woodhouse** on 14 Aug 2005, 10:42 a.m.,*
in response to message #2 by Larry Corrado

Actually it was two jokers or really probably one that made two entires. There are two signers that have said they would purchase 99,999 calculators. The names on those 2 entires are Bill Hewlett and David Packard. Then there is a guy from France that "wants" 5,000 and 2 in China that "want" around 1,000. If you disregard these 5 entries, the number drops to a more believable level of 11,707.

I keep the web site up mostly as a tribute to the 15C. Maybe someday if the site ever gets any real publicity the number of signers will move in to a high enough range to mean something. One of these days I will add more content with more help and information about the 15c with sample programs and stuff.

Chris W

Re: 2E5

*Message #4 Posted by **Bernhard** on 14 Aug 2005, 1:48 p.m.,*
in response to message #3 by Chris Woodhouse

When my HP15C broke down after 15 years of daily reliable service, the autopsy of the corpse reveiled

the incurable disease of hairline cracks in the flexfoil wiring. Tried to fix it with a very fine soldering iron, came back to life for a short time, then another crack. In the end I had a dozen or so jumper wires soldered in and then dumped it into the garbage can. The flexfoil wiring was brittle like an old man's bones.

The more interesting point is how long I phoned around and ran up and down in town and all sorts of suspicious places where they use to sell NOS electronic gadgets. No trace of any HP15C anywhere. Even at $10 per hour, I think I could have bought an handful of them back in the good old times, just for the time I spent in vain searching for a replacement. I finally finessed a lowly but unused HP11C away from my father, a retired engineer, for a few bottles of valuable Bordeaux wine from my cellar. He had had the foresight to buy two of the last HP11C in town when they sold out.

Bottom line of this story: if all of the 10,000 or so HP15C aficionados who truly signed up on that list have invested about the same time, effort, and precious collectibles like me just to get a replacement, this translates to an amount of money where we could have reverse engineered and perfectly copied it even without any help of HP.

Regards, Bernhard

Mine had the same problem (was: 2E5)

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 14 Aug 2005, 2:43 p.m.,*
in response to message #4 by Bernhard

Hi, Bernhard;

I have on HP15C withthe same problem: the conductive trails of the flex circuit began to crack. I tried to solder them, but found no long-lasting solution I could think of.

I was given an HP11C with a broken LCD, so I used the case and internals to rebuild the HP15C. I had to remove the keyboard faceplate and the back label of both calculators, but it was somehow hard to remove the HP15C`s back label, so I was only able to use the riginal HP11C case with the HP15C's keys and keyboard faceplate. I also mixed the IC`s, so I used an earlier Voyager processor with a newer R2D2 (after reading it from a serious contributor, I cannot help thinking of the little StarWars robot, but in this case, R2D2 stands for RAM-ROM-Display-Driver...) withthe original HP11C mainboard, because the HP11C had the single maiboard structure. My little frankencalc survived the first lightning ("It`s alive!!") and it is working fine till today.

I wonder if there is a way to build a thin fiberglass PCB that fits the same as the orignal flex PCB so we could rebuild the Voyalgers with this sort of problem. Instead of using the small polymer, we could add a connector like those found in many portables available today.

I have the pictures of the inside of the rebuilt frankencalc, but I have to find them prior to post again. I`ll let you know.

Best regards.

Luiz (Brazil)

Edited: 14 Aug 2005, 2:44 p.m.

Mine had the same problem (was: 2E5)

*Message #6 Posted by **Bernhard** on 15 Aug 2005, 7:26 a.m.,*
in response to message #5 by Vieira, Luiz C. (Brazil)

Hi Luiz,

thanks for the info / hints: now I do know the flexfoil wiring disease is most likely not a single event with these HPs. Your hint with building a frankensteinian HP out of the worn HP15Cs chips and the HP11C comes too late, I threw the remains of the HP15C into the waste basket years ago, before I became aware of the exorbitant prices even badly worn HP15C corpses fetch on Ebay. I could have at least sold the keyboard (which still had worked perfectly - after 15 years of hard engineering work, I did all my calculations with it on a daily basis), and possibly recover all the money I had paid for my HP15C back in the early 1980s... this feat, if accomplished, would have meant to have got HP calculation services over 15 years for free !!! This is the kind of bargain I like. However, I remember my HP15C had needed a set of three expensive batteries after 10 years of service or so. Maybe I could also have sold them on Ebay as being "perfect condition, at least still half full" to fully exploit the HP15C corpse. No I'm no Scotsman but only joking about the strange show we all can see on Ebay with HP calculators as the main protagonists.

best regards, Bernhard

Re: Mine had the same problem (was: 2E5)

*Message #7 Posted by **GE** on 16 Aug 2005, 3:41 a.m.,*
in response to message #6 by Bernhard

Regarding the flexfoil, there is such a problem on another (non-HP) machine, the (very nice) eMate made by Apple years ago. Someone created a replacement part, see http://www.pda-soft.de/ematecable.html for a review. So it can be done. Is it possible to solder a bunch of small wires instead of this dreaded flexfoil ?

Re: Mine had the same problem (was: 2E5)

*Message #8 Posted by **Bernhard** on 16 Aug 2005, 3:06 p.m.,*
in response to message #7 by GE

On the HP15C the flexfoil actually carries all chips, the display, and links this assembly to the keyboard, which is a real PCB. I think it's almost infeasible to replace the flexfoil with another one. Desoldering the precious chips and putting them on a real PCB won't help either because this assembly would be thicker than the flexfoil.

I still wonder what causes the failure of the flexfoil. The HP11C I am using now also has one, and if this one dies, I have to take one of the LED HPs from my collection to do my daily calculation work.

Of course I could use an emulator such as Nonpareil on a PC, but having a real HP keyboard instead of a mouse is more efficient.

Re: Mine had the same problem (was: 2E5)

*Message #9 Posted by **Vieira, Luiz C. (Brazil)** on 16 Aug 2005, 4:28 p.m.,*
in response to message #8 by Bernhard

Hi Bernhard, all;

I know this is not the thread's main issue, but I`d add that a thin fiberglass PCB built with the same layout found in the flexfoil would be a possible solution. I disassembled an HP41CV halfnut once and the hibrid LCD controler + RAM-ROM

(an earlier RADM-ROM-Display-Driver?) is assembled in a thin PCB. If this PCB in an earlier Voyager has connectors in the same configuration found in the connecting edge of the flexfoil, I thnk it can replace it with some additional advantages.

I still have the old flex-foil, and I remember I scanned it. Would someone try something like this? I have no such thin fiberglass PCB, but I think it`s worth trying.

Best regards.

Luiz (Brazil)

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Foothill Flea Market

*Message #1 Posted by **Eric Smith** on 14 Aug 2005, 1:26 a.m.*

Did anyone here happen to go to the Foothill Flea Market (Silicon Valley) this morning (Saturday, August 13, 2005)?

I was out of town, so I couldn't attend, but there was apparently one fairly uncommon HP calculator there. Unfortunately he didn't buy it for me, but maybe someone else here got it.

Re: Foothill Flea Market

*Message #2 Posted by **Eric Smith** on 15 Aug 2005, 9:16 p.m.,*
in response to message #1 by Eric Smith

Well, guess it wasn't one of the regulars here.

It was an HP-81, and the asking price was $50. Sigh.

Re: Foothill Flea Market

*Message #3 Posted by **Gerson W. Barbosa** on 15 Aug 2005, 10:22 p.m.,*
in response to message #2 by Eric Smith

Have you seen a 27 on eBay last month? Yes, an HP-27 not the 27S. Well, it first showed on our local auction. Half an hour to end, it was less than $40. It was midnight and I was not smart enough to wait till the last minute to bid. I thought the other bidder was sleeping, she was not. In short, I quit when the price went over $100. A week later it was on eBay: sold for $395 or so...

I have no special interest on the HP-27 (I would prefer an easier to find 34C) but it's one of the Woodstocks still unsupported by Nonpareil. If I'd gotten it for a low price, I would have sent it to you... Maybe in four or five years when one of these shows up again...

Regards,

Gerson

Edited: 15 Aug 2005, 10:24 p.m.

models needed for ROM dumping for Nonpareil simulator

*Message #4 Posted by **Eric Smith** on 16 Aug 2005, 2:11 a.m.,*
in response to message #3 by Gerson W. Barbosa

> Quote:
>
> I have no special interest on the HP-27 (I would prefer an easier to find 34C) but it's one of the Woodstocks still unsupported by Nonpareil. If I'd gotten it for a low price, I would

have sent it to you... Maybe in four or five years when one of these shows up again...

Thanks for your support of Nonpareil! As it happens, I now have ROM dumps from the 27 and 29C, and they will most likely be in the next release of Nonpareil. I have a few minor bugs to track down yet, and I need to put together suitable image and KML files.

I also have dumps from the 19C and 67, but they will require more work and won't be supported in Nonpareil as quickly.

The pre-1983 models that I still require in order to get ROM dumps are:

- 10C
- 81
- 92 (mine doesn't work; I might still be able to dump its ROM)
- 9100A, 9100B
- 9805
- 9821
- 9830
- 9831
- 9835A, 9835B
- 9845A, 9845C

Because they have different ROM revisions, it might be useful to dump ROMs from these models as well:

- early 19C
- early 29C
- early 67
- late 80 with two quad ROMs instead of seven-ROM hybrid
- early 97

In addition, I would like to find NON-WORKING units of the following models for destructive ROM dumping:

- 01 (watch)
- 10 (handheld printing four-function)

I have working units of those models but am unwilling to sacrifice them. An 01 *might* still be functional after I'm done with it, but it would have reduced long-term reliability, so I'd much rather start with one that is already broken.

For all pre-1983 models other than the 01 and 10, the ROMs can be dumped electrically with no harm to the calculator.

Best regards,
Eric

Re: models needed for ROM dumping for Nonpareil simulator

*Message #5 Posted by **Mark Hardman** on 17 Aug 2005, 10:32 p.m.,*
in response to message #4 by Eric Smith

I see that the 95C is absent from your wish list. Do you think David would risk this living piece of history in order for you to extract the ROM?

Mark Hardman
Houston, TX

Edited: 17 Aug 2005, 10:32 p.m.

Re: models needed for ROM dumping for Nonpareil simulator

*Message #6 Posted by **Eric Smith** on 18 Aug 2005, 12:05 a.m.,*
in response to message #5 by Mark Hardman

I think I've got the 95C covered. I know where three working units are (including David's), and I'm pretty sure I can get at least one of the owners to let me dump the ROMs. One of them has said that once I can demonstrate dumping the 97 ROMs without damage (since it has very similar hardware aside from the card reader), that he'll let me do it. I haven't yet reached that milestone.

Re: models needed for ROM dumping for Nonpareil simulator

*Message #7 Posted by **Bernhard** on 20 Aug 2005, 6:58 p.m.,*
in response to message #6 by Eric Smith

As for the risk of "damage" when dumping HP ROMs, early this year it was necessary to desolder each and every of the ROMs. Then, if the ROMs got damaged by overheat, then the contents was lost, and so was the calc.

Since then, the reader hardware and software has improved and it's only necessary to desolder the CTC (on Classics) or the ACT (on Woodstocks) and after ROM reading, put them back.

If something evil happens to the CTC/ACT chips, they can easily be replaced by similar chips from other calcs.

BTW, from the many ROM chips I have desoldered and read out, *** NONE *** was damaged. But the new method that just puts the CTC / ACT chips on risk is the preferred one, especially for the rarer calcs such as the HP27 or HP70.

regards, Bernhard

Re: models needed for ROM dumping for Nonpareil simulator

*Message #8 Posted by **Eric Smith** on 22 Aug 2005, 12:38 a.m.,*
in response to message #7 by Bernhard

On the Spice and Voyager series, no desoldering is necessary.

On Topcat series, there is often a jumper in the ISA signal which was intended specifically to be removed for automated test, so only that jumper needs to be desoldered and resoldered.

However, I have an as yet untested idea as to how to dump ROMs from Classic/Woodstock/Topcat models without desoldering anything.

I'm not trying to convince anyone to subject their HPs to anything risky, nor would I ever do anything to someone's HP without fully explaining it first. And I'm not going to do anything that I wouldn't do to one of my own prized calculators.

10c rom

*Message #9 Posted by **Gene** on 21 Aug 2005, 9:45 p.m.,*
in response to message #6 by Eric Smith

Eric, will you be at hhc2005? Can you pull the roms from a 10c if I have one there on Saturday?

Re: 10c rom

*Message #10 Posted by **Eric Smith** on 22 Aug 2005, 12:43 a.m.,*
in response to message #9 by Gene

I expect to be at the conference, but that's not yet certain. I could bring the hardware necessary to dump the ROM contents. It's just a fairly small device that attaches to a USB port on my laptop, and has six HP logic analyzer test clips that attach to pins of the ICs. (Technically only four clips are necessary, for one clock phase, SYNC, ISA, and ground, but I usually wire up the other clock phase and the data line as well. The data line provides an additional check of the integrity of the dump.)

Have you already examined the innards of your 10C? Do you know whether it is of the original construction with the LCD and electronics module separate from the keyboard PCB, or the later single-PCB design? I've seen the innards of two 10Cs of the earlier design. Those are much harder to work with, which is why I'm hoping to find one of the later construction style. But I'm not actually certain whether HP made any 10Cs that way.

Thanks,
Eric

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Last of the Topcats?

*Message #1 Posted by **Howard Owen** on 13 Aug 2005, 6:18 p.m.*

I'm sure the answer is out there,in the historical record, or perhaps in the museum's archives, but I thought someone might know the answer(s) to this question: What was the HP-97S the last machine in the Topcat line? The 41C was expandable, and you could certainly spend more on a 41C system than on an HP-97, but is that the whole story, a different marketing model? I ask because I would love to have seen something in the Tomcat form-factor but with HP-41C guts. It would have had built-in HP-IL, 5 times the memory like the 41CV, and the larger keyboard would have accomodated more 41C functions. HP-98C? (Or CV, or CX).

Regards, Howard

Re: Last of the Topcats?

*Message #2 Posted by **Walter B** on 14 Aug 2005, 12:36 a.m.,*
in response to message #1 by Howard Owen

IMHO the HP71 covers what you request. HPIL, expandability etc. It just doesn't have RPN (well, that's a minor deviation). Valentin will praise this model better based on his vast experience for sure.

Re: Last of the Topcats?

*Message #3 Posted by **Howard Owen** on 14 Aug 2005, 12:52 a.m.,*
in response to message #2 by Walter B

It's the form factor I'm thinking of. The 71B isn't the easiest of HP's handheld machines to type on, although I can get by in a pinch. It's certainly more powerful than a 97 or even a 41C (since it can emulate one.) But the Topcats were great for cranking out calculations. The keys are BIG and hard to miss. The integrated printer is a boon for keeping track. And I just like the way they look. So my post was aimed at speculation about what HP might have produced in the Topcat line during the 41C era. And I was also interested in whether anyone knew why they didn't go forward with that layout.

Re: Last of the Topcats?

*Message #4 Posted by **Vassilis Prevelakis** on 14 Aug 2005, 1:19 a.m.,*
in response to message #1 by Howard Owen

Eric Smith was thinking about producing a microcontroller replacement of the the guts of an HP67 (and presumably an HP97). So you can have an HP97+ that can be more than 100 times faster than an original HP-97. But adding HP-IL will not be easy since you have no way of entering the commands from the keyboard (without redifining the keys that is). In any case what do you need the HP-IL for anyway? Just add a serial link so that you can download programs to your HP97+

I would add a wireless interface (e.g. bluetooth or even WiFi) so that you do not need to drill holes to the case.

**vp

Re: Last of the Topcats?

*Message #5 Posted by **Howard Owen** on 14 Aug 2005, 1:52 a.m.,*
in response to message #4 by Vassilis Prevelakis

I'm trying to keep it in the spirit of the times. What would Corvallis have produced if they had designed a Topcat-like machine with 41C guts? I think HP-IL would have been part of such a design.

What would the display have been like? The 97's LED display is nice and bright. You'd need backlighting to get close to that clarity in an LCD. How would the keys have been laid out given the added real estate available in the desktop form factor?

And once again, does anyone know why Corvallis italic]didn't[/italic] produce such a device?

Re: Last of the Topcats?

*Message #6 Posted by **Vassilis Prevelakis** on 14 Aug 2005, 2:43 a.m.,*
in response to message #5 by Howard Owen

```
Howard Owen wrote:
> What would Corvallis have produced if they had designed a
> Topcat-like machine with 41C guts?
> [...]
> And once again, does anyone know why Corvallis didn't produce such a device?
```

But they did. They produced the HP-71B. You see the original design was influenced by the assumptions of the designers. E.g. printing capability. Once you have HP-IL you don't need a built-in printer, so you can take it out. If you want alphanumeric output and reasonable power consumption you switch to LCD. Then you realize that you can shrink the batteries since you do not need all this capacity. And so on ....

Finally you end up with an HP-71B which combines a clean numeric keypad with an alpha keyboard that also contains lots of predefined operations (gold shifted alpha keys)

BTW the thing I love about my HP-97 is the display, I would NOT want a LCD replacement for it. For one, the LCD would ruin the colour scheme :-)

**vp

Edited: 14 Aug 2005, 2:44 a.m.

Re: Last of the Topcats?

*Message #7 Posted by **Howard Owen** on 14 Aug 2005, 3:56 a.m.,*
in response to message #6 by Vassilis Prevelakis

I agree about the 97 display. It is wonderfl to look at, and one of the best features of the machine.

I guess the relationship between the HP-71B and the HP-97 is obvious. Let's take the keyboard. The key with "5" on it is 1/2 inch wide on my 97. On my 71-B it's, well, 3/8 inches wide. But the seperation between it and the "5" key is 1/8 inch on the 71B and, um, 1/4 inch on the 97. Let's try something else, oh yes, the X<>Y key. On the 97, that's 1/2 inch wide also. On the 71B, wait a sec, oh, there is no X<>Y key on the 71B. How about the Enter key? Doggone, the 71B doesn't have one of those either. How the heck do you do number entry on the 71? Oh, algebraic mode. Yup, the 71B is a dead ringer for its lineal ancestor, the HP-97.

The two machines are about as different as any two calculators HP ever made. I haven't even

started on the software side. Now, I *like* my HP-71B. It has the coolest architecture of any of the BASIC models I've tried. It's my principle tool for the swap disk indexing project because of its superior HP-IL implementation. But I vastly prefer the 75C to type on. The keyboard on the 71B is a (very good) compromise. I can actually go fairly quickly with two thumbs. But, I can *touch type* on the 75C! And for doing ten-key numeric entry, the 97 beats the 71 *and* the 75 hands down.

I take your point that once you have HP-IL, you don't need the integrated printer and card reader. But which came first in the transition from the 97/67 to the 41C? Did they abandon that particular small desktop calculator form factor, never to revive it, before they decided to go with a component approach or afterwards? It's clear that they decided to cover both the low-mid and middle range calculating markets with one system: the 41C. Perhaps they couldn't afford to engineer and market seperate machines as they had before. Perhaps the sales of the 97 didn't justify the expense of a seperate product line. Or perhaps they got carried away with the component/system model and threw away a good thing in the process.

Does anyone know what the thinking around that decision was?

Re: Last of the Topcats?

*Message #8 Posted by **db (martinez, ca.)** on 14 Aug 2005, 8:48 p.m.,*
in response to message #7 by Howard Owen

Howard: An answer to your original question might be the 9815 series. A desktop rpn, it sports a one line screen, user definable keys with i/o (IB & 8 bit since it predates IL) and lots of similarities to the 41's programming model. The mid range unit holds just a few less lines than a cv. It also has a built in tape drive and ribbon printer.
I have one (with tapes thanks to Katie) and i think it's a jewel.

Re: Last of the Topcats?

*Message #9 Posted by **Howard Owen** on 14 Aug 2005, 8:59 p.m.,*
in response to message #8 by db (martinez, ca.)

Right, I forgot about those. They are smaller than an 85, right? (An HP-85 isn't that large or heavy in any case.) So they just pushed the evolution of the desktop calculator design up a notch or two in size, and price too, I'd imagine. That implies to me that the 97 really had run out of steam in the market.

Re: Last of the Topcats?

*Message #10 Posted by **Vassilis Prevelakis** on 14 Aug 2005, 11:29 p.m.,*
in response to message #8 by db (martinez, ca.)

```
db (martinez, ca.) wrote:
> Howard: An answer to your original question might be the 9815 series.
```

Howard is looking for a *descendant* of the HP-97. The 9815 and the 97 were both released on the same year. Note also the price difference: $2900 for the 9815A vs $750 for the 97.

**vp

Re: Last of the Topcats?

*Message #11 Posted by **Howard Owen** on 15 Aug 2005, 12:06 a.m.,*
in response to message #10 by Vassilis Prevelakis

Right on both counts.

But HP did continue to sell desktop machines. They just were closer to taking up a whole desktop! 8)

Now that I've had time to think about it, I do take your point that the HP-71 represented a successor to the HP-97. It filled the same market position the 97 did. But they really did turn their backs on a wonderfully compact little machine.

But HP experimented with a lot of other small form factor devices. The DOS plamtops are great, too. The keyboard on my 95LX has the Corvallis stamp on it. Did the later palmtops have as nice a keyboard?

Re: Last of the Topcats?

*Message #12 Posted by **Vassilis Prevelakis** on 15 Aug 2005, 6:40 a.m.,*
in response to message #8 by db (martinez, ca.)

I forgot, to add that the 9915 has a horrible chicklet keyboard (like the early 9825). No way that this thing can be compared with the beautiful HP-97 keyboard.

If you think data entry on the HP-71B is a pain, try entering data on the 9815.

**vp

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Okay I'm lazy but bitte...

*Message #1 Posted by **Pio** on 13 Aug 2005, 5:13 p.m.*

konbanwa mina-san

Bitte, can anyone post the linke fur download the HP42S emulator for Pocket pc with rom dumped and direct install?

arigato mina-san

Re: Okay I'm lazy but bitte...

*Message #2 Posted by **Peter Geiser** on 14 Aug 2005, 7:20 a.m.,*
in response to message #1 by Pio

http://home.planet.nl/~demun000/thomas_projects/free42/

Thanks a lot...

*Message #3 Posted by **Pio** on 16 Aug 2005, 10:31 p.m.,*
in response to message #2 by Peter Geiser

Thank you Mr Peter fot the help

From Brazil,

Marx Pio

Re: Okay I'm lazy but bitte...

*Message #4 Posted by **Jeff O.** on 17 Aug 2005, 7:31 a.m.,*
in response to message #2 by Peter Geiser

> Quote:
>
> can anyone post the linke fur download the HP42S emulator for Pocket pc with rom dumped..

Free42 is a wonderful application. However, a version is not available for PocketPC. Creation of a PocketPC version is on the bottom of Thomas' TODO list. He offers the source code, so perhaps someone could compile a PocketPC version?
I believe what Pio is after is Emu42S developed by Christoph Gießelink. That application takes a ROM image dumped from an actual HP42S. My understanding is that since HP still holds the copyright for the ROM and has not released it to the public domain, it cannot be distributed without risk of legal action by HP. It also cannot be distributed through or linked from this web site in accordance with Dave's policies.

Re: Okay I'm lazy but bitte...

*Message #5 Posted by **Thomas Okken** on 18 Aug 2005, 1:52 p.m.,*
in response to message #4 by Jeff O.

Free42 [...] is not available for PocketPC. Creation of a PocketPC version is on the bottom of Thomas' TODO list.

That will probably change... I'm on hiatus from Free42 development until October; at that time, I'll update the TODO list to reflect some requests I have received in the last couple of months, and I'll probably move the PocketPC version to the top of the list then (since this is the most frequently requested feature, not to mention it would bring Free42 to a wider audience).

Free42 for PocketPC

*Message #6 Posted by **Jeff O.** on 19 Aug 2005, 7:17 a.m.,*
in response to message #5 by Thomas Okken

Thomas,
I wasn't trying to "tweak" you into producing a PocketPC version, just clearing up any confusion over what 42S emulators/simulators run on what platforms. You have certainly earned some time off, I look forward to seeing what you will do come October.
Implementation of a PocketPC version will be great, but don't forget about some of the other features we have discussed, such as optional display of the whole stack, possible variable stack height, enhancements to handling of complex numbers, etc.
Best regards, and keep up the good work (when you're ready)!

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Swap Disks Exploded

*Message #1 Posted by **Howard Owen** on 13 Aug 2005, 4:41 p.m.*

I like pyrotechnics, so it was great fun to blow up the swap file LIF images into individual files. They are on the web at http://retrocalculator.com/SWAP/exploded. I named the files with their LIF name as root, and their type (as reported by TD's lifdir) as the file extension. They live in a directory under the above mentioned path named after the disk they came from. They will also be available vi anonymous ftp to ftp.retrocalculator.com as soon as the new static IP propagates out. I can't tell for sure, but you may have to use a special username to get anonymous access. I'll see once ftp is up.

The purpose of doing this work is to facilitate the "Swapdex" project to index these files. You can access the swapdex Wiki here.

I've also thrown together a quick and dirty Mysql database of the files. It isn't accessible from the web yet, but it could and should be once the schema is better defined. If you would like to help do that, see the Wiki link above.

Regards,
Howard

Re: Swap Disks Exploded

*Message #2 Posted by **Vassilis Prevelakis** on 14 Aug 2005, 2:05 a.m.,*
in response to message #1 by Howard Owen

```
Howard Owen wrote:
> I like pyrotechnics, so it was great fun to blow up the swap file LIF images
> into individual files.
```

I am not sure what you had in mind but the swap archives **are** split into individual files. At least the ones at ftp://ftp.hpmuseum.org/lif/swap

All files are encoded in swap file format documented in http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=24, which simply involves prepending 32 bytes of header to the file. The header is the LIF directory header for that file ONLY.

The swap file format is **not** LIF. It only contains some elements from the LIF directory. So you do not need to "expand" the files, you simply need to skip these 32 bytes.

E.g. if I want to see the contents of file chhu01/curlex.l71, I will simply do:

```
arrakis% dd if=chhu01/curlex.l71 ibs=32 skip=1 | xd
 000000000000    5e000000  00f00e00    00000800  10ff131b    *^..............*
 000000000010    694100d0  1bb013f7    f84c3641  0911db07    *iA.......L6A....*
 000000000020    10b17d11  88bf411b    ad139f69  d230019a    *..}...A....i.0..*
 000000000030    260c0013  44760013    43faa0ae  fa324181    *&...Dv..C....2A.*
 000000000040    bf431bda  1a3070f8    35b40187  5f431b70    *.C...0p.5..._C.p*
 000000000050    0118b1f8  c12310b1    5a4e0801  5be91108    *.....#..ZN..[...*
 000000000060    86bf411b  60f81bb4    01860428  0131051e    *..A.`......(.1..*
 000000000070    00000007  00011404    19528001  7b0d0000    *.........R..{...*
 000000000080    494e4b4a  45542020    2020e214  00000525    *INKJET    .....%*
 000000000090    00000004  00011404    19578001  19060000    *.........W......*
 0000000000a0    54454c44  49523731    5044e214  00000529    *TELDIR71PD.....)*
```

```
 0000000000b0    0000000b  00011404    24348001  4e140000    *........$4..N...*
 0000000000c0    4355524c  45582020    2020e208  00000534    *CURLEX    .....4*
 0000000000d0    00000001  00011512    06238001  db000000    *.........#......*
 0000000000e0    ffffffff  ffffffff    ffffffff  ffffffff    *................*
          *** SAME ***
 000000000100    ........  ........    ........  ........    *................*
```

Moreover, your "exploded" files appear to be corrupted as well. E.g. your version of CURLEX.LEX71 is:

```
arrakis% xd CURLEX.LEX71
 000000000000    5e000000  00f00e00    00000800  10ff131b    *^...............*
 000000000010    694100d0  1bb013f7    f84c3641  0911db07    *iA.......L6A....*
 000000000020    10b17d11  88bf411b    ad139f69  d230019a    *..}...A....i.0..*
 000000000030    260c0013  44760013    43faa0ae  fa324181    *&...Dv..C....2A.*
 000000000040    bf431bda  1a3070f8    35b40187  5f431b70    *.C...0p.5..._C.p*
 000000000050    0118b1f8  c12310b1    5a4e0801  5be91108    *.....#..ZN..[...*
 000000000060    86bf411b  60f81bb4    01860428  0131....    *..A.`......(.1..*
```

The length (0x6D) is also wrong. If we look at the curlex.l71 header we see:

```
arrakis% dd if=curlex.l71 ibs=32 count=1 | xd
 000000000000    4355524c  45582020    2020e208  00000000    *CURLEX    ......*
 000000000010    00000001  00010120    33568001  db000000    *....... 3V......*
```

that the file length should be 0xDB bytes, 219 in decimal (file length in bytes starts at offset 0x0C, and it is 3 bytes long (LSB first).

Note also that even files that are not encoded in any way (e.g. chhu01/acopy.text) are damaged. So you should check your program to make sure it decodes the files correctly.

Finally, simply looking at the filename inside the header and using this to name the extracted file is not sufficient as file names may have characters that are not acceptable to the local file system (e.g. \), you need some kind of mapping for the unacceptable characters.

Best Regards

**vp

Edited: 14 Aug 2005, 2:17 a.m.

Re: Swap Disks Exploded

*Message #3 Posted by **Howard Owen** on 14 Aug 2005, 4:59 a.m.,*
in response to message #2 by Vassilis Prevelakis

Thanks for the feedback, Vassilis!

I'll check on the corruption you noted. I'm pulling the files out of the LIF images (also on the museum site, but under the 'hpswap' directory) with lifget from a perl script. The script is in the "exploded" directory too, called "getem.pl". Perhaps lifget does *not* preserve the LIF header, and what you are looking at are the "raw" bits. I'll figure it out, either way. In the meantime, I've restricted access to the files. It won't do to distribute bogus date. I'm trying to reduce confusion, not add to it. 8)

My purpose in exploding the LIF images is to have bits I can work with in my indexing project. I plan to create descriptions and listings of all the program files, with Unix line endings rather than the interesting LIF TEXT format. I plan to drop these in beside the raw bits and refer to them in my database by URL. I may well be able to get by using the museum's copies, but I have to resolve the corruption issue before I can decide one way or the other.

Thanks again!

Corruption

*Message #4 Posted by **Howard Owen** on 14 Aug 2005, 12:02 p.m.,*
in response to message #2 by Vassilis Prevelakis

The files merely lack the LIF headers:

```
hbo@sol|1137> hexdump -C CHHU01/AST41N1.BASIC75 >AST41INI.hex
hbo@sol|1138> dd if=ast41n1.b75 ibs=32 skip=1 | hexdump -C >ast41n1.hex
48+0 records in
3+0 records out
hbo@sol|1140> md5sum *.hex
d919845771e9165ca64ac5177e508a20  AST41INI.hex
d919845771e9165ca64ac5177e508a20  ast41n1.hex
```

The file in caps is the one I produced with Tony Duell's lifget utility. The small case one is from the museum site.

The files here at the museum lack at least one disk that appears in the /hpswap directory. For that reason, and because I still think they could be useful for my Swapdex project, I'm going to leave the files up. I'm composing a plain text README now that explains how they differ from the museum's copies, and points here. Later I'll add a web page with links to all the other sources and better explanations of hat I'm trying to do.

For now, anon ftp is still hosed, but http://retrocalculator.com/SWAP/exploded works.

Thanks again for taking the time to look the files over!

Edited: 14 Aug 2005, 12:43 p.m.

Re: Corruption

*Message #5 Posted by **Vassilis Prevelakis** on 14 Aug 2005, 6:32 p.m.,*
in response to message #4 by Howard Owen

OK got them. I was in error. The 0xDB in the CURLEX directory entry is the length in NIBBLES! So its 219 nibbles or 109.5 bytes. So the length of 110 is correct.

I have been dealing mainly with HP-85 files which have the length in bytes and was unlucky to pick a very small file (CURLEX). This meant that my wrong file length would still be less than a block (256 bytes) and thus would not ring any bells. If I had chosen a file like BEEPLEX which is 411 nibbles long (clearly greater than the 1 block it occupies) I would have investigated further.

**vp

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HP Portable Plus?

*Message #1 Posted by **Howard Owen** on 12 Aug 2005, 8:22 p.m.*

This thread from February 2004 mentioned manuals for the HP Portable Plus. Daniel Sancho mentioned having many manuals, including the more technical ones. The manuals on the museum CD are the standard user-oriented versions. I have a machine that doesn't respond when appropriate power is applied, and I'd like to have as much of a roadmap as I can get before I dive in to the case.

Thanks!

Re: HP Portable Plus?

*Message #2 Posted by **Tony Duell** on 14 Aug 2005, 6:26 a.m.,*
in response to message #1 by Howard Owen

I have the Portable Plus Technical Reference Manual, and the service manual. Both include schematics, the latter has some troubleshooting info too.

Let me know what you want me to look up.

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Free42 for sale at eBay?

*Message #1 Posted by **Gerson W. Barbosa** on 12 Aug 2005, 8:15 p.m.*

http://cgi.ebay.com/HP-42S-calculator_W0QQitemZ7175779549QQcategoryZ182QQrdZ1QQcmdZViewItem

Re: Free42 for sale at eBay?

*Message #2 Posted by **Howard Owen** on 12 Aug 2005, 8:27 p.m.,*
in response to message #1 by Gerson W. Barbosa

Interesting. It's not against the GPL to charge for distributing software. The source needs to come with, or be otherwise accessible from the distributed package.

There's not much "value-add" that I can see in that offer, however. And with the software's name prominently displayed, I doubt he gets any bids.

Re: Free42 for sale at eBay?

*Message #3 Posted by **Gerson W. Barbosa** on 12 Aug 2005, 9:06 p.m.,*
in response to message #2 by Howard Owen

We could suggest the seller to add a link to Free42 so that potential buyers have a little more information about 'his' product... :-)

Re: However

*Message #4 Posted by **Mike** on 13 Aug 2005, 3:43 p.m.,*
in response to message #2 by Howard Owen

It is against eBay rules, if there is any shareware aspect to this calculator. I mean if he has any features that require a fee to access, it's an illegal auction.

Re: However

*Message #5 Posted by **Howard Owen** on 13 Aug 2005, 4:22 p.m.,*
in response to message #4 by Mike

That's interesting, I didn't know that.

GPL software isn't shareware, its free (like in freedom) software. The license states that you can charge for distribution of GPLd software if you like. That's what all the major Linux vendors do, for example. Is that different from selling your software for a fee, where "selling" means "selling the media and a right to use license?" I don't know.

Come to think, you can buy plain proprietary software on eBay. It even has a rather extensive category. So the difference must be the delayed payment in shareware. You "try before you buy" then eBay doesn't get a cut when you eventually pay. I'll bet that's it. So then the GPL software wouldn't differ

from proprietary in that respect, since all the money is transferred up front where eBay can tax it.

Re: Free42 for sale at eBay?

*Message #6 Posted by **Gerson W. Barbosa** on 14 Aug 2005, 5:57 p.m.,*
in response to message #2 by Howard Owen

> Quote:
>
> ... I doubt he gets any bids.

I doubted it too but he's got two bids so far... Five hours to end and the price has reached 12 Euro.

Re: Free42 for sale at eBay?

*Message #7 Posted by **Namir** on 14 Aug 2005, 3:24 p.m.,*
in response to message #1 by Gerson W. Barbosa

I wrote Thomas Okken about this auction and provided him with the seller's email address.

Namir

Re: Free42 for sale at eBay?

*Message #8 Posted by **Thomas Okken** on 15 Aug 2005, 2:10 p.m.,*
in response to message #7 by Namir

I don't think this auction is against eBay's rules -- Free42 is not shareware; there are no optional features that require extra payment to unlock etc. As long as the seller is selling a version that has my copyright, my web site URL, and my email address, I don't see anything wrong with this... Woe to the suckers who don't Google "Free42" before making a bid.

Hmmm, maybe I should contact the winning bidder and ask them if the software they receive has been tampered with.

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HP 11c display problem

*Message #1 Posted by **Scott** on 12 Aug 2005, 11:23 a.m.*

Something happened to my HP 11C display. "0,000" appears, and when I use it, a decimal appears where I don't want it. How do I get it to display "0000.0" without the comma?

Re: HP 11c display problem

*Message #2 Posted by **Namir** on 12 Aug 2005, 11:35 a.m.,*
in response to message #1 by Scott

This is the most asked question. Your HP11C has somehow switched the decimal point to a comma. I think you need to turn it off and then hold the decimal key while you press [ON] again. I believe that should restore the decimal point. If I am mistaken, then teh folks out there should correct me.

Namir

Re: HP 11c display problem

*Message #3 Posted by **Raymond Del Tondo** on 12 Aug 2005, 7:29 p.m.,*
in response to message #2 by Namir

Hi,

this is simply a RTFM,
because the answer to the original question
is in the HP-11C User's Handbook on page 16,
and clearly indicated in the manual's contents page...

Raymond

Re: HP 11c display problem

*Message #4 Posted by **scott** on 12 Aug 2005, 9:40 p.m.,*
in response to message #3 by Raymond Del Tondo

Hi Raymond, Thanks for your input, unfortunately, I lost the handbook years ago, so I can't RTFM...besides, it really isn't a life or death situation, and one of the readers of this board was kind enough to explain a solution, so the problem is fixed, but again, thanks for your concern.

Re: HP 11c display problem

*Message #5 Posted by **Scott** on 12 Aug 2005, 1:55 p.m.,*
in response to message #2 by Namir

Thanks...that worked. Now if only I can remember that when it happens again in another 30 years.

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HP 33S new display identification

*Message #1 Posted by **Will** on 11 Aug 2005, 5:51 a.m.*

Hi Guys...I just decided to get a 33s to test it and look if it´s so bad as so many people say...i just want to know ways to identify the new ones using the improved display. (serial codes?)

Thanks for your help...

Will.

Re: HP 33S new display identification

*Message #2 Posted by **John Smitherman** on 11 Aug 2005, 8:28 a.m.,*
in response to message #1 by Will

Hi Will. During a visit to WalMart last weekend I saw 3 versions of the 33s display with the newest being the best yet as the numbers and characters were all visible. The units had a 502 date code.

It appears to me that units made before mid year 2004 have the poor display and small (,) and (.). Units made between mid year 2004 and end of year 2004 have the poor display but with larger (,) and (.). Units made in 2005 have a much improved display. I am hoping that the 2005 units have had the bugs removed as the product manual update was removed from the HP web site some time in the Spring of 2005.

I hope that this helps.

Regards,

John

Re: HP 33S new display identification

*Message #3 Posted by **Paul Brogger** on 11 Aug 2005, 10:16 a.m.,*
in response to message #1 by Will

I've only seen two displays. One has the decimal points noticeably smaller than the pixels in the 5x7 character grids. The newer (Wal-Mart) unit has decimal points approximately the same size as the character pixels.

If they're fixing bugs anyway, it seems to me the firmware solution is to sacrifice a digit and program a big, fat 4- or 6-pixel d.p. as a separate character. (But they didn't ask any of us, now did they?)

Re: HP 33S new display identification

*Message #4 Posted by **Namir** on 11 Aug 2005, 5:36 p.m.,*
in response to message #3 by Paul Brogger

I think the comma has been signifcantly improved. Not so sure about the beloved decimal point!

Re: HP 33S new display identification

*Message #5 Posted by **Paul Brogger** on 12 Aug 2005, 1:01 p.m.,*
in response to message #4 by Namir

I think they've both been increased in size. But as noted above, IMHO "improved" may be a bit of a stretch.

I do use the comma as the radix mark in both of my 33s' (while on no other calculator model do I do so). It just shows up a little bit better, and in this case every little bit helps.

Re: HP 33S new display identification

*Message #6 Posted by **John Smitherman** on 12 Aug 2005, 9:33 p.m.,*
in response to message #5 by Paul Brogger

Hi Paul. I picked up a new 33s from WalMart this afternoon with date code 524. It has a new and improved display and the bugs (hms and polar conversions, and nCr) have been fixed. Also, I find the keys are a bit easier to push and in my opinion have a better feel.

I gave my 417 33s a rating of three stars but the new and improved 524 33s rates four stars.

Regards,

John

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HP9826 ??

*Message #1 Posted by **marais** on 11 Aug 2005, 5:40 a.m.*

I came across a strange machine, an HP9826. The number suggests a relationship with the 9825, but the screen and diskette drive rather make it look familiar to the 85 or so. It has GPIB built in - does anybody know more about this machine? It's no collectible I suppose.

Re: HP9826 ??

*Message #2 Posted by **Tony Duell** on 11 Aug 2005, 6:31 a.m.,*
in response to message #1 by marais

It's related to the 9836 (it only has one drive, the monitor is built in, but otherwise much the same). It was sort-of a replacement for the 9825, I think.

It's a 68000 based machine, takes the DIO cards that were used on many of the 9000/200 and 9000/300 machines.

I have no idea whether it's collectible or not, and frankly I don't care. I have a 9836 that I will investigate sometime fairly soon, I'm interested in how these machines were designed and how they work.

Re: HP9826 ??

*Message #3 Posted by **marais** on 14 Aug 2005, 2:18 p.m.,*
in response to message #2 by Tony Duell

well, if it's 68k-based the model number is somewhat misleading, in that it's not at all related to neither the 9825 nor the 9835 - machines that are more interesting because of their unique conception. The 9826 must be more recent then.

Andreas

Re: HP9826 ??

*Message #4 Posted by **Howard Owen** on 14 Aug 2005, 2:40 p.m.,*
in response to message #3 by marais

They went nuts with model numbers about the time this machine was prduced. For instance, I believe the 9816, later renamed "HP-9000 model 216" was later than this machine.

The following is from hazy recollection, and maybe wrong. Corrections are welcome. What happened was, there was a transition from the home-built CPUs of the 98XX and 80 series to the Motorola 68000. At the same time, "HP Technical Basic" and HPL were shelved in favor of a new BASIC dialect, Rocky Mountain BASIC (RMB). I used this language on 9816s doing real time bathymetry and radio navigation data collection and reduction. Having been used to Applesoft and MBASIC, I was really impressed that you could do such a thing in an interpreted language. The key was the highly optimized I/O library and the relatively slow data rates of HP-IB at the time. RMB didn't resemble any

BASIC I had seen up to then, either. It did resemble the BASIC on the HP-85, up to a point, but departed significantly in its modularity. But I didn't play with an 85 until about a year after I started coding on the 9816. Anyway, RMB had elements of Pascal (REPEAT, and DO, I think) that made structured programming and modularity possible, and FORTRAN (COMMON) which allowed you to violate the modularity in a selective but documented way. Together with the fun and difficult work of interfacing cool devices, it made me a real enthusiast for the machines and the language.

As far as collectibility goes, the HP 9000/200 and 300 series machines don't seem to command high prices on eBay. They do come up from time to time. My impression is that there are still a fair number of the machines in active service. The 9816, at least, was rugged and water resistent, which made it good for offshore applications, and may explain the continuing health of any machines that are left.

Re: HP9826 ??

*Message #5 Posted by **Vassilis Prevelakis** on 14 Aug 2005, 3:46 p.m.,*
in response to message #4 by Howard Owen

yes, the model numbering went crazy in the early eighties.

For example the 9826 became the 200 Series Model 26 and later on was renamed to HP 9000/226 (or HP 9000 Model 226).

I think they were trying to build a uniform product range that promised compatibility across the different models. Smth that was missing from the eralier models. Just try to port a BASIC program from the 9845 to the more recent HP-85 (or look at the HP-41 bar code generation programs for the two models, file hpbc.pdf in the MoHPC CDROM).

**vp

Re: HP9826 ??

*Message #6 Posted by **Howard Owen** on 14 Aug 2005, 4:47 p.m.,*
in response to message #5 by Vassilis Prevelakis

One of HP's documents contains a joke that they were adopting new disk media because they had run out of incompatible formats. That could equally well apply to system software and programming languages.

The history of HP engineering from at least the 60's through to today has this theme of progressing from custom systems, lovingly crafted, to mass produced throwaway machines zillions of times more capable than the earlier models. That's the history of the industry, and our modern civilization too, for that matter.

Right after crowding all the "technical computing" products into the "9000" line, HP made the transition to Unix. This time they used another home built processor - PA-RISC - and a partly home-brewed OS, HP-UX. They had greater success with that line than with any of the previous efforts they made, except peraps the HP 3000, which was still gasping along the last I checked, in 1999. But they saved costs by doing away with the ideosyncratic parts of the company, like the calculator and instrument divisions. The crash of 2000 and the rise of Fiorina just put the coda on the long, sad song, whose motif had been set long before.

Re: HP9826 ??

*Message #7 Posted by **Vassilis Prevelakis** on 14 Aug 2005, 10:58 p.m.,*
in response to message #6 by Howard Owen

Your historical "facts" are a bit off. HP did indeed switch to Unix but using a standard processor (the MC68xxx series). Examples include the HP 9000/3xx (1985) series the Integral PC (1985) etc. All these run HP-UX. So the 9000 family included Unix machines. PA-RISC came later (first on the 800 series in 86 and then the 3000 series and a couple of years later on the 700 series).

Your use of "doing away" as applied to the calculator and instrument divisions is misleading and partially wrong. The intrument division was spun off as Agilent. HP may spin off the printer division, would you use the term "doing away" for that too?

**vp

Re: HP9826 ??

*Message #8 Posted by **Howard Owen** on 15 Aug 2005, 12:58 a.m.,*
in response to message #7 by Vassilis Prevelakis

I guess "doing away" is too harsh a word for one of the two divisions I listed. It certainly applies to the calculator division, though. And spinning of Agilent was part of the process of turning away from individualistic and expensive systems to standardized, homogenized and profitable PC clones. Since that's a sweeping generalization, it's bound to be unfair to some large fraction of today's HP, but I don't think it's far off the mark on the large scale. It's absolutely true when you look at their organization in the 1980s compared even to the mid 1990's. They were quite decentralized back in the day, with divisions doing their own R&D and marketing. Interestingly, that was also a problem at IBM in the late 1980s, according to Gerstner's "Who Says Elephants Can't Dance?"

You're right that HP-UX was available on the 9000 series. I installed it on a series 300 machine right after they came out with the version that ran there. But HP-UX wan't new on that platform either. It started on the HP 1000(?) series. And it was also available on the "Integral PC," which was 68K based. However it didn't really fly until HP bought out Apollo, integrated their technology and sold it to that customer base in addition to their existing customers. The Apollos were 68K based too, IRC. They gradually converged all their workstations onto a PA-RISC platform. At the same time, their RISC servers were scoring major successes.

So HP was relevant in the Unix market all through the late 90s boom. They were hurt by the failure of Itanium, their joint project with Intel. They still have a share of the Unix market. but that market is sinking fast due to Linux. So HP is doing Linux and selling Intel and AMD based servers to businesses. With Compaq's share, they are probably leading the server market now.

Their hardware is very nice, and soulless to a fault.

Re: HP9826 ??

*Message #9 Posted by **Bernhard** on 15 Aug 2005, 6:34 p.m.,*
in response to message #6 by Howard Owen

Hi Howard,

your somewhat sad recollection of the good times where these things were "lovingly crafted" really hits a weak spot of mine and nearly made me weep. I remember one guy from Maroc or Tunesia (yeah !) who told me that chips are like babies, they must be made

with love, and risen carefully. He was a chip designer like me, in the old company, which I left after the '2000 crash had turned things into a nightmare, and when management cockroaches of Fiorina type had risen. The best chip designers of my country anyhow have left for the USA or for China/Asia, as to avoid socialistic taxation, so these imports from Maroc/Tunesia or other suppressed countries are Europe's last hope. I have worked with Bulgarians, Russians, Polish, Rumanians, all of the brightest of their nations, but this guy (from North Africa !) was the first one who was able to express what really makes a good chip.

What we witness now is the decline of our beloved technology, a decline that is caused by management cockroaches, which pretend to work for the shareholder value, and in the end, we all will lose, including the shareholders, which will lose their investments.

The only way out is a disease which weeds out the cockroaches, but sorry, I am chip designer, not genetic engineer, so I can't come up with the solution.

best regards, Bernhard

Re: HP9826 ??

*Message #10 Posted by **Howard Owen** on 15 Aug 2005, 11:22 p.m.,*
in response to message #9 by Bernhard

I view the transition from art, to science, to pure commerce as an inevitable progression. I don't think that our experience is unique in human history. I think that Christian monks, whose devotional duty it was to illuminate manuscripts would have been horrified by a paperback book. But the paperback (some would say the handbill) is the ultimate evolution of the printing press, whose invention changed the world by liberating knowledge from those very same cloisters. I think master watchmakers must have been horrified to see the dominance of cheap, mass produced watches. yet these brought timekeeping to a much broader section of humanity.

There's a difference in the two examples. In the first the master craftsmen never saw the complete evolution of their art into commodity. But the young watchmaker of 1920 could well have lived to see plastic LCD watches given away as advertising in the 1980s. And for us, the compression of time from high art to crass commercialization is even more apparent.

Commercialization is the process whereby useful ideas get distributed to the greatest number. That the beauty of the artifacts that embody the ideas is diminished, that they seem cheapened as much by standardization for mass taste as by the reduction in price is just part of the process. So the artful soul in an age of rapid change has to stay two steps ahead of the full development of commercial interest. Sometimes that's not possible, sometimes it is. You win a few and lose a few.

Also, remember that the these crass machines being sold by Dell, HP Lenovo and others are unbelievably powerful. I can not only examine the inner workings of the calculators I love in a simulation layer, I can do so through four or more such layers (Linux->VMWare->WinXP->EMU48->HP41X!) and it *still* runs three times faster than the original! That kind of power promises more artistic acheivement by the generations coming up behind, and maybe for some of us fogeys, too. 8)

Re: HP9826 ??

*Message #11 Posted by **Bernhard** on 16 Aug 2005, 8:53 a.m.,*

in response to message #10 by Howard Owen

Dear Howard,

your enthusiasm for these recent developments and the transformation processes in the industry is understandable, these new products indeed have tremendous power and still are cheap, but there are some evil by-effects of the transformation everyone should be aware of:

What I meant with the term "management cockroaches" is the type of management which destroys the unique culture, values and spirit of a company for a short - term profit.

Like the insect bearing the same name, they are quick, clever and once they got a foothold, they multiply until the place smells and living (or working) there gets unbearable. Of course all I have posted on this topic is allegoristic and to be interpreted as such.

In a real company infested by them you could only smell the fear of the employees. The situation gets worser and worser, so many key people who over decades have built the company opt to leave. Those who stay stop to lovingly craft their products, they just put them together under ever increasing time pressure. Products start to lack signs of the individuality that in the good old times was associated with the company, or even worse, products get too many annoying flaws. Once old customers find out, they will more and more refuse to buy these new products.

The irony is that all this act of destruction actually may increase revenues and profits, as new customers, who previously were unable to afford the brand, are attracted by the new, lower cost products. As they have never owned the older, quality products, they have no chance to compare, and so it is likely they even think the shoddy disposables they have just bought are of high quality, as they look, owing to clever industrial design, more valuable than they really are.

This lack of opportunity for comparision and the inability of human perception to make absolute measurements without having a standard to compare with is the key why this evil scheme works.

It is evil because in the end, a once reputable company, which had quality, lovingly crafted products of real value, and was a good place to work because spirit and morale was high, has been turned in just another sweatshop churning out cheap mee-too products with low profit margins.

On the long run, they will never be able to compete with Asian sweatshops even if they use them as their manufacturing backend, because those do also have local, and hence, much cheaper management, design and development.

When these far east competitors have learnt to make their own products and how to sell them on the world market, the once reputable company which once had had elitarian products will have lost the ability to compete and will go under. They simply can't go back and start making elitarian products again. They have lost the key people, the know-how, the spirit, and the old customer base who was willing to buy expensive products. The damage caused by the management cockroaches can't be undone. The only way then is to close down the company, and maybe sell off the brand name and other assets. Most likely, the buyers will be Asian companies.

At this point the shareholders will have lost all of their money.

Ah, yes, I forgot the management cockroaches. Quick and clever as they are, they will leave the company and move on to the next company to infest and destruct. Optimum timing, leaving at the zenith of their "success", guarantees a heartly welcome there.

So far the tale of the cockroaches. The foul fruits of their work are evident everywhere, ruined companies with demoralized workforce, shoddy products with lots of flaws that make using them a pain, or stealing a lot of time to find out how to dodge the flaws, which at normal hourly rates would cost more than buying a elitarian product, which however isn't available anymore, except at Ebay or flea markets, and overall, a decline of the industrial basis and a rise of unemployment and social unrest.

Some people call this "progress". Unfortunately, it is a process that can't be stopped. The industrialized era will soon come to an end, with natural ressources depleted, all of them turned into a flood of shoddy products that are made in such a way that there is no hope to repair them or recover useful parts. Living in the post-industrialized era will be no fun indeed.

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HP38G

*Message #1 Posted by **Jey** on 11 Aug 2005, 4:27 a.m.*

Hai everyone a Im new in this forum so i would like to post(hopefull not stupid) quieston. Is there a possibility of tiping in the "Pi" as a function, as we do so with Sigma ? i mean if there is a sigma u can type it in the Calculator as E(C=1,5,X^2) is there a way to do so with multiplications using the TT (Pi) symbol ?
http://de.wikipedia.org/math/463583a68d350c3c0f360ff5609a8b57.png
http://de.wikipedia.org/math/6be3a46a1d944325e669e0ee2772de94.png

Re: HP38G

*Message #2 Posted by **Marcus von Cube, Germany** on 12 Aug 2005, 3:28 a.m.,*
in response to message #1 by Jey

If you don't find it, you can use logarithms and exponentials to do the same:

$\text{PROD } x_k = e^{\text{SUM } ln\ x_k}$

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rev HP17BII - stat problems and/or 42SX

*Message #1 Posted by **Jose Sanchez** on 11 Aug 2005, 1:23 a.m.*

Any one out there able to provide guidance as to why I can not get the correct answer posted by the book. For a data set 32,41, 47, 53, 54 ; the correct Std Dev 8.85

Using the 17bii I get a different answer (9+) Why the difference, did I leave something out? How do I handle frequencies?

If anyone coudl help otherwise with the 42SX for the same problem. It has been too many years since I use this HP

Re: rev HP17BII - stat problems and/or 42SX

*Message #2 Posted by **Thomas Radtke** on 11 Aug 2005, 2:30 a.m.,*
in response to message #1 by Jose Sanchez

One result is the sd for the entire population (8...), the other one for a sample from a population (9...). Refer to a statistics textbook.

hth,

Thomas

Re: rev HP17BII - stat problems and/or 42SX

*Message #3 Posted by **James M. Prange (Michigan)** on 11 Aug 2005, 4:59 a.m.,*
in response to message #1 by Jose Sanchez

Actually, the correct population standard deviation for that data set is about 8.16, not 8.85; are you sure that you're using the right numbers? As Thomas pointed out, the sample standard deviation is different, about 9.13 in this case.

Regards,
James

Re: rev HP17BII - stat problems and/or 42SX

*Message #4 Posted by **Chris Dean** on 11 Aug 2005, 6:41 a.m.,*
in response to message #3 by James M. Prange (Michigan)

I agree with Jame's results. The HP17bII+ manual states in Appendix B that the STDEV function calculates the **sample** standard deviation **(divide by root(n-1))** whereas the other answer (8.16) is the **population** standard deviation **(divide by root(n))**. I am not sure where 8.85 comes from.

Edited: 11 Aug 2005, 10:03 a.m.

Re: rev HP17BII - stat problems and/or 42SX

*Message #5 Posted by **Jose Sanchez** on 11 Aug 2005, 6:46 p.m.,*
in response to message #1 by Jose Sanchez

The 8.85 is the result derived from the TI83 or TI BA II PLUS.

The reason of my question is because the class and book are offering explanation with the TI "calculators". Indeed I get the 9.12 with the HP, but if my answers is distint from the others..... I will get an exponential grade drop !(don't want it to happen)

I do not want to go TI EITHER !! What parameter is not being accounted for ?

The answer 8.85 ..... Sum(data) = 230 {32,41,47,53,54} Sum x^2 = 10,972 Sum X = 30

S=1/n *(sqrroot(n(sumx^2) -(SumX)^2)

Any inputs?

Re: rev HP17BII - stat problems and/or 42SX

*Message #6 Posted by **Jose Sanchez** on 11 Aug 2005, 6:51 p.m.,*
in response to message #5 by Jose Sanchez

sorry ! Sum X = 230

Re: rev HP17BII - stat problems and/or 42SX

*Message #7 Posted by **Bob Wang** on 11 Aug 2005, 7:19 p.m.,*
in response to message #5 by Jose Sanchez

Jose:

There is an error in your sample set: {32,41,47,53,54} sums to 227 not 230.

I get 9.126883367 on my TI-83 Plus and TI BAII Plus using the 227 set.

Bob

Converting Sample Sdev to Population Sdev

*Message #8 Posted by **Marcus von Cube, Germany** on 12 Aug 2005, 3:17 a.m.,*
in response to message #5 by Jose Sanchez

You can convert from one value to the other by a simple calculation:

$Sdev_{pop}=Sdev_{sam}*SQRT((N-1)/N)$

In your case, multiply the result by SQRT(4/5).

The HP11C manual shows a different approach:

Simply add the mean of the data collected so far to the data and recalculate the standard deviation.

Re: Converting Sample Sdev to Population Sdev

*Message #9 Posted by **Chris Dean** on 12 Aug 2005, 6:13 a.m.,*

in response to message #8 by Marcus von Cube, Germany

Have you made sure all your registers/memories are cleared because sum^2 should be 10639 and sum 227. Possibly drastic action but reset the calculator and try again.

Edited: 12 Aug 2005, 9:08 a.m.

Re: Converting Sample Sdev to Population Sdev

*Message #10 Posted by **Margaret** on 12 Aug 2005, 4:27 p.m.,*
in response to message #9 by Chris Dean

9.126883367 is the STD for the sample

8.163332653 is the STD for the population

The numbers above come from Excel .. another wonderful technological product, and the formulas are STDEV(range) and STDEVP(range). The difference between the two numbers is a division by SQRT(n) versus SQRT(n-1). To verify the results with your preferred HP calculator, just enter the numbers in the key Ó+, and you will all the statistical parameters of the sample and population.

Greetings,

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HP17BII - stat problems and/or 42SX

*Message #1 Posted by **Jose Sanchez** on 11 Aug 2005, 1:21 a.m.*

Any one out there able to provide guidance as to why I can not get the correct answer posted by the book. For a data set 32,41, 47, 53, 54 ; the correct Std Dev 8.85

Using the 17bii I get a different answer (9+) Why the difference, did I leave something out?

If anyone coudl help otherwise with the 42SX for the same problem. It has been too many years since I use this HP

Re: HP17BII - stat problems and/or 42SX

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 11 Aug 2005, 2:00 a.m.,*
in response to message #1 by Jose Sanchez

Hola, Sanchez; como estás?

I loaded the data you provide and I obtained 9.12688336728 as for standard deviation (HP42S, [shift][SHOW]). I wonder what 8.85 stands for; should that be another statistical tool you actually used? Anyway, when you mention HP42SX do you mean HP42S or HP48SX? Each case is a different input sequence.

About the HP17BII, I also obtained the same value above. In the HP17BII you should follow this:

```
[shift]MAIN
[SUM] (optional: [shift][CLEAR DATA][YES] to start a new set)
```

key in each number and press

```
[INPUT] (the display shows index for next input and current total)
```

After last number, press

```
[INPUT]
```

and press

```
[EXIT]
```

to exit input sequence. To compute standard deviation press

```
[CALC]
```

You'll see many opetions. Press

```
[STDEV]
```

and you'll see

```
STDEV=9.13
```

Press

```
[shift][SHOW]
```

for full precision.

Please, let us know what is the other calculator you have (HP42S or HP48SX). Hope this helps for now. If not, please post again.

Best regards.

Luiz (Brazil)

Edited: 11 Aug 2005, 2:04 a.m.

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Not about Cobubba -- Internationalization

*Message #1 Posted by **John Limpert** on 10 Aug 2005, 11:52 p.m.*

I've always been curious about non-English or non-European versions of calculators. As far as I can tell, HP just translates their manuals into the local language for major markets. i've seen pictures of calculators with Cyrillic keyboards. Are there calculators out there that are tailored for languages with non-Latin alphabets and/or non-Hindu/Arabic numerals?

Re: Not about Cobubba -- Internationalization

*Message #2 Posted by **Frank Boehm (Germany)** on 11 Aug 2005, 2:57 a.m.,*
in response to message #1 by John Limpert

There are calculators using arabic numbers (widespread in the Middle East) and "Soroban"-calculators, combining an abacus with a traditional LCD-calculator.

Re: Not about Cobubba -- Internationalization

*Message #3 Posted by **Gunnar Degnbol** on 11 Aug 2005, 6:00 a.m.,*
in response to message #2 by Frank Boehm (Germany)

Are you sure they are widespread? This page says the Al Hassibah 2000 calculator, introduced in 1991 and "not a stellar commercial success" was unique in its support for arabic-indic digits.

My Java RPN calculator Stak supports Arabic, Thai and many other digit shapes if the platform (phone or PC) does. My experience is that it is very easy to learn 10 different symbols for the digits, and I guess that most people in the world know the European digits as well as their own.

I think most websites in Arabic, for example Al Ahram (Egyptian newspaper) and Al Jazeera TV, or in Thai use European digits.

Re: Not about Cobubba -- Internationalization

*Message #4 Posted by **Frank Boehm** on 11 Aug 2005, 8:33 a.m.,*
in response to message #3 by Gunnar Degnbol

I have seen a couple of arabic models while visiting Egypt a couple of years ago. China makes it possible, I guess :)

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ebay

*Message #1 Posted by **Chris Woodhouse** on 10 Aug 2005, 1:02 p.m.*

I know a lot of times when people see the high bidder with 0 feed back on an auction, they think it is the seller jacking up the bid.... well I am selling my 42s on ebay and the current high bidder has 0 feed back. That's not the first time that happened to me either. I think it is just that people with 0 feed back aren't experienced on ebay and tend to but in higher bids sooner.

Chris W

Re: ebay

*Message #2 Posted by **Namir** on 10 Aug 2005, 2:07 p.m.,*
in response to message #1 by Chris Woodhouse

I have seen both good and bad newbie eBay bidders with a 0 feedback. Some did come through and some thought it was fun to outbid others but forgot that they had to pay for the item.

Re: ebay

*Message #3 Posted by **Bill (Smithville, NJ)** on 10 Aug 2005, 2:15 p.m.,*
in response to message #1 by Chris Woodhouse

Keep in mind that we ALL had zero feedback until we made that first successful bid/purchase.

After watching ebay for the past year or so, I finally signed up and made my first successful bid a few weeks ago. Actually, it was a buy it now. But still counts.

So I went from feedback of ZERO to ONE. There's probally many savy ebayer's that will still view my ONE feedback as a problem.

Bill (12345)

Re: ebay

*Message #4 Posted by **Howard Owen** on 10 Aug 2005, 2:33 p.m.,*
in response to message #1 by Chris Woodhouse

Well, one is better than none, two is better than one and so forth.

I don't worry about shills automatically when I see a bidder with low experience. I'm more nervous about the inexperienced bidder jacking up the auction (if I'm a buyer) or backing out on the sale (if I'm a seller.) I *do* start worrying about shills when both the seller and the top bidder have little experience. I generally stay away from auctions like that. But you also have to be careful about the nature of feedback with some sellers. There's an industry on eBay that churns out positive feedback in exchange for one dollar bids on recipes or other intangible goods. I always, always, always try to drill down on the auctions a seller has listed in feedback. That gives me a good sense of whether or not the seller is legit. This also works with buyers. If you are in a

competitive bidding situation, you can gain understanding of the other guy by seeing what he's bought recently, and how much he paid for it.

BTW, I'm in the market for a 42S. I'd be bidding on yours, except I have another bid outstanding at the moment. Good luck!

It's all relative

*Message #5 Posted by **Mike** on 10 Aug 2005, 2:34 p.m.,*
in response to message #1 by Chris Woodhouse

I've seen zero feedback bidders that I'd rather deal with than positive feedback bidders. I've honestly had more problems with people that have had 5, 10 or 20 negatives that were masked by hundreds of positives.

I judge bidders by what their negatives say, moreso than their positives.

When you read someone's feedback, be sure to read the feedback of the other bidder or seller. You can generally get a good idea who was at fault and who is a problem by reading feedback comments for **negatives**. Positive feedback is usually just routine and gives little info. Negatives tell a lot however. .

Edited: 10 Aug 2005, 2:38 p.m.

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"Swapdex" Wiki up at retrocalculator.

*Message #1 Posted by **Howard Owen** on 10 Aug 2005, 10:59 a.m.*

I've tentatively named the project to index the swap disks "Swapdex." I've put up a Wiki for discussion and work toward accomplishing this at http://retrocalculator.com/swapdex. Any and all are encouraged (nay, *begged*) to participate.

I ended up using MediaWiki because my hosting provider offers a "one-click install," and they are good about providing quick updates for the software they offer that way. There's basically nothing there beyond the default content at the moment.

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price range 15C

*Message #1 Posted by **Russ in Charlotte** on 9 Aug 2005, 9:41 p.m.*

What do you think is a reasonable price to pay for a 15C with box and original materials in mint or very good condition? Yes I guess on Ebay unless you know another way to purchase.

Thanks!

Are you buying or selling?

*Message #2 Posted by **Mike** on 9 Aug 2005, 11:52 p.m.,*
in response to message #1 by Russ in Charlotte

If really "mint in box, you'd be lucky to get it for under $500. I have seen them hit $750. However, $200-$300 would be reasonable, by ebay standards.

Edited: 9 Aug 2005, 11:52 p.m.

Re: Looking to buy

*Message #3 Posted by **Russ in Charlotte** on 10 Aug 2005, 7:15 a.m.,*
in response to message #2 by Mike

Looking to buy, thanks.

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Cobubba Smackdown!

*Message #1 Posted by **Howard Owen** on 9 Aug 2005, 7:27 p.m.*

I just won an auction for an HP-75C for a buck more than coburlin bid! *This makes me feel so good!* Now, it would be better if I had sniped the auction for a buck over his top bid exactly, but what actually happened is that *he sniped my auction!* (I've never seen him do that.)

So it is still possible to buy collectible HP hardware on eBay for a reasonable price.

So what's hard about that?

*Message #2 Posted by **Mike** on 9 Aug 2005, 11:54 p.m.,*
in response to message #1 by Howard Owen

He's actually very easy to outbid. [bole]He low-ball bids, on almost everything[/bold]. I use search for coburlin and filter out anything that's not a calculator. Saves a ton of time finding calculators.

But, like I said, coburlin is dirt easy to outbid.

Edited: 9 Aug 2005, 11:55 p.m.

Re: So what's hard about that?

*Message #3 Posted by **Howard Owen** on 10 Aug 2005, 1:15 a.m.,*
in response to message #2 by Mike

Of *course* he's easy to outbid, loballer that he is. I've done so many times. The trick here was, I outbid him *by one dollar!* That makes *me* a lowballer. hehehe. 8)

Re: So what's hard about that?

*Message #4 Posted by **Coburlin** on 10 Aug 2005, 1:26 a.m.,*
in response to message #3 by Howard Owen

Poor kid ... Get a life ...

Re: So what's hard about that?

*Message #5 Posted by **Namir** on 10 Aug 2005, 7:44 a.m.,*
in response to message #4 by Coburlin

Hey Cobuba .. look who is talking!!!

Re: So what's hard about that?

*Message #6 Posted by **Namir** on 10 Aug 2005, 7:51 a.m.,*
in response to message #4 by Coburlin

You know Cobuba what stinks about you? It's your predictor's attitude and the illusion of feeling superior to newbie eBay buyers. I buy and sell, usually making a modest profit and sometimes taking a loss. It's a hobby not a living. In any case I ALWAYS repest the buyer and do my best to be of help and service. You are out for some sick and twisted revenge againt "engineers". **We REALLY DON'T LIKE YOUR ATTITUDE!**

Re: So what's hard about that?

*Message #7 Posted by **Mark Lynch** on 10 Aug 2005, 10:41 a.m.,*
in response to message #6 by Namir

> Quote:
>
> We REALLY DON'T LIKE YOUR ATTITUDE!

Speak for yourself. Not knowing the guy, I had zero opinion one way or another, but after considering your note I've decided I like him.

I like that he gets your goat. I like that he's successful in all his evil practices of making money on eBay. And I especially like the fact there's nothing you can do about it.

I say: GO COBURLIN! Well done!

Since these boys are too upset and/or dim to see it, allow me to thank you for providing a reality check.

Everybody else: Get a grip.

Re: So what's hard about that?

*Message #8 Posted by **Namir** on 10 Aug 2005, 2:04 p.m.,*
in response to message #7 by Mark Lynch

Sounds like you ARE Cobuba!!!

Re: So what's hard about that?

*Message #9 Posted by **Mark Lynch** on 10 Aug 2005, 3:58 p.m.,*
in response to message #8 by Namir

> Quote:
>
> Sounds like you ARE Cobuba!!!

You think?!? That's even better still! Pretty soon you'll be seeing him (oops - me) following you home at night.

OR - and I admit this is a long shot - maybe I'm just someone who disagrees with your (juvenile in my opinion) attitude.

No. No, I think I like your version better. It's all much more conspiratorial and I love that stuff.

You have been warned!

Re: So what's hard about that?

*Message #10 Posted by **Namir** on 10 Aug 2005, 5:19 p.m.,*
in response to message #9 by Mark Lynch

I think your mask is off Cobuba. Only you would care sooooo much about a creep like Cobuba. Only you would take the time to write sooo many comments back in this thread. Cobuba is very predictable! An you thought you were sooooooooo smart and slick!

Re: So what's hard about that?

*Message #11 Posted by **Mark Lynch** on 10 Aug 2005, 6:43 p.m.,*
in response to message #10 by Namir

Caught me!

Re: So what's hard about that?

*Message #12 Posted by **Mark Lynch** on 10 Aug 2005, 10:27 a.m.,*
in response to message #4 by Coburlin

> Quote:
>
> Poor kid ... Get a life ...

No doubt.

Re: So what's hard about that?

*Message #13 Posted by **Mark Lynch** on 10 Aug 2005, 10:40 a.m.,*
in response to message #4 by Coburlin

> Quote:
>
> Poor kid ... Get a life ...

No doubt.

Re: So what's hard about that?

*Message #14 Posted by **Randy** on 10 Aug 2005, 8:23 a.m.,*
in response to message #3 by Howard Owen

Sounds like proxy bidding was working correctly if you won a bid by a minimum amount. It does not mean you were lo-balling at all. It just means you bid more than someone else.

Geeze, gimme a break!

*Message #15 Posted by **Howard Owen** on 10 Aug 2005, 8:32 a.m.,*
in response to message #14 by Randy

Yes, that's what my initial post says. I didn't bid the exact amount that was one dollar over what Cofuffa bid. Proxy bidding gave me the win for a very low price.

But it still felt great, all the qualifications and provisos notwithstanding.

Re: Cobubba Smackdown!

*Message #16 Posted by **Namir** on 10 Aug 2005, 12:23 a.m.,*
in response to message #1 by Howard Owen

Maybe Cobubba inherited $200 to buy something on eBay???

Re: Cobubba Smackdown!

*Message #17 Posted by **I, Claudius** on 10 Aug 2005, 3:44 a.m.,*
in response to message #1 by Howard Owen

Great! This is just the sort of thing needed to thwart bottom feeders.

Re: Cobubba Smackdown!

*Message #18 Posted by **Osvaldo** on 10 Aug 2005, 5:55 p.m.,*
in response to message #17 by I, Claudius

Sincerely: All this discussion about Ebay folks waste space of the main subject of this forum: HP calculators!

Ebay is an open world: If you think that the price is fair you bid. period

Everybody sometimes, including myself, bided too much for a good. But we learn and next time we do better. There where other guys asking for high prices but some of theme faded away with the zero bids wind of his own frustrated auctions.

As I said: Lets discuss more about calculator and less about people.

Best regards,

Re: Cobubba Smackdown!

*Message #19 Posted by **blurdybloop** on 12 Aug 2005, 1:59 p.m.,*
in response to message #1 by Howard Owen

Take a look at http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=5797652763&rd=1&sspagename=STRK%3AMEWA%3AIT&rd=1 . Perhaps the picture doesn't do that HP-45 justice, but it sure doesn't look "museum grade" to me.

Nevertheless, our favorite sleaze actually put in a reasonable bid ($50) for it. Assuming that he gets it, I wonder what he'll ask when he turns around and sells it. His normal asking price is $329.

I wish that I could get those kinds of prices for my HP-320LX (not to mention my Newton 100!). I looked on eBay and quickly concluded that market value was so low it wasn't worth the bother.

Re: Cobubba Smackdown!

*Message #20 Posted by **Howard Owen** on 12 Aug 2005, 3:15 p.m.,*
in response to message #19 by blurdybloop

That's a very poor photograph. The apparent warping around the on-off switch may just be oil from

fingerprints. Still, it's impossible to tell from what's shown. Also, the mark at the upper right of the keyboard is less easily explained away.

I say give the devil his due. 8)

Re: Cobubba Smackdown!

*Message #21 Posted by **blurdybloop** on 14 Aug 2005, 3:48 a.m.,*
in response to message #1 by Howard Owen

Our favorite sleaze is a magician. By magic, he transformed a broken HP-35 calculator into a Trekker PS/2 scroll wheel mouse today. Such magic.

By the way, it appears that our boy has an apprentice. Take a look at http://cgi.ebay.com/HP-35-Calculator-in-MINT-condition_W0QQitemZ5798791585QQcategoryZ58039QQssPageNameZWDVWQQrdZ1QQcmdZViewItem. So, someone is supposed to pay $475 for an HP-35 based upon blurry photos (although not blurred enough to obscure that the case is damaged and the leather carrying case is worn).

HAR HAR HAR

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Log Base 2 on HP15C

*Message #1 Posted by **John** on 9 Aug 2005, 1:44 p.m.*

Does anyone know how to do a Log base 2 on the HP15C? I am working on some issues and can do this easily with MS Excel, but it would be much quicker on the 15C.

Please respond to perrybucsdad@alltel.net

- John

Re: Log Base 2 on HP15C

*Message #2 Posted by **Howard Owen** on 9 Aug 2005, 2:15 p.m.,*
in response to message #1 by John

LOG(n)/LOG(2) = log base 2 of n. Where LOG is logarithm to any base.

Re: Log Base 2 on HP15C

*Message #3 Posted by **Chris Woodhouse** on 9 Aug 2005, 2:27 p.m.,*
in response to message #2 by Howard Owen

You could write a short program to do it.

```
f LBL C
g LOG
2
g LOG
/
g RTN
```

That should work and it will be on the same key as the LOG function.

Bring Back the HP 15C

Re: Log Base 2 on HP15C

*Message #4 Posted by **John** on 9 Aug 2005, 2:30 p.m.,*
in response to message #2 by Howard Owen

Howard... do you have the "special" HP15C with the Log(n) button? Don't see that on my model. Am I missing something?

Sorry for being a dolt! :)

- John

Re: Log Base 2 on HP15C

*Message #5 Posted by **Howard Owen** on 9 Aug 2005, 3:05 p.m.,*
in response to message #4 by John

Sorry, my post was in "pseudo-mathematics," a dialect of math you can only use when you have nothing but a computer keyboard to work with. 8)

The keystrokes are close to what Chris has in his program:

```
n
g LOG
2
g LOG
/
```

Here "n" is a number you key in and "g" is the blue shift key. So g LOG is g followed by the third key from the left in the upper row, marked "10^X". For example, to compute the logarithm base 2 of 16, you would do "16 g LOG 2 g LOG /" and see the answer of 4.000 (in FIX 4) in the display. Chris suggests writing a program if you do this calculation frequently. You would first do "g R/S" to enter program mode, then type Chris's keystrokes, then type "g R/S" again to leave program mode. Once you did that, pressing the 10^X key with user mode set ("f RCL", where f is the gold shift key, will toggle user mode) will run your program. The keystrokes to compute the logarithm base 2 of 16 would then be "16 10^X"

If this all makes sense, and the following *doesn't* make sense, then just ignore the stuff you don't understand.

The program and keystroke solution above would work just as well using the *second* key from the left in the top row, instead of the third. That's because, mathematically, the logarithm to any base of a number, divided by the logarithm to the same base of another number, will produce the logarithm to the second number's base of the first number. English has it's limitations in describing mathematical ideas, so that probably sounds confusing. Symbolically:

$$\frac{\log_{B_1}\mathbf{n}}{\log_{B_1}\mathbf{B_2}} = \log_{B_2}\mathbf{n}$$

Good thing I found the subscript function. It helps emphasize that this is a math formula and not a 15C program.

So in the first case, the third key from the left (blue shifted) is the logarithm base 10, so B_1 is ten. But you could use the (blue shifted) *second* key from the left just as well, because that's the logarithm base *e*, where *e* is a magic number that is useful in many areas of math. So B_1 in that case is *e*. But everything works because you use the same base in both logarithms, and that matches the formula.

Hope that helped.

Edited: 9 Aug 2005, 3:15 p.m.

Re: Log Base 2 on HP15C

*Message #6 Posted by **John** on 9 Aug 2005, 3:19 p.m.,*
in response to message #5 by Howard Owen

KICK ASS!! WOW... I love it!! Thanks guys!

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Swap Disk Indexing Project

*Message #1 Posted by **Howard Owen** on 9 Aug 2005, 12:30 p.m.*

This is a call for data, and/or comment and/or participation in a project to produce an index for the varios LIF images collectively known as "the Swap Disks." I'm sure that this has been done, probably more than once over the years, but I don't see an extant index out on the Internet. What I plan to do is to put up a wiki (Twiki, probably) at retrocalculator.com where people can add entries against file names in the raw LIF directory listings. I will have to ask for registration, because of the problem of SPAM bombing and vandalism that wikis are subject to.

Some inital thoughts I have, open to discussion:

The index should be free, like in beer, as the swap disks themselves are.

Personally, I'd prefer if it were Free, like in freedom, as in the Gnu Free Documentation or one of several Creative Commons licenses. This is certainly open to discussion.

The index doesn't have to be comprehensive to be useful. Therefore, wiki content will be distilled into the canonical index on a frequent basis.

The wiki should be free-form, but the index should be rigidly structured. This matches the needs of humans on the one hand and computer searching on the other.

I propose not to provide a discussion forum, since there is already a very nice one here, and the subject is on-topic. This is, of course, subject to Dave's requirements.

I can host a mirror of the swap disk archive or use the (now canonical) copy here.

If there is interest, new swap disks could be produced. I see no archive of 71B software other than the swap disks, for instance. I'd be glad to host one.

(I think) I have every machine whose software appears on the swap disks except for the 75D. Those would be the 41C, 75C and 71B. I also have the capability to load LIF formatted data on to each of those. That means I can try figuring out what a particular file does for each of the three machines. I can also convert media from LIF to modern formats.

I'm willing to do much of the work. However, my day job is about to spin up again, so It will be a part-time effort after the initial push. Help would be very welcome, and ought to speed the process along. But I'm committed to following through on this regardless, since it falls squarely within my hobby interest: old calculator software and systems.

If you are interested, please drop me a line, or reply here. I need to gauge how much interest there is before I go through the not inconsiderable labor of setting up Twiki. If it's just me and one or two others, I won't bother with that part.

Regards
Howard

Re: Swap Disk Indexing Project

*Message #2 Posted by **John Pierce** on 9 Aug 2005, 2:47 p.m.,*
in response to message #1 by Howard Owen

In the last several years I have become interested in collecting, using, and "playing with" HP calculators. I own HP41C, HP71B, and HP75D calculators, and quite a few peripherals, and original software and ROM pacs. I have several original "swap" disks from Educalc. I do not know how to extract the LIF file images on the MoHPC ftp site for my use, although I have tried using HP utility files. I am willing to help, and support your effort any way I can. I am retired and have plenty of free time. And maybe I'll learn something. Let me know what I can do to help.

Thanks for your interest in this project.

Best regards John Pierce

Re: Swap Disk Indexing Project

*Message #3 Posted by **Howard Owen** on 9 Aug 2005, 3:28 p.m.,*
in response to message #2 by John Pierce

Hi, John!

Yes, that's the tricky part - getting the bits on to the calculator/computer. I do it with an HP-IL ISA card built by Cristoph Klug. You should also be able to use an original HP HP-IL ISA card for this purpse. There's one being offered on eBay, the last I looked. You need a PC at least one ISA slot, which means an older one. But given that, you can then run J.F. Garnier's EMU41 in a DOS box (on Windows) or under DOSEmu (under Linux.) This gives you the capability to serve out LIF images to the loop, where you calculators and computers can get at the contents.

There are other ways to go. For the HP-41C, you can convert the raw bits (extracted with available tools for DOS or Linux) to barcode files, which you can then print and scan with the wand. This is tedious, so I never do it unless I have a 41C program in barcode only. The approach doesn't work for the 75C or 71B, but might for the 75D and wand.

What you can't do is write LIF images to floppy (that could then be read by a 9114) because the sector size of 256 bytes is unsupported in any PC BIOS past 1990 or so. I recently saw a dual SCSI 5 1/4" floppy set, and it occurred to me that it might be possible to read and write the lif disks directly using such a beast. However I don't have a 5 1/4" HP-IL floppy.

Re: Swap Disk Indexing Project

*Message #4 Posted by **Tony Duell** on 10 Aug 2005, 6:08 a.m.,*
in response to message #3 by Howard Owen

The LIF Utilities for Linux don't use the BIOS at all (they use the linux floppy driver which talks directly to the hardware). I have certainly read/written physical 3.5" disks in my PC and then stuck them in the 9114 with no problems.

Of course my PC is a lot older than 1990, but I don't think that's necesary for it to work.

Re: Swap Disk Indexing Project

*Message #5 Posted by **Howard Owen** on 10 Aug 2005, 8:13 a.m.,*
in response to message #4 by Tony Duell

Well, I can't get lifimage or lifdump to work for me on a ca. 1994 Compaq Pentium machine running Slackware 10. I have many newer machines that I haven't tried, tunning a variety of Red Hat flavors. I'll try some of them and report back.

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Forth Assembler

*Message #1 Posted by **Garry** on 9 Aug 2005, 9:30 a.m.*

Isn't it possible to put a Forth Assembler Rom Image on a Clonix or NoVRAM module? Thanks---GARRY

Re: Forth Assembler

*Message #2 Posted by **Diego Diaz** on 9 Aug 2005, 2:57 p.m.,*
in response to message #1 by Garry

Hi,

Yes it is, if you're interested in such configuration I'll make a FORTH41.HEX file to burn into Clonix/NoVRAM and will mail it to you.

Due to the take-over nature of such image (using page #4) it cannot be configured with the standard Clonix6P.EXE utility.

Best wishes

Diego

Edited: 10 Aug 2005, 6:30 p.m.

Re: Forth Assembler

*Message #3 Posted by **Jürgen Rodenkirchen** on 11 Aug 2005, 1:54 p.m.,*
in response to message #2 by Diego Diaz

Hi Diego! Would you be so nice and mail me a copy, too?

Re: Forth Assembler

*Message #4 Posted by **Garry** on 12 Aug 2005, 9:31 a.m.,*
in response to message #2 by Diego Diaz

Deigo, please email the file to my email address, just drop the nospam from the address. Thanks---GARRY

Re: Forth Assembler

*Message #5 Posted by **Diego Diaz** on 12 Aug 2005, 9:57 a.m.,*
in response to message #4 by Garry

Hi,

Garry, I just mailed you the file yesterday afternoon... Didn't you receive it?

Jürgen, I'll send it to you also as I get back home this afternoon.

Please feel free to distribute to anyone interested in the subject.

Cheers!

Diego

Re: Forth Assembler

*Message #6 Posted by **Don Wallace** on 13 Aug 2005, 8:18 p.m.,*
in response to message #5 by Diego Diaz

Hi all.

Hi Diego. I was wondering if you or jurgen could pass on the forth file.

By the way, Diego, I just want to say BRILLIANT WORK by you and JI on the clonix rom device. That's really cool, and I really like the F252 coding by you and JI (don't know how much is JI's; software and you did the hardware?) Anyway, wonderful implementation.

Can you get the power consumption (a.k.a. F252 clock rate) down any further? Just curious.

Don

Re: Forth Assembler

*Message #7 Posted by **Emmanuel** on 13 Aug 2005, 1:07 p.m.,*
in response to message #2 by Diego Diaz

Dear Diego, If you could send me the necessary files, it would be nice. I have a Clonix41 and a Novram. The pages used by Forth41 are 4 & 5. Thanks for assistance. Regards. Yours. Emmanuel

Re: Forth Assembler

*Message #8 Posted by **don wallace** on 16 Aug 2005, 3:46 a.m.,*
in response to message #7 by Emmanuel

Hi all.

My e-mail address is donwallace63@yahoo.com.au

If anyone has a spare minute, could they e-mail me a copy of the forth rom image, please.

Diego, whats required to write the image to your clonix module?

Thanks in advance, guys.

Don W

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HP 37C calculator batteries

*Message #1 Posted by **Vivek Ghodekar** on 9 Aug 2005, 9:03 a.m.*

Can anyone tell me where I might be able to find batteries for this calculator mode (37C) and approximately what they might cost?

Thanks,

Vivek

Re: HP 37C calculator batteries

*Message #2 Posted by **Katie Wasserman** on 9 Aug 2005, 10:58 a.m.,*
in response to message #1 by Vivek Ghodekar

I think that you mean an HP-37E or an HP-38C. [But if it is a 37C. there are a lot of people on this forum that would love to get their hands on it :)]

Anyway, this is a really easy battery pack to replace with regular AA batteries or you can make one yourself out of ni-cad (or ni-mh) batteries. Here's more information:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv007.cgi?read=15700

http://www.hpmuseum.org/batts/batt30.jpg

http://www.hpmuseum.org/batts/bc30.jpg

Re: HP 37C calculator batteries

*Message #3 Posted by **Chan Tran** on 9 Aug 2005, 12:25 p.m.,*
in response to message #2 by Katie Wasserman

I wonder if a CRV3 battery would fit? The CRV3 which is basically 2 AA battery put together.

Re: HP 37C calculator batteries

*Message #4 Posted by **Katie Wasserman** on 10 Aug 2005, 9:51 a.m.,*
in response to message #3 by Chan Tran

It might, I haven't tried it. There are a few potential issues:

- There's a ridge on the bottom of the battery compartment in the calculator that may prevent the battery from fitting properly.

- The contacts may be too recessed on the battery to match up with the contact springs in the calculator.

- The battery pack might be a hair too long.

But it's a good suggestion that I'm going to try it. The extremely long shelf life and high energy density of lithium is a big plus! Besides I've never seen a lithium battery leak.

Re: HP 37C calculator batteries

*Message #5 Posted by **Peter Geiser** on 9 Aug 2005, 3:04 p.m.,*
in response to message #1 by Vivek Ghodekar

From what I see, I assume that all the Spice series calculators have the same betteries, i.e. it is possible to use the two AA batteries for a HP38C as well. Is this correct?

Re: HP 37C calculator batteries

*Message #6 Posted by **Katie Wasserman** on 10 Aug 2005, 10:00 a.m.,*
in response to message #5 by Peter Geiser

Yes, all the Spice series calculators (31E, 32E, 33E, 33C, 34C, 37E, 38E, 38C) use the same battery pack. In fact all the calculators in any HP calculator series use the same battery pack, the battery pack is a good way to define "series".

(Although some would argue that the 10, 19C, 67 and 9x are properly in the Woodstock series. Then there's the 75C/D which uses the same battery as the classic series, so that's sort of a problem too.)

Edited: 10 Aug 2005, 11:20 p.m. after one or more responses were posted

Re: HP 37C calculator batteries

*Message #7 Posted by **Peter Geiser** on 10 Aug 2005, 5:23 p.m.,*
in response to message #6 by Katie Wasserman

Thank you, Katie. So I'll try to create a battery pack fo my 38C with the info in your original links.

Re: HP 37C calculator batteries

*Message #8 Posted by **Klaus** on 10 Aug 2005, 11:06 a.m.,*
in response to message #1 by Vivek Ghodekar

There once was a thread on this forum about a picture an ebay with a spice powered by a 9V bat. I wonder if this calc still works!

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MoHPC *The Museum of HP Calculators*

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matrix Inverse using Hp-17BII+

*Message #1 Posted by **chris dean** on 9 Aug 2005, 8:38 a.m.*

```
The HP 27S and 19B Technical Manual uses the matrix of
(cofactors / determinant) method to solve Ax=B. I originally
started doing the inversion using LU decomposition to be able
to invert N*N matrices but soon found that I could not enter
values into the ITEM() array at run time (i.e. whilst trying
to solve). Therefore I pursued a solution for a 3*3 matrix
only, just to say that I had done it!


The underlying equations using LU decomposition are shown below.



L11=A11
L21=A21
L31=A31
U12=A12 / L11
U13=A13 / L11
L22=A22 - L21.U12
U23=(A23 - L21.U13) / L22
L32=A32-L31.U12
L33=A33 - L31.U13 - L32.U23
Y1=1 / L11
Y2=-L21.Y1 / L22
Y3=(-L31.Y1 - L32.Y2) / L33
V31=Y3
V21=Y2 - U23.V31
V11=Y1 - V21.U12 - U13.V31
Y1=0
Y2=1 / L22
Y3=-L32.Y2 / L33
V32=Y3
V22=Y2 - U23.V32
V12=Y1 - U12.V22 - U13.V32
Y1=0
Y2=0
Y3=1 / L33
V33=Y3
V23=Y2 - U23.V33
V13=Y1 - U12.V23 - U13.V33



I had to split the equations into Z for variable registration,
SUM for the input array A and AINV for calculation otherwise
the equation seemed to run out memory at run time and did not
calculate the last few terms.


Z=V11+V12+V13+V21+V22+V23+V31+V32+V33+
L11+L21+L22+L31+L32+L33+U12+U13+U23+
Y1+Y2+Y3



AINV=0x(L(l11:ITEM(A:1))
+L(L21:ITEM(A:4))
+L(L31:ITEM(A:7))
+L(U12:ITEM(A:2)/G(11))
+L(U13:ITEM(A:3)+G(L11))
+L(L22:ITEM(A:5)-G(L21)xG(U12))
+L(U23:ITEM(A:6)- G(L21)xG(U13))/G(L22))
+L(L32:ITEM(A:8)-G(L31)xG(U12))
```

```
+L(L33:ITEM(A:9)-G(L31)xG(U13)-G(L32)xG(U23))
+L(Y1:1/G(L11))
+L(Y2:-G(L21)xG(Y1)/G(L22))
+L(V31:(-G(L31)xG(Y1)-G(L32)xG(Y2)/G(L33))
+L(V21:G(Y2)-G(U23)xG(V31))
+L(V11:G(Y1)-G(V21)xG(U12)-G(V31)xG(U13))
+L(Y2:1/G(L22))
+L(V32:-G(L32)xG(Y2)/G(L33))
+L(V22:G(Y2)-G(U23)xG(V32))
+L(V12:-G(U12)xG(V22)-G(U13)xG(V32))
+L(V33:1/G(L33))
+L(V23:-G(U23)xG(V33))
+L(V13:-G(U12)xG(V23)-G(U13)xG(V33)))

Use the SUM menu to input the values for the 9 matrix elements
where element k = (row-1)*3 + column. Click on NAME and save the
data as A.


Go to the solve menu, find the Z formula and click on CALC to
register the variables.


Find the AINV formula and click on CALC. Click on AINV, when it
is finished the display should show AINV=0.000…


Click on EXIT and go to the Z equation. Click on CALC and then
RCL V11, RCL V12, RCL …. to show all the elements of the inverse
matrix of A.


A useful test matrix is the Hilbert matrix 1, ½, 1/3, ½, 1/3, ¼,
1/3, ¼, 1/5 with the resultant inverse matrix elements 9, -36,
30, -36, 192, -180, 30, -180, 180 ignoring the rounding errors.


I have not studied the accuracy of the results as yet but
thought I would post it for any comments and hopefully any
improvements on technique. Also are there any tricks that I do
not know about that I could have used?
```

Edited: 9 Aug 2005, 9:07 a.m.

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HP48 <-IR-> Nokia3650

*Message #1 Posted by **Tizedes Csaba [Hungary]** on 9 Aug 2005, 5:48 a.m.*

Hello,

heard about something Symbian prog to communicate a N3650 mobile phone with any HP IR device? Like a 48SX to write SMS or HP IR printer to print text files or SMSes...?!

Thanks for any answers or links!

Csaba

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comma in lieu of decimal point

*Message #1 Posted by **Bill Nelson** on 9 Aug 2005, 4:19 a.m.*

a couple days ago i turned the calculator and now i get the "," in lieu of the decimal point in numbers and no longer get the comma at all in numbers of 1,000 or larger...is there a flag that needs to be set?

Re: comma in lieu of decimal point

*Message #2 Posted by **James M. Prange (Michigan)** on 9 Aug 2005, 4:42 a.m.,*
in response to message #1 by Bill Nelson

Which calculator model?

Re: comma in lieu of decimal point

*Message #3 Posted by **D Cleland** on 9 Aug 2005, 4:47 p.m.,*
in response to message #2 by James M. Prange (Michigan)

12C

Toggling the separator

*Message #4 Posted by **Evan (San Jose, California)** on 9 Aug 2005, 6:28 p.m.,*
in response to message #3 by D Cleland

With the 12c off, press and hold the decimal point key while then pressing the 'ON' key. This toggles the separator being used.

evan

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Andy Delano's 71B Page

*Message #1 Posted by **Howard Owen** on 8 Aug 2005, 10:56 p.m.*

Having just scored a 71B (with MEM reporting 123318!), I'm now in search of cool toys. JF Garnier's and Eric Smith's sites both refer to http://home.attbi.com/~andy.delano/index.htm as a resource page for the 71B. But that was the old cox@home hierarchy hastily converted over to attbi when the plug was pulled. And AT&T internet is now Comcast. Whatever, the address no longer exists. Does anyone know what became of the site?

Thanks

Re: Andy Delano's 71B Page

*Message #2 Posted by **David Smith** on 9 Aug 2005, 11:50 a.m.,*
in response to message #1 by Howard Owen

You might try the Wayback Machine and see if it archived the old site.

Re: Andy Delano's 71B Page

*Message #3 Posted by **Howard Owen** on 9 Aug 2005, 11:55 a.m.,*
in response to message #2 by David Smith

Duh! (*Smacks forehead with palm.*)

Re: Andy Delano's 71B Page

*Message #4 Posted by **Howard Owen** on 9 Aug 2005, 12:50 p.m.,*
in response to message #2 by David Smith

Well, it was a good idea. But Wayback comes up empty. The wole of "home.attbi.com" only has about a dozen pages, most referenced with HTTP GET URLs. The last page archived for the base page did point me to 'home.comcast.net' but http://home.comcast.net/~andy.delano/index.htm doesn't exist either.

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Collector Responsibility?

*Message #1 Posted by **Russ in Charlotte** on 8 Aug 2005, 7:06 p.m.*

I recently bought a 32E (but the model isn't important for this thread). It's in beautiful physical condition, until you get to the internal corrosion issue. As a collector should I feel obligated to get the calculator functioning again, or is a lovely paper weight good enough?

Collector Responsibility?

*Message #2 Posted by **Bernhard** on 8 Aug 2005, 7:34 p.m.,*
in response to message #1 by Russ in Charlotte

In my opinion you don't have any obligation to fix it. It's your calc, you bought it, you can do with it whatever you want to do. The HP32E is quite common and easy to get. No big loss to the collector community if it is not restored. Other Spice models are rarer and more valuable. The common HP32E might serve as a transplant organ spender to revive some on the rarer Spices. Such as replacing burnt out LED displays or worn keyboards (I mean on the solderered variety, not the press-fit ones). I even must admit to have slaughtered a not so pretty but fully functional HP32E recently to get just the battery PCB and the flexfoil to fix a HP38C which also had corrosion by leaky batteries. The HP38C now is in perfect condition again, the HP32E is dead. Was it worth the sacrifice ? For me, yes. I also buy worn / ugly HP45 just to cannibalize them for LED display modules and chips to repair the more valuable Classics, the HP55s being particular notorious for burnt out LEDs. So there is nothing wrong with not restoring your HP32E. If you are new to restoring HPs and want to get a little practice, try to replace the corroded parts with thin wires. But don't blame me if you break the case in the process...

Regards, Bernhard

Re: Collector Responsibility?

*Message #3 Posted by **Mike (Stgt)** on 9 Aug 2005, 3:36 a.m.,*
in response to message #1 by Russ in Charlotte

Do you like just a paper weight or a paper wight that works?

Ciao.....Mike

Re: Collector Responsibility?

*Message #4 Posted by **Chan Tran (USA)** on 9 Aug 2005, 12:29 p.m.,*
in response to message #3 by Mike (Stgt)

it's certainly nice if you can fix it. I don't think as collector you should collect only working units. In fact many collectors as they don't actually use what they collect so they would collect units that is in good cosmetic condition but not functioning. Sometimes a collector only wants to have the unit to show others how it looks like.

Re: Collector Responsibility?

*Message #5 Posted by **Russ in Charlotte** on 9 Aug 2005, 9:49 p.m.,*
in response to message #4 by Chan Tran (USA)

Thanks all... I appreciate your imput. I'm tempted to try to repair, but as was mentioned, I could make matters worse. Hopefully, the corrision has stabized.

Re: Collector Responsibility?

*Message #6 Posted by **Howard Owen** on 9 Aug 2005, 10:27 p.m.,*
in response to message #1 by Russ in Charlotte

Assuming you'd rather have it working than not, because of your delight as a enthusiast, or your conscience as a collector, then one thing to look at would be risk:benefit. Though the current state of your machine could be described as "a pretty paperweight," that status actually has value in a display piece or conversation starter. So if you don't do anything to screw up this attribute of the device by opening it, then the only risk you run is that the machine won't work, and may be even more damaged, when you put it back together. If you are satisfied with the display piece, then that isn't really a risk at all. On the other hand, if that really is an unacceptable risk, then you can choose to send it off to one of the expert calculator repair people. This could be pricey, but may have a better chance of producing a working machine than if you attempt the repair yourself. Finally, you might get a benefit from opening your calculator, even if yo screw it up. You could end up learning something about how the machine ought to work. If this gives you pleasure, then I wouldn't discount it as a benefit.

Best of luck!

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HP Forum

*Message #1 Posted by **disgruntled** on 8 Aug 2005, 4:30 p.m.*

Why not change the name from HP Forum to HP Calculator Forum so there is no mistaking what the forum is actually for.

Re: HP Forum

*Message #2 Posted by **Jim L** on 8 Aug 2005, 5:40 p.m.,*
in response to message #1 by disgruntled

I would think that if the "This forum is for discussion of HP calculators" printed in red above the message box doesn't stop people, then nothing will. ;-)

Re: HP Forum

*Message #3 Posted by **Howard Owen** on 8 Aug 2005, 6:44 p.m.,*
in response to message #2 by Jim L

Dave could try adding "laptop" and "printer" to his list of forbidden words. 8)

Actually, adding "Calculator to the forum title wouldn't hurt, and it might do some good. Knowing nothing about this site, J. Random User does a Google search for "HP Forum" and gets several hits in MoHPC. At the top of the page are the words "HP Forum" So she hauls off and asks her laptop question, ignoring the red letters because they probably just are telling her to be cool..

This seems pretty clear to me Mr. disgruntled

*Message #4 Posted by **Mike** on 8 Aug 2005, 11:39 p.m.,*
in response to message #1 by disgruntled

http://www.msdsite.com/temp/hp.jpg

HP Calculators is printed at the top of every page. How can one get confused. **Maybe you just get confused easily.**

I guess it could have been:

http: www.hpcalculatorNoWaitThatsTooRestrictiveForSomeMaybeOneOrTwoOfHPProductsIsBetter.com

What do you think about that one?

Try Google

*Message #5 Posted by **Howard Owen** on 9 Aug 2005, 12:59 a.m.,*
in response to message #4 by Mike

Guess what the second link on Google is for "HP Forum" **not** in quotes? It's the page just above this one. Look for "HP Calculators" on that page. Now look for "HP Forum." Which is easier to see?

Great picture by the way, Dave. 8)

Edited: 9 Aug 2005, 1:00 a.m.

Re: Try Google

*Message #6 Posted by **Jim L** on 9 Aug 2005, 9:13 a.m.,*
in response to message #5 by Howard Owen

I searched on Google. The first link is to HP's IT forums. The second link is to here but it is marked right on the Google search page as: "This forum is for discussion of HP calculators".

I went to the HP IT forum and it doesn't let you post without registering. I think many people just don't want to take the time to register so then they look for another forum. This forum is next on the list and doesn't require registration so...

Requiring registration might make a lot of off-topic posts go away, but it might make a lot of on-topic posts go away too.

Re: This seems pretty clear to me Mr. disgruntled

*Message #7 Posted by **disgruntled** on 9 Aug 2005, 4:48 a.m.,*
in response to message #4 by Mike

I have no confusion on the forums use as I would not respond non calculator based questions.

Re: thread topic in general

*Message #8 Posted by **don wallace** on 19 Aug 2005, 2:39 a.m.,*
in response to message #7 by disgruntled

Isn't life too short to get worked up over all this?

Re: thread topic in general

*Message #9 Posted by **Chris Dean** on 19 Aug 2005, 3:47 p.m.,*
in response to message #8 by don wallace

You are right Don we all come to this forum because we enjoy it, ex disgruntled.

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how reliable are HP laptops?

*Message #1 Posted by **L_ion** on 8 Aug 2005, 2:35 p.m.*

Hi, people! I never had a HP laptop, and i saw a DV 1355EA for a very reasonable price. How reliaeble them are?

Re: how reliable are HP laptops?

*Message #2 Posted by **Bob Wang** on 8 Aug 2005, 4:56 p.m.,*
in response to message #1 by L_ion

I have found them to be quite reliable. I know of two that have been dropped from different heights due to user carelessness. They both continued to function initially, but the one dropped from a standing position no longer boots. So, unless you are accident-prone, HPs should serve you well.

One piece of advice, unless you are saving a considerable amount, I would recommend ordering a customized model from HP's web site. That way you can get Windows XP Professional instead of the Home edition which is what is usually found in the off-the-shelf variety.

Oh, and Brightview is a must in my humble opinion ;-)

Bob

Re: how reliable are HP laptops?

*Message #3 Posted by **L_ion** on 8 Aug 2005, 6:33 p.m.,*
in response to message #2 by Bob Wang

Thanks, Bob!but what i meant was if the computer will not breack down will in work.(of course there is always such a posibility) my previsios packard bell got broken because of the hard disk wich overheated.(it was 5 months old, a really fast 3.2 Pentium 4) Now, i have the choise betveen sony or HP.

Re: how reliable are HP laptops?

*Message #4 Posted by **Juan J** on 8 Aug 2005, 8:12 p.m.,*
in response to message #3 by L_ion

I have used HP laptops for a while and have found them reliable. I have experienced the occasional 1-foot drop or a minor hit with a piece of furniture while carrying it around but nothing happened.

On the other hand, the CPU cooler of a Toshiba laptop I had ceased to function after the same 1-foot drop. Later examination showed that overheating had loosened the fan supporting screws and the entire assembly was loose and therefore suffered with the hit. I've had no such concern with HP laptops.

Whether you intend to carry it around or use it mainly as a dektop, you will not be disappointed.

Re: I have owned a couple

*Message #5 Posted by **Mike** on 8 Aug 2005, 11:32 p.m.,*
in response to message #1 by L_ion

I bought a Z5000 last year. It worked flawlessly. I replaced it this year (in fact last week), with a dv1000. They are great machines. I love this dv1000. It's small, lighweight, powerful and is great for my business trips.

Specifically, I have the dv1331se.

I have not had a single problem with either of the HP laptops that I have owned.

Edited: 8 Aug 2005, 11:33 p.m.

Re: I have owned a couple

*Message #6 Posted by **Ronald** on 9 Aug 2005, 8:37 a.m.,*
in response to message #5 by Mike

I have had 2 HP laptops and one Dell laptop the last years:

HP: Not a single glitch. I even droped one from meter high which did broke some of the plasctic form the corner, but nu function loss what so ever !. Hit the doorpost with the USB plugged in from my mouse, so the connector was heavely insulted, but kept on working. I travel quite a lot, also in airplanes etc. but it always kept working.

The Dell: The good news: had really perfect service, next day at your adress The bad news: I had in one (1) year time: One new LCD display, one motherboard, one powersupply and and keyboard. In a way hes stays always young but.....

For me the choice is clear HP laptops.

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Hewlett Packard International Lottery

*Message #1 Posted by **A A Strauss** on 8 Aug 2005, 12:50 p.m.*

I received a Prize Award Notification from Hewlett Packard Promotional Lottery from 89 Wood Street, London. awarding me GBP 1,500,000.00 pounds. Is this a scam?

Re: Hewlett Packard International Lottery

*Message #2 Posted by **Tim Wessman** on 8 Aug 2005, 12:58 p.m.,*
in response to message #1 by A A Strauss

Nope, just mail me a check for 5000$ dollars and I'll work out the details for you. My address is:

Tim "Slick" Wessman 1234 Sucker Lane Nigeria 90210 Earth

Re: Hewlett Packard International Lottery

*Message #3 Posted by **Ron Ross** on 8 Aug 2005, 4:08 p.m.,*
in response to message #2 by Tim Wessman

My check is in the mail for $100,000. Could you send me back the difference?

Regards,

Ron W.(Weasal) Ross

Re: Hewlett Packard International Lottery

*Message #4 Posted by **Howard Owen** on 8 Aug 2005, 3:24 p.m.,*
in response to message #1 by A A Strauss

Yes, it is.

Re: Acronyms

*Message #5 Posted by **Andrés C. Rodríguez (Argentina)** on 8 Aug 2005, 5:28 p.m.,*
in response to message #1 by A A Strauss

HP-IL used to have a different meaning...

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HP-48 indirect addressing of variables

*Message #1 Posted by **Geir Isene** on 8 Aug 2005, 4:41 a.m.*

Situation: I have a set of variables (arrays) in a directory and a program that access the variables. The program asks for user input - the name of one of those variables for which part of the content is to be altered.

Problem: How to change the content of a variable whose name is entered by the user?

Additional info: This problem is of course easily handled on an older HP calculator that has indirect addressing (STO IND 01). Little info exists on the net regarding indirect addressing on the 48. None of the links I found where applicable to this specific problem.

Help or pointers is appreciated.

Re: HP-48 indirect addressing of variables

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 8 Aug 2005, 6:24 a.m.,*
in response to message #1 by Geir Isene

Hi, Geir;

all of my answer is based on User RPL instructions, O.K.? I mean, the one you use regularly.

If you are indexing the contents of an array, you could use either PUT or PUTI provided that:

the name of the array in stack level 3 surrounded by ' (ex: 'MTX1'); this is the name you (user) enter
the location where the data will be placed in the array in stack level 2; if it is a one-row or one-column array, than one number is needed; if it is a bidimensional array, than a list like {row,column} is needed;
the data to be entered in stack level 1.

As an example: suppose you need to enter the number 10 in row 2, column 3 of MTX1 by using PUT. The followin is the stack contents representation:

```
4:
3:        'MTX1'
2:         {2,3}
1:            10
```

Than you just need to execute PUT.

Remember that all of the three objects above are removed from the stack after PUT is executed. PUTI automatically increments the index in level 2 and keeps both the name of the array (level 2) and the updated index (level 1) in the stack. This has to purpose to be an aid for successive input.

Hope this helps.

Luiz (Brazil)

Edited: 8 Aug 2005, 6:26 a.m.

Re: HP-48 indirect addressing of variables

*Message #3 Posted by **Geir Isene** on 8 Aug 2005, 7:11 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Yes, this helped.

Now I'd like to store the name 'MTX1' in a variable for later retrieval. How do I do that? As I store 'MTX1' in , let's say a variable named 'VAR1', any time I want to retrieve the variable name, it is automatically evaluated - I just want the name of tha variable back to further play with it.

Any way to convert "MTX1" to 'MTX1'?

Re: HP-48 indirect addressing of variables

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 8 Aug 2005, 12:30 p.m.,*
in response to message #3 by Geir Isene

Hi, Geir;

I'm not sure about what input command (there are many) you are actually using to capture the variable name (in this case, MTX1). BTW, which HP48 are you using? The S-series, the earlier G-series or the new GII?

If you have one of the earlier G-series model, the complement to the User's Manual (AUG, or Advanced User's Guide) has references to all available UserRPL commands/functions plus a friendly explanation on how to use the various input resources. I'm not sure about the best one in your case, but the INFORM is the most resourcefull of them. Anyway, you can check for input 'sintax' and data format by specifying some additional parameters, and then your name will be placed in the stack as 'MTX1' instead of "MTX1".

There is another handy command in the HP48, the OBJ->, that returns an object within another object. It is meant to 'disassemble' complex objects into elementary objetcs (a list into its individual objects, an array into its numbers, a program into its comands, etc.). I'm not sure if the OBJ-> actually evaluates the returned object(s); if so, any exisitng object named MTX1 in the current directory or in any subdirectory associated with the current directory will be returned and evaluated (I'm not so sure about this, should test or read about).

Anyway, you should try using the 'poor man' converter: add one "'" to both the head and tail of the name. Than you have "'MTX1'" instead of "MTX1". Now you use OBJ-> (or STR->) and the name 'MTX1' is returned, even if there is a variable named MTX1 in the same conditions explained below.

I'd try to go ahead with some experiences. Please, let us know what HP48 you have, so we can give you better guidance (by 'we' I mean anyone in this forum, OK?).

Best regards.

Luiz (Brazil)

Edited: 8 Aug 2005, 12:33 p.m.

Re: HP-48 indirect addressing of variables

*Message #5 Posted by **Geir Isene** on 9 Aug 2005, 2:52 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Thank you.

> Quote:
>
> Anyway, you should try using the 'poor man' converter: add one "'" to both the head and tail of the name. Than you have "'MTX1'" instead of "MTX1". Now you use OBJ-> (or STR->) and the name 'MTX1' is returned, even if there is a variable named MTX1 in the same conditions explained below.

This did the trick in my program. Great.

Info: I have a G+ and a GX.

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Any idea about the next new HP or TI Calculators?

*Message #1 Posted by **Namir** on 8 Aug 2005, 4:34 a.m.*

Has anyone caught wind of rumors about the next HP or TI calculator? How about your own personal hunch for the new wave of calculators?

Re: Any idea about the next new HP or TI Calculators?

*Message #2 Posted by **I, Claudius** on 8 Aug 2005, 7:59 a.m.,*
in response to message #1 by Namir

I got to play with a 49+, CNA515... with the newest keys and the latest ROM. It was the first decent 49+ I've seen, what HP should have released in the first place. From the source who got the calc it's all HP can do to just to keep up with bug fixes. With the layoffs at HP, I wouldn't expect anything new.

TI's calculator division is raking in megabucks with very little effort these days, having completely cornered the educational market. Thus, here is no incentive currently to spend any money on developing anything new. The only thing new seem to be re-releases of existing models with new cases in an attempt to appeal to kiddies wanting a bizarre ultra-modern look.

Casio and Sharp continue to produce calcs that have a rather small market share. Casio actually may be the most innovative, coming up with a number of new models. These machines always to have some shortcoming, though. As an example, the Casio ClassPad had a pretty good computer algebra system, but lacked built-in units needed for science/engineering classes. Also, the OS of the ClassPad is poor for serious programming, a real shame.

Re: Any idea about the next new HP or TI Calculators?

*Message #3 Posted by **joan** on 8 Aug 2005, 10:23 a.m.,*
in response to message #2 by I, Claudius

Casio has release a new calc with a SD card slot.
http://web.educastur.princast.es/proyectos/aulamatematica/Imagenes_museo/FX_9860G_SD.jpg

Interesting But Casio Still Lacking

*Message #4 Posted by **I, Claudius** on 8 Aug 2005, 12:58 p.m.,*
in response to message #3 by joan

Could you provide a link in English to this calc? I found references to this machine in European forums, but all I could find on Casio's page was a link to the standard 9860.

Apparently there a computer algebra system. There are a few metric conversions but not a comprehensive set like the HP48/49. Such a machine is useless to me and many others who become used to such things via an HP48/49.

Edited: 8 Aug 2005, 1:15 p.m.

Re: Interesting But Casio Still Lacking

*Message #5 Posted by **Ron Ross** on 8 Aug 2005, 1:38 p.m.,*
in response to message #4 by I, Claudius

You will also have to get used to using single letter variables for most Casio Calculators aside from their Classpad. Casio's programming is not as extensive as the low end Ti-83 line the last time I checked/used it. While I have not bought any of the newer Casio's, my existing ones are not anything to bragg about.

Re: Any idea about the next new HP or TI Calculators?

*Message #6 Posted by **GE** on 9 Aug 2005, 11:45 a.m.,*
in response to message #3 by joan

I got this machine today and wrote some details here - but when posting the message the forum software told me I was not logged on. So hit the back button --- and lost my message. Could you come up with a solution to this bug ?

Sorry, I'll try to write again the message later. In any case, this Casio doesn't have a CAS.

Re: Any idea about the next new HP or TI Calculators?

*Message #7 Posted by **Namir** on 9 Aug 2005, 4:07 p.m.,*
in response to message #3 by joan

Joan,

There is hardly any info about the new Casio 9860!!! It's like Casio's new secret. Any links to Casio's press releases or other info!

Please .. pretty with sugar!

Namir

Re: Any idea about the next new HP or TI Calculators?

*Message #8 Posted by **joan** on 9 Aug 2005, 4:32 p.m.,*
in response to message #7 by Namir

http://www.casio.com/index.cfm?fuseaction=products.detail&catalog=Calculators&section=Graphing&product=FX%2D9860G

I've bought it last week, and to be honest don't get too excited. Nice body, lovely display, good keyboard, but ugly manual and lack of support, at least by now. I've been looking for the SDK the hole week without any succes. The SDK is what I need to install the RPN emulator.

Anyway, is quite curious to see how Casio an release a new product without any mention on their global website.

Re: Any idea about the next new HP or TI Calculators?

*Message #9 Posted by **Namir** on 10 Aug 2005, 12:25 a.m.,*
in response to message #8 by joan

Thanks Joan ... you rule!

Re: Any idea about the next new HP or TI Calculators?

*Message #10 Posted by **Namir** on 10 Aug 2005, 12:32 a.m.,*
in response to message #8 by joan

I went ahead and ordered a unit. Again, thanks for the link.

Re: Any idea about the next new HP or TI Calculators?

*Message #11 Posted by **chris dean** on 8 Aug 2005, 8:13 a.m.,*
in response to message #1 by Namir

I would like to see a scientific calculator with the body of the 17BII+ and the functionality of the 27S. This should include its programming ability using the Solve function which the 17BII+ already has. I think basically what I am saying is that I would like a 17BII+ with more mathematical functions that I do not have to write myself and can be included in the programming. Possibly a 17SII+.

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New Software Library program for HP-32/33: AC Power Transfer

*Message #1 Posted by **Karl Schneider** on 8 Aug 2005, 3:14 a.m.*

All --

This is a plug for the set of updated "AC Power Transfer" programs I wrote for the HP-32S, -32SII, and -33S. There are four versions of the program tailored for each calulator model, including separate "RPN" and "ALG" versions for the HP-33S.

The program calculates the transfer of active and reactive power through an AC transmission line modeled by series resistance, series reactance, and balanced shunt susceptance. This is a solid, real-world application that I have put to practical use in my line of work, and which Power Engineering students should also find helpful. The program's results match those of commercial powerflow programs for lines modeled as a single balanced-pi section.

The Museum Curator, David Hicks, graciously posted my original versions for the 32S and 32SII in late June, and then posted my updated versions (which by then included the 33S versions) on August 1. The updated versions use fewer labels, and they allow the user to modify any stack contents at an "INPUT" or "VIEW" breakpoint, without affecting program output.

I will gladly answer questions in this Forum as necessary to clarify the program or its ample documentation. However, I would rather not have to explain basic concepts, such as "per unit", "reactance" and "phase angle". Textbooks and reference books are available for that purpose.

Links to the programs in the MoHPC Software Library:

HP-32S version

HP-32SII version

HP-33S RPN version

HP-33S ALG version

NOTE: There is a minor error in the HP-32SII version. Line P30 should be deleted and re-entered to become the new line P32, as follows:

```
(incorrect)         (correct)
P29  STO P          P29  STO P
P30  VIEW P         P30  x<>y
P31  x<>y           P31  STO Q
P32  STO Q          P32  VIEW P
P33  VIEW Q         P33  VIEW Q
```

Comments, suggestions, and questions within the above guidelines are welcomed.

-- KS

Edited: 8 Aug 2005, 3:18 a.m.

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(deleted post)

*Message #1 Posted by **deleted** on 7 Aug 2005, 5:17 p.m.*

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

Re: Why is this HP-48G going for over $200- on eBay???

*Message #2 Posted by **Walter B** on 7 Aug 2005, 5:37 p.m.,*
in response to message #1 by deleted

To me, this is purely irrational. You can get them on the same market for almost 10%.

Re: Probably a mistake

*Message #3 Posted by **Mike** on 7 Aug 2005, 8:06 p.m.,*
in response to message #2 by Walter B

They probably thought it was a GX.

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82104A card reader magnetic head

*Message #1 Posted by **Carlos** on 7 Aug 2005, 8:20 a.m.*

I'm trying to repair a 82104a card reader. I measured the two track magnetic head impedance. I used a Fluke 77 multimeter to do that. The instrument read ~51Ohms in one track and ~75Ohms in the other. Can somebody comfirm that? is unusual a magnetic head with diferent impedance in his tracks. Any information is welcomed. Thanks, Carlos.

Re: 82104A card reader magnetic head

*Message #2 Posted by **Tony Duell** on 8 Aug 2005, 12:59 p.m.,*
in response to message #1 by Carlos

Did you disconnect the head from the read/write PCB before you measured its resistance? It's possible the sense amplifier chip measures slightly different on the 2 channels.

Otherwise, I can see no reason why the 2 windings of the head would be different. It's possible (although unlikely) you have shorted turns in one winding which would lower the DC resistance.

Re: 82104A card reader magnetic head

*Message #3 Posted by **Carlos** on 8 Aug 2005, 1:47 p.m.,*
in response to message #2 by Tony Duell

I measured with the the head disconnected. The measure is the coil resistance without any active circuit connected. If somebody has a 82104a open and can mesure the coil resistance I will confirm (or not) the difference on coils resistance. Thanks

Re: 82104A card reader magnetic head

*Message #4 Posted by **Randy** on 8 Aug 2005, 9:47 p.m.,*
in response to message #3 by Carlos

I measured three that I have open. All 6 coils are between 46 and 48 ohms. Meter = Fluke 179 on manual 600 ohm range.

Edited: 8 Aug 2005, 9:49 p.m.

Re: 82104A card reader magnetic head

*Message #5 Posted by **Carlos** on 9 Aug 2005, 7:57 a.m.,*
in response to message #4 by Randy

Thanks for answer. The magnetic head has only two coils, one with red and yellow terminals and the other with blue and orange terminals, the black wire is a ground shield for minimize noise. I supouse that one coil is for timing porpouse an the other for data. Please take a impedance measure in the two coils terminals above descripted. Thanks again.

Re: 82104A card reader magnetic head

*Message #6 Posted by **Randy** on 10 Aug 2005, 12:09 a.m.,*
in response to message #5 by Carlos

3 each 82104 = 3 heads x 2 windings each = 6 coils. Just as you asked. All the same resistance since my Fluke doesn't have an impedance setting :^)

I have only seen one bad head ever, on a 97. It was open on one winding. I don't know if a 75 ohm winding would cause a problem. It's much more common for the card detect switches to be the issue as they are easily bent while handling.

Edited: 10 Aug 2005, 12:16 a.m.

Re: 82104A card reader magnetic head

*Message #7 Posted by **Carlos** on 10 Aug 2005, 10:01 a.m.,*
in response to message #6 by Randy

Thanks Randy. I supouse my 82104A head has some kind of problem because your heads coils has impedance consistent in ~50Ohms.

Re: 82104A card reader magnetic head -- minor correction

*Message #8 Posted by **Tony Duell** on 10 Aug 2005, 6:06 a.m.,*
in response to message #5 by Carlos

It's not clock and data. A pulse on one track is a '0', a pulse on the other track is a '1'. I don't know if simulateous pulses on both tracks are used for anything like a byte marker.

Re: 82104A card reader magnetic head -- minor correction

*Message #9 Posted by **Carlos** on 10 Aug 2005, 10:15 a.m.,*
in response to message #8 by Tony Duell

If this is rigth the two coils has the same porpouse and then they must have the same impedance. Thanks Tony

---

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HP 7440 A colorpro plotter.

*Message #1 Posted by **vijay karmarkar** on 7 Aug 2005, 3:07 a.m.*

I have this device connected a HP 9000-300 system that works as a system controller to SIMS machine. To capture data as it is sent to the plotter I have connected a interface to read data on IEEE488 bus. Once data is captured i must have the programming manual for this device to reconstruct the data file. Can anyone help?

thanks

vijay

It seems you are in the wrong forum (HP 7440 A)

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 7 Aug 2005, 4:56 p.m.,*
in response to message #1 by vijay karmarkar

Hi, Vijay Karmarkar

This forum is inteded to support posts related to HP calculators and related stuff. Maybe someone here may help you based on his/her own specific experience with these devices and system, but have you gotten no answer but this one, please understand that this is because your request goes beyond this forum`s main subjects.

Anyway, it`s worth trying a more specific forum that would surely return you an answer 8)

Best regards.

Luiz (Brazil)

Re: HP 7440 A colorpro plotter.

*Message #3 Posted by **Vassilis Prevelakis** on 7 Aug 2005, 5:20 p.m.,*
in response to message #1 by vijay karmarkar

look around bitsavers.org which is a site that collects manuals for vintage computers

http://www.bitsavers.org/pdf/hp

**vp

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HP-41 UAC - Global user conference

*Message #1 Posted by **Geir Isene** on 5 Aug 2005, 10:30 a.m.*

The HP-41 UAC annual global user conference will be held in Oslo, Norway on August 6th. Since we are expecting an unprecedented attendance, it would be wise to book your seat now. Photos and possible DivX files will be presented to those of you who cannot attend.

The agenda will include:

- HP-41 UAC aboard the Space Shuttle

- Looking at HP-IL interfaces to the human body

- Possibility of expanding into WalMart with HP-41CXs preloaded with the UAC.

Tickets will be 50 Norwegian øre per seat.

Re: HP-41 UAC - Global user conference

*Message #2 Posted by **Howard Owen** on 5 Aug 2005, 1:30 p.m.,*
in response to message #1 by Geir Isene

Sort of gives new meaning to the term "embeddable" doesn't it?

Can I UNT my boss with that?

Re: HP-41 UAC - Global user conference

*Message #3 Posted by **Namir** on 6 Aug 2005, 3:22 a.m.,*
in response to message #1 by Geir Isene

Is there a website for that conference?

Re: HP-41 UAC - Global user conference

*Message #4 Posted by **Geir Isene** on 6 Aug 2005, 5:06 a.m.,*
in response to message #3 by Namir

Sorry. Even though there has been an avalanche of requests for an official HP-41 UAC Global User Conference website, we have not had time to put it up. We have simply been to busy setting up our new lab with all the equipment to start testing the human interface modules.

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RedCode + CoreWar

*Message #1 Posted by **Tizedes Csaba [Hungary]** on 5 Aug 2005, 2:09 a.m.*

Hello,

I'm asking about where can I found a software for a 48SX to play CoreWar!? Thanks!

Csaba

Ps.: Thank you for your letters about 'my-yellow-gone-exercise-book'... But 5 weeks after I found it in a computer-shop at Budapest. The salesman remembered me! What a lucky day! ;)

Cs.

Re: RedCode + CoreWar

*Message #2 Posted by **Raymond Del Tondo** on 5 Aug 2005, 2:18 a.m.,*
in response to message #1 by Tizedes Csaba [Hungary]

Hi,

I don't know CodeWar, maybe there's somethng at hpcalc.org ?

Raymond

Re: RedCode + CoreWar

*Message #3 Posted by **Tizedes Csaba [Hungary]** on 5 Aug 2005, 3:41 a.m.,*
in response to message #2 by Raymond Del Tondo

Hello,

this was a game by A. K. Dewdney at the mean of '80s. See Koth Page It's introduced in the Scientific American's Computer Recreations.

Csaba

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More coburlin on ebay

*Message #1 Posted by **Chris Woodhouse** on 4 Aug 2005, 3:06 p.m.*

I just put up my 42s for auction and coburlin sent a message with in 5 min wanting to know how much I would put it up for buy it now. What should I tell him ;)

Chris W

Re: More coburlin on ebay

*Message #2 Posted by **Howard Owen** on 4 Aug 2005, 3:13 p.m.,*
in response to message #1 by Chris Woodhouse

This one is listed for $288.80, so you can be sure he's looking for less.

He seems to try and buy for about 10% of what he sells. Why not reverse the ratio and ask for $2,888.00? :)

Re: More coburlin on ebay

*Message #3 Posted by **Namir** on 4 Aug 2005, 5:22 p.m.,*
in response to message #1 by Chris Woodhouse

Tell Cobuba that you will sell it for him for $500. It's TIME YOU MAKE SOME MONEY!!!

coburlin now has a disciple who goes beyond...

*Message #4 Posted by **K** on 4 Aug 2005, 11:06 p.m.,*
in response to message #1 by Chris Woodhouse

Check out these recent unsuccessful one-price BIN "auctions" for HP-11C's that exhibit even more chutzpah...

$375 11C

$279 11C

Re: More coburlin on ebay

*Message #5 Posted by **I, Claudius** on 5 Aug 2005, 4:01 a.m.,*
in response to message #1 by Chris Woodhouse

Oh Chris, what a marvelous opportunity to tweak one of eBay's lowest! I'd say a minimum of $400 plus some outrageous shipping charge... have fun!

Re: More cobuba on ebay

*Message #6 Posted by **Namir** on 5 Aug 2005, 5:06 a.m.,*
in response to message #5 by I, Claudius

That's right!! How about a really outrageous shipping charge ... say half a mil ... why stop there?

Re: More cobuba on ebay

*Message #7 Posted by **Chris Woodhouse** on 5 Aug 2005, 10:41 p.m.,*
in response to message #6 by Namir

Well we all know he wouldn't pay a fair price anyway. I never did respond to him and he placed a bid of only $85. Does he really win auctions biding that low? I think we should all keep an eye on all the HP stuff we are familiar with and if by some fluke he is the high bider we should out bid him. Even if you win doing that it will still be a good deal because he never seems to bid very much.

Chris W

Re: More cobuba on ebay

*Message #8 Posted by **Namir** on 6 Aug 2005, 3:21 a.m.,*
in response to message #7 by Chris Woodhouse

Agree. Cobuba has the habbit of contacting the seller to try to arrange an early end-of-auction. So when you outbid him, it encourages the seller to keep the auction going. Another point is: just about every eBay member has a limited budget to spend, so even by making cobuba spend more money to buy stuff, his moeny-making experience will be limited and less rewarding.

Re: More cobuba on ebay

*Message #9 Posted by **Ronald** on 6 Aug 2005, 10:38 a.m.,*
in response to message #8 by Namir

Interestingly enough when you look into his sales history on Ebay in 2 pages of feedback only one HP11 was sodl for his well knownm high price, I bet this guy can make quit a pile of all unsold HP stuff.

Ronald

Enough already about Coubby - nothing new

*Message #10 Posted by **John L. Shelton** on 7 Aug 2005, 2:18 p.m.,*
in response to message #5 by I, Claudius

While it's mildy amusing to watch this, nothing new is happening, and he's not doing anything wrong. Buy low, sell high, is what we'd all like to do. He just seems to be more successful and less respectful to the aura of HP.

If he, or another, is committing outright fraud, please do point it out. But I don't think we've heard that.

Suggesting inflated shipping prices, though probably in jest, is tantamount to recommending fraud. As honest people, we don't do that. eBay's policy, though un-enforced, is that shipping prices are "reasonable" and should be known in advance. One supposes that offering "$1000 shipping for gold-plated delivery" might be marginally acceptable, but surprise shipping costs beyond the actual cost-of-postage are certainly not reasonable.

A real service here would be hearing about

- Good sellers who deliver better than promised

- Fraudulent sellers, who fail to deliver as promised
- eBay sellers with particular knowledge or access to parts that might be useful to this community.

Re: Enough already about Coubby - nothing new

*Message #11 Posted by **blurdybloop** on 7 Aug 2005, 3:33 p.m.,*
in response to message #10 by John L. Shelton

What about the fact that he is accused of switching his exhorbitantly priced Buy It Now items 12 hours before closing to el cheapo "HP USB Optical Scroll Mouse Brand New" (with ridiculous shipping cost) in order to avoid paying eBay insertion fees?

That is cheating eBay. That may be eBay's problem, and eBay seems to consider him to be too small a fry to worry about. We needn't mourn about eBay's lost revenue.

Nonetheless, the community needs to be aware that he does this, and especially new members. He is not someone that you want to deal with.

"Buy cheap and sell dear" is not the issue. Being a cheat is the issue.

Re: Enough already about Coubby - nothing new

*Message #12 Posted by **Howard Owen** on 7 Aug 2005, 4:22 p.m.,*
in response to message #11 by blurdybloop

I couldn't believe that was really happening until I watched one of his auctions turn into a pumpkin (er.. mouse) at midnight.

I agree that his character should be known. Someone who resorts to fraud in one case is likely not to be trusted in another.

However I do think obsessing over his actions is over the top. Making fun of him is more amusing. 8)

Re: Enough already about Coubby - nothing new

*Message #13 Posted by **blurdybloop** on 8 Aug 2005, 1:52 a.m.,*
in response to message #12 by Howard Owen

I don't think that anyone is obsessing over his actions; and most people are making fun of them. Nevertheless, it's a good warning for newbies that there are periodic reminders out there.

The sad part of all of this is that if he didn't play that little switcheroo to avoid eBay insertion fees (or openly express his contempt for his market), he would have a much different reputation. We all can think of a dealer that we grumble about every time we pay their prices...but every so often we go to that dealer because it has what we want when we need it.

But, because he's the way he is, he's cut himself off from much of his market. Ultimately, that will be his punishment. He will go to a lot of work to accomplish each individual ripoff, yet in the end will sell much less than he would have if he had been less of a jerk.

Re: Enough already about Coubby - nothing new

*Message #14 Posted by **I, Claudius** on 8 Aug 2005, 8:11 a.m.,*
in response to message #13 by blurdybloop

Your post may be the best short assessment of Coburlin written here, I completely agree. As long as Coburlin and his ilk are active, they do need to be highlighted occasionally. This is a service to those that may be unaware that fraudsters are out there, ready to prey on them.

How does he make any money?

*Message #15 Posted by **Mike** on 7 Aug 2005, 5:09 p.m.,*
in response to message #1 by Chris Woodhouse

I'm just curious how he makes any money. He lists thousands of items for every one he sells. It costs him a few bucks for every listing. Insertion fees for $200-$500 is $3.60. If he lists 1000 items, he's nearly $4000 in the hole before he starts.

Even if he sells at these ridiculous prices, it's not enough to make up for the $4000 in listing fees. He must be doing a lot of outside ebay sells from these auctions to make that worthwhile.

Re: How does he make any money?

*Message #16 Posted by **Namir** on 7 Aug 2005, 6:29 p.m.,*
in response to message #15 by Mike

Mike,

He switches the auction in the last 12 hours into another completely different item that is priced very low. eBay knows that and they say it's fine because the rules allow him to do that!

I should have figured that out...

*Message #17 Posted by **Mike** on 7 Aug 2005, 8:12 p.m.,*
in response to message #16 by Namir

Interesting...

Probably explains why it is "Immediate Payment". That way he either sells it or gets a free listing. I'm surprised that ebay doesn't close that loophole. That is, in fact, precisely why they have an "insertion fee". It is to make sure they get a fee for overpriced auctions, for using their services.

Re: How does he make any money?

*Message #18 Posted by **Howard Owen** on 8 Aug 2005, 3:21 a.m.,*
in response to message #16 by Namir

No doubt I am taking another couple of whacks at a dead horse that has been thoroughly flogged here, but that "eBay says it's alright" caught my eye. Are you sure about that? Because if that's so, then it isn't fraud. (eBay is the entity that would be defrauded if it were..)

And if it isn't fraud, then coburlin is just annoying as hell, but not someone who should be painted with a scarlet letter here.

Re: How does he make any money?

*Message #19 Posted by **blurdybloop** on 8 Aug 2005, 12:06 p.m.,*
in response to message #18 by Howard Owen

Whether or not eBay sees it as fraud is beside the point. None of us need shed a tear about eBay

losing revenue.

Similarly, too many people have focused on the excessively low prices that he paid, and the exhorbitantly high prices that he asks. There is a legitimate place in the market for bottom-feeders.

The point is that he is dishonest. It's a petty sort of dishonesty that shows that it's not about profit; it's about ripping off. It poisons the well for everybody.

It doesn't really benefit him, either. He has an inventory that isn't moving. It isn't as if HP calculators are an investment; today's collector prices reflect substantial depreciation from the original market price.

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9114B battery replacement: equivalents?

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 3 Aug 2005, 4:00 p.m.*

Hi, all;

I am trying to organize my equipment after leaving them almost 8 months without being touched because of many reasons (only a few daily-use calculators). Now I see that the 9114B battery pack is barely able to move the disk drive´s head when it is turnned on.

In all of this ´resting´ time, I left the battery pack in charge for at least once a month for keeping the battery with the nominal charge. Now I left the battery pack in charge for more than 12 hours so it can make the drive´s head move, but the three power indicator LED´s simply go off if it tries to read any disk (DIR command), and I get [TRANSMIT ERROR] in the HP41 display. If I remove the disk and try [DIR] again, I get another message about the medium (no medium or medium error, I don't recall).

Maybe I'm wrong, but I understand that the TRANSMIT ERROR message in the HP41 display may be caused by a reset in the driver (and consequent communication loss) if the battery voltage goes low enough so the 9114B is reset when the main driver motor is turned on. Also, the medium error message instead of transmitt error when no disk is inserted on it corroborates my reasoning. Is there any other way to see this? I'd sadly accept a final word of R.I.P., but I'd like to be sure it is definitely bad. Also, should I try another power supply instead of the original batery pack? In this case, what are the recommended procedures to deal with the internal sealed battery? I thought about removing the sealed battery from the battery pack and charge it outside, but I would like to hear from you about the current values and monitoring.

Any guidance? Suggestions?

Thank you all.

Best rewgards.

Luiz (Brazil)

Re: 9114B battery replacement: equivalents?

*Message #2 Posted by **Ronald** on 3 Aug 2005, 4:23 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Hi Louis,

Had about the same with my 9114A. I opened the batterypack, there is a simple lead battery inside. You can simply replace it. The original pack is the Panasonic LCR-226P (6V, 2.4Ah).

For testing if this is the cause take a stabilisid PSU capable of delivering 3 Ampere (peak currents when staring up) and test. Alternatievly take 4 normal batteries of 1.5 volt and connect these.

By the way, did you do a pwrup command first before accesing the drive, in my case this was mandatory to get it working after being switched off.

Br.

Ronald

Re: 9114B battery replacement: equivalents?

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 4 Aug 2005, 2:26 a.m.,*
in response to message #2 by Ronald

Hi, Ronald;

thank you for your suggestions. I thought about going straight buying a new battery and replace the one in the battery pack. I`ll follow your suggestion, thank you.

About the PWRUP command: this 9114B I have with me (thanks, DM) worked perfectly fine about seven months ago. I don`t recall needing to use PWRUP to activate it. Anyway, I tested both PWRDN and PWRUP to see its reaction, but it remains the same 'no read disk' state.

I`ll go for the external package for a testing tomorrow and post results. In the meantime I`ll also try to externally check/charge the LCR-226P. Have you done this before? I know it is a sealed, high-current battery and I`ll take the necessary pecautions, and I`ll try to keep a 1/10 to 1/8 nominal current for charging. Should I use other figures?

Thanks again.

Luiz (Brazil)

Re: 9114B battery replacement: equivalents?

*Message #4 Posted by **Ronald** on 4 Aug 2005, 12:01 p.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Hi,

I charged it with 0.3 amp (10% - 15% of capacity) and keep a watch in the time. Normaly 130 - 140% should be sufficient. In this case 2.2 A/h capacity * 130% = 2.9 Ah needed. 2.9/0.3 --> 9 - 10 hours needed for a new accu.

In the case of the old accu I would feel it every now and then but on the other hand 0,3A * 6 volts is only 1.8 watt, so temperature should stay more or less acceptable. Please note that it is a sealed Lead accu and unlike the ones in a automobile not vented, so keeping the temperature down is important. Funny by the way you only had to a pwrup once, I need to do it every time (maybe a difference between the a and b model ?).

Ronald

Re: 9114B battery replacement: equivalents?

*Message #5 Posted by **Howard Owen** on 3 Aug 2005, 8:32 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

The first 9114B I got came with a AC/DC converter with 6V/2A output. This fed into the battery case, which was suspiciously light. Opening it up, I saw that the converters DC leads were wired to a fairly large capacitor (10000 uF, 10V) in parallel with the inputs to the disk drive. This obviously serves as a voltage regulator. If you open a standard battery pack, you'll see fair amount of electronics inside that must amount to the same

thing. (Regulated DC 6V/2A) The battery in the standard pack actually says 6V/2.5A, but the lash up with the AC/DC converter works fine for me.

Here's a picture:
http://retrocalculator.com/images/9114_battery_replacement.jpg

Edited: 3 Aug 2005, 11:33 p.m. after one or more responses were posted

Re: 9114B battery replacement: equivalents?

*Message #6 Posted by **Dave Shaffer** on 3 Aug 2005, 9:58 p.m.,*
in response to message #5 by Howard Owen

re: "in series with the inputs to the disk drive"

For the sake of anybody who tries to copy this scheme, I think you mean "in __parallel__ with the inputs ...."

Re: 9114B battery replacement: equivalents?

*Message #7 Posted by **Howard Owen** on 3 Aug 2005, 11:33 p.m.,*
in response to message #6 by Dave Shaffer

Yes, you're right. I've corrected the parent. Thanks.

Re: 9114B battery replacement: equivalents?

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 4 Aug 2005, 2:36 a.m.,*
in response to message #5 by Howard Owen

Hi, all;

thanks for your valuable suggestions. I`ll go ahead trying an external power supply (as I mentioned in a recent post here) and see if the rechargeable pack is in trouble. I`ll also try to charge the LCR-226P externally. Any additional suggestions of yours? Anyone else?

Thanks for the enlightening picture, Howard. Just let me understand: your unit comes with an external, regulated power supply and a battery pack case with a single 1000µF/10Vcc capacitor inside? I mean, your 9114B with these components can only work when plugged in the AC outlet? Did I take it correctly? If so, that's interesting!

I remember reading about this possibility that was proposed by someone here about one year ago and I was not aware it was actually done somehow.

Best regards and thanks again.

Luiz (Brazil)

Edited: 4 Aug 2005, 2:37 a.m.

Re: 9114B battery replacement: equivalents?

*Message #9 Posted by **Howard Owen** on 4 Aug 2005, 3:16 a.m.,*
in response to message #8 by Vieira, Luiz C. (Brazil)

Yes, that's right. The external supply is an AC/DC transformer with a sticker that reads "Personal

Software." (I seem to recall that they were an HP dealer back in the day. If that's so, then I suspect this modification may have been made back in the 1980s.) The transformer is labeled "6V/2000mA". Since it works fine, I haven't measured to see if that's what it's putting out.

This is actually my only working power system for the 9114 drives, though I have four (!) drives that work otherwise. (These have been picked up in combination with various other bits of hardware.) I have one dead battery pack which I want to refurbish with a new battery. But the other two drives need a hack like this one in order to work independently. The tricky bit there will be the connector on the drive side of the pack.

Re: 9114B battery replacement: equivalents?

*Message #10 Posted by **Etienne Victoria** on 4 Aug 2005, 3:56 a.m.,*
in response to message #8 by Vieira, Luiz C. (Brazil)

Good evening Luiz,

I have encountered the same issue than you with the 9114B battery pack.

If I remember well, Tony Duell uses his 9114B directly with his bench PSP.

I found the following threads might be interesting to you :

Using the 9114B without the bulky, old, ugly polluting lead battery

Retiring 9114B battery pack once for all

Hope they help you as much as they helped me.

Solutions were provided by Tony Duell and Dale Richmond.

Warm regards from France!

Etienne

Re: 9114B battery replacement: equivalents?

*Message #11 Posted by **Vieira, Luiz C. (Brazil)** on 4 Aug 2005, 12:59 p.m.,*
in response to message #10 by Etienne Victoria

Hello, Etienne;

merci beaucoup, mon ami! The threads were full of important information.

Best regards.

Luiz (Brazil)

Re: 9114B battery replacement: equivalents?

*Message #12 Posted by **Tony Duell** on 4 Aug 2005, 6:41 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

You can run a 9114 (either version) off an external 6V power supply. I often run mine off my bench power supply, I also made up a PSU (just transformer + rectifier + smoothing capacitor) for an HPCC member. The supply should be around 6V, capable of supplying at least 2A, and doesn't need to be regulated.

You connect it to the 2 pin mini-jones plug inside the battery compartment at the back of the drive. I forget the polarity, but if you open up the drive unit and look at the wiring on the back of the plug, then red is +ve and black -ve as usual.

For testing you can also connect the same sort of PSU to the wiring inside the drive (this is easier if you don't have the mini-Jones socket). Connect the -ve side to the drive mechanism metalwork, and the +ve side to one of the wires on the back of the on/off switch. If you use one of the wires, you bypass the switch, the unit is powered up all the time. If you use the other one, then you have to turn the 9114's switch on

The battery pack opens easily (2 Torx screws on top). Inside is a charger PCB and a lead acid battery block. If you can't get the right replacement for the battery, you can use 3 2.5Ah Cyclon cells in series, connected to the wires that go to the original battery. These fit perfectly into the housing.

Schematics for these drives (including the charger PCB) are, as usual, on the HPCC CD-ROM

If everything goes as expected...(was: 9114B battery replacement: equivalents?)

*Message #13 Posted by **Vieira, Luiz C. (Brazil)** on 4 Aug 2005, 8:03 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

...I'm putting my hands on a sealed, 6V, 2800mAh battery by tomorrow. I don't know the brand, but it seems it will be the replacement I have for now.

As I have it, I'll take a picture and post.

Thanks again to all of your support, guys.

Best regards.

Luiz (Brazil)

Unfortunately...(was: 9114B battery replacement: equivalents?)

*Message #14 Posted by **Vieira, Luiz C (Brazil)** on 5 Aug 2005, 4:26 p.m.,*
in response to message #13 by Vieira, Luiz C. (Brazil)

Hi, all;

The person who assured me he had a sealed 2800mAh battery had, in fact, a 1300mAh. I took it anyway and asked for another, 2500mAh or more. As I`m waiting for a new one, I decided to test the 1300mAh and I assembled it in place of the original 2400mAh battery. The fact is that the 9114B is actually working fine. I simply plugged the newly bought battery, connected the pack in the standard charger and inserted the battery pack in the 9114B battery compartment. The three LED's that indicate the battery charge did not even blink when the unit was turned on, all three LED`s on as well. With the HP41 connected to the 9114B (HPIL), one disk in place, I XEQ`ted DIR and the contents list was shown perfectly fine. As the battery is new, I accepted the mid-charge (two LED`s on, upper LED off) monitoring. Also, as the battery is about half the `ampacity` (sorry, no better word for that... anyway, what is the word for ampère capacity?), I must expect more charging cycles and a continuous check for temeperature while charging (higher charge current than the one specified as nominal). Well, at least I`ll keep it for necessary operation while some 2500mAh battery comes to take place.

Hope this is all for now. I`ll take a picture of the battery pack with the new 1300mAh battery inside of it later.

Best regards and thank you all, again.

Luiz (Brazil)

Re: 9114B battery replacement: equivalents?

*Message #15 Posted by **Vassilis Prevelakis** on 5 Aug 2005, 10:12 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

For topics that are certain to have been covered in the past (e.g. HP41 card reader repairs, floppies for the 9114, batteries, etc.) it is best to quickly search the archives. I find the best way to do this is to use the google search facility.

Go to www.google.com and type the following string

site:http://www.hpmuseum.org 9114 battery

and google will return only the results from the web site in the site: directive. This is fast and convenient.

Try it.

**vp

The 1300mAh battery replacement photo

*Message #16 Posted by **Vieira, Luiz C. (Brazil)** on 6 Aug 2005, 8:07 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Hi, all;

as promissed:

http://www.logeng.com.br/images/batt_1300mah_s.jpg Click to enlarge

I added a small piece of transparent plastic to help isolating the battery contacts from the PCB surface. This piece o'plastic was cut from a regular calculator blister (I have found many usefull applications to those blisters...).

Data printed in the battery case is in Portuguese, but the main facts are:

fluctuation: 6.8 to 6.9 V
charging: 7.2 to 7.35 V
Starting current: .52A (max)
additional data refers to necessary care (no short circuiting, do not dispose with regualr trahs, return to the supplier instead of throwing away, etc.).

As I mentioned before, I`ll use this pack when it`s necessary till I find the correct replacement. I am aware of the fact that under regular use, it will demand at lest twice the number of charging cycles when compared to the origianl (1300mAh against 2400mAh).

Beest regards.

Luiz (Brazil)

Edited: 6 Aug 2005, 8:09 p.m.

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latest hp33 display

*Message #1 Posted by **david bowers** on 3 Aug 2005, 7:18 a.m.*

hi thanks for the replies, i shall get my friend in frisco to order me a 33 from walmart for 49 bucks, she wont know if its the latest screen or not, i will get it out of curiousity, and charge it to my company, so does walmart stock the latest as i write or is there old stock around with the smaller pixals i often dream of driving around australia and the states looking at all the pawn shops getting old hps, i did get a 48 in boulder once for 40 usd and a 15c in oz for 30 bucks a funny thing ,when i first arrived in denver i would stop old people and ask for the nearest pawn shop not realising that my accent sounded like PORN shop, hence not many people helped me. i was in the office in taiwan the other day, couldnt see the lake 500 yards away, went to run out and get the survey gear thinking it was rain arriving and then i realised it was air pollution moving in. cheers david

Re: latest hp33 display

*Message #2 Posted by **Eamonn** on 3 Aug 2005, 10:48 a.m.,*
in response to message #1 by david bowers

David,

I had a look at the HP-33S recently at a Frys in San Jose. They had the models with both the larger and smaller decimal point.

I noticed that the models with the smaller decimal point were packaged with two manuals - one in French and one in English. The models with the larger decimal point were only packaged with the English manual.

I'm not sure that this is the case for all HP-33S's out there, but you may increase your chances of getting a model with the larger decimal point by ask your friend to make sure that there is only one manual, in English, in the blister pack.

Hope this helps,

Eamonn.

Re: latest hp33 display

*Message #3 Posted by **John Limpert** on 3 Aug 2005, 6:47 p.m.,*
in response to message #2 by Eamonn

I have two HP-33S calculators, one with the old display and one with the new display. They both came with a single English manual. Besides the display, the only noticeable difference is the serial number. On the old model, the serial number is stamped into the plastic. On the new model, the serial number is printed on an adhesive label.

Re: latest hp33 display

*Message #4 Posted by **I, Claudius** on 5 Aug 2005, 4:04 a.m.,*
in response to message #3 by John Limpert

Out of curiousity, what are the serial numbers of your old vs. new 33s?

Re: latest hp33 display

*Message #5 Posted by **John Limpert** on 5 Aug 2005, 4:33 a.m.,*
in response to message #4 by I, Claudius

The old one is "CNA41204367". The new one is "CNA43508279".

Re: latest hp33 display

*Message #6 Posted by **Paul Brogger** on 3 Aug 2005, 7:36 p.m.,*
in response to message #1 by david bowers

I've got one of each. The newer display is really not much better than the old. They tried to make the decimal point and comma larger, but not at the expense of shoving aside the digit pixels on either side.

It's as if they tried to make do without major alterations to the "mask" (or whatever) used to manufacture the LCD. As a result, the d.p., when viewed in isolation, is indeed larger. But when squeezed between two digits (especially, between two 2's, as in "2.2") it disappears as readily as it did before -- maybe even more so.

I wouldn't waste a drop of sweat over it: either way it's THE major problem with the model. (Even more so, IMHO, than the weird keyboard, if you can believe that!)

Other than the decimal point, the HP-33s is a fun unit to use, and it's reassuring to have an almost-shirt-pocket portable RPN programmable available once more.

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repairing card reader motor on HP-65?

*Message #1 Posted by **Mark Crispin** on 2 Aug 2005, 7:26 p.m.*

I have an HP-65 whose card reader motor squealed when I first got it (but otherwise worked). As time wore on, the motor got more intermittant in its performance, and now seems to have died.

Is the motor repairable? Or can it be readily replaced? If so, how?

Repairing card reader motor on HP-65? (just a possible cause)

*Message #2 Posted by **Vieira, Luiz C. (Brasil)** on 2 Aug 2005, 7:29 p.m.,*
in response to message #1 by Mark Crispin

Hello, Mark;

I'm not aware of how the motor is connected to the main voltage supply in the HP65, I guess it is through a transistor (PWM?). In this case, have you considered the possibility of having a good motor and a bad solid-state switch?

I'm sure others will come with more info, so it's worth waiting for other posts.

Best regards.

Luiz (Brazil)

Edited: 2 Aug 2005, 7:30 p.m.

Re: Repairing card reader motor on HP-65? (just a possible cause)

*Message #3 Posted by **marais** on 3 Aug 2005, 4:09 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brasil)

I recomment to unsolder the motor and drive it directly with a 1.5V power supply. There's a capacitor parallel to the motor, the dot indicates plus. The motor alone should pull about 7-9mA. I would carry out this test before looking any further.

Andreas

Re: Repairing card reader motor on HP-65? (just a possible cause)

*Message #4 Posted by **Tony Duell** on 3 Aug 2005, 3:46 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brasil)

The motor control circuit is built into the sense amplifier chip (Only HP would try and put a low-level read amplifier and a DC motor controller on the same chip, only HP could get it to work :-)). It's possible that it's failed. The sense amplifier chip is the one on the card reader PCB, of course.

As others have suggested, disconnect the motor from that PCB (on most 65s the wires are soldered in place) and run it from a 1.5V -- 3V PSU. If it doesn't run, take the motor out (2 tiny screws alongside the worm gear) and try it again. If it runs properly now, look for mechanical problems.

If the bare motor doesn't work, try putting 1 drop of watch oil (not WD40!!!) on the bearings. That may get it going again.

I have never tried to open up one of these motors, but it might be possible.

Re: Repairing card reader motor on HP-65? (just a possible cause)

*Message #5 Posted by **Mark Crispin** on 7 Aug 2005, 1:23 p.m.,*
in response to message #4 by Tony Duell

OK, I unsoldered the motor and determined that it does run. I removed the motor, gave it power, and determined that it runs but squeals. I gave it a tiny drop of Break-Free CLP as suggested, and that solved the squealing.

I reinstalled the motor, and while still disconnected gave it power. It can pull a card through. I suspect that some lubrication in the card reader's roller would make it run a bit smoother but I decided not to do anything about that, for fear of possibly making it worse.

I reconnected the motor. I'm back to where I was before; there is no obvious attempt to pull the card through. I tried measuring voltage across the motor leads and didn't see anything, which would certainly explain why the motor wasn't running.

So, what now?

Re: Repairing card reader motor on HP-65? (just a possible cause)

*Message #6 Posted by **Mark Crispin** on 7 Aug 2005, 8:06 p.m.,*
in response to message #5 by Mark Crispin

Update:

Just now, when I poked a card in it, it grabbed the card and then stopped.

I tried a couple of additional times, including inserting the card just shy of where it could be grabbed, and I saw the start then stop behavior. I already know the motor turns with externally applied power (see previous messages), and even pulls a card through. So it's not excessive friction

So, this suggests that a sensor and/or switch is intermittant.

What now?

HP-65 card reader behavior has changed!

*Message #7 Posted by **Mark Crispin** on 8 Aug 2005, 1:33 a.m.,*
in response to message #6 by Mark Crispin

The behavior has changed yet again.

Now, if I insert a card very slowly until it reaches the sensor, it starts running the motor (it didn't do this before) but as I move the card forward it stops. It hasn't reached the roller yet (there's at least another millimeter or two before that) when it stops.

This definitely suggests some kind of sensor or switch problem. Any suggestions on how to proceed?

Re: HP-65 card reader behavior has changed!

*Message #8 Posted by **Tony Duell** on 8 Aug 2005, 11:02 a.m.,*
in response to message #7 by Mark Crispin

If you look at my HP65 notes (in the articles forum on this site), or better still get the HPCC schematics disk, you'll see there are 3 switches in the card reader assembly. Physically there's a leaf contact on the chassis that touches pads on the keyboard PCB when the card lifts it (via little plastic balls). The 3 contacts detect a card has been inserted (and start the motor), detect when the card has got to the head (to start reading/writing), and detect if the corner has been cliped.

My next move would be to use an ohmmeter to check these switches (chassis/keyboard screwed into the top case, but the logic board unplugged) as you put a card in by hand. Most likely there's a problem with them. Remove the keyboard assembly and clean the contacts. I normally wipe them with propan-2-ol first, and if that doesn't get them going, I gently clean them with an eraser (!).

it's working again!

*Message #9 Posted by **Mark Crispin** on 8 Aug 2005, 7:56 p.m.,*
in response to message #8 by Tony Duell

It's changed again.

After three weeks of non-functioning, it's working again, pulling the cards through without hesitation or problem.

I guess that this means that some debris got into those switches, and it's now cleared.

Thank you to everybody. You're a great bunch of people (but you knew that already).

Re: repairing card reader motor on HP-65?

*Message #10 Posted by **David Smith** on 3 Aug 2005, 4:15 p.m.,*
in response to message #1 by Mark Crispin

Squealing motors can be caused by two things. One is the tip of the worm gear rubbing on a steel ball in the reader housing (not all readers seem to have the steel ball). The other is the motor ball bearings (usually at the motor shaft end). The cure in each case for me has been a drop of Break-Free CLP gun lubricant. I apply it with a small disposable paint brush. It takes about an hour for the lube to work it's magic. Don't over do things. Lube on the motor shaft/work gear friction fit coupling can cause it to lose grip... but this happens to almost all readers over time. Now I always remove the worm gear, clean the shaft with alcohol, and reglue it with a very small amount of IC-2000 Tire Cement (a black rubbery super glue).

Re: repairing card reader motor on HP-65?

*Message #11 Posted by **Mark Crispin** on 4 Aug 2005, 2:49 p.m.,*
in response to message #10 by David Smith

I don't know if this is relevant or not.

As the squealing card reader failed, it increasingly failed to feed the card, including the card being stuck entirely in the calculator. Repeated power cycles were needed to move the card enough that it could be pulled out.

Now, the motor makes no obvious attempt to run at all.

Being a good gun nut, I have Break-Free CLP on hand. But I'm a bit reluctant to "go in" without explicit instructions on exactly what to do.

We can take this to email. I'm mrc at washington.edu. Or, if someone is local to the Seattle area, I'm willing to spring for a few beers in return for helping me get this working again.

Re: repairing card reader motor on HP-65?

*Message #12 Posted by **Bernhard** on 5 Aug 2005, 4:02 p.m.,*
in response to message #11 by Mark Crispin

Hi Marc,

a brief glance over your posts does not tell whether the card drive wheel was properly replaced (or did I miss something ?). If you still have a decomposing "gummy wheel" that wasn't replaced or a wrong replacement (diameter too large, material too stiff) then it is easy to get the symptoms you describe (or even ruin the motor). Did you open the calculator and inspect it (no further disassembly needed). Another tip: never, never use any oil or grease while the motor (or any other component to get lube) is in the calc. After some really big mistakes and lots of trouble I do now only apply oil / grease to HP card mechanisms when the parts are out and far away from the rest and the general idea is to apply it very very sparingly. The card reader ain't no gun, it's more than a wristwatch clockwork, and easily turned into a hopeless case. Before you even try to disassemble the card reader itself, read the card reader repair instructions available on this site.

best regards, Bernhard

Re: repairing card reader motor on HP-65?

*Message #13 Posted by **Mark Crispin** on 6 Aug 2005, 11:17 p.m.,*
in response to message #12 by Bernhard

Yes, the wheel was replaced before I got it.

Re: repairing card reader motor on HP-65?

*Message #14 Posted by **David Smith** on 8 Aug 2005, 11:43 a.m.,*
in response to message #13 by Mark Crispin

I would suspect that the coupling between the motor shaft and worm gear has either decomposed or come loose. If it is just loose, you can fix it with a drop of glue. I use IC2000 tire cement, a rubberized superglue used to secure RC car tires. If it is completely decomposed, you can replace it with a piece of the spray tube from a can of (egad) WD-40.

Re: repairing card reader motor on HP-65?

*Message #15 Posted by **David Smith** on 8 Aug 2005, 11:48 a.m.,*
in response to message #13 by Mark Crispin

I forgot to mention that to tell if the shaft coupling is at fault, remove the motor/worm gear (two

screws) and give the gear a gentle pull. If it comes off the motor shaft, you have found your problem.

Re: repairing card reader motor on HP-65?

*Message #16 Posted by **Mark Crispin** on 8 Aug 2005, 12:07 p.m.,*
in response to message #15 by David Smith

That doesn't seem to be the problem; see other messages in the thread.

I'll take a look at the switches.

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hp 15c manual

*Message #1 Posted by **g** on 2 Aug 2005, 12:54 p.m.*

i just 'inherited' an old hp 15c. i would like to change the display from the comma as the decimal delimiter and the period as the thousands delimiter to the more standard (for me) use of the period as the decimal delimeter. i don't have the manual. can anybody help? thanks, g

Re: hp 15c manual

*Message #2 Posted by **Etienne Victoria** on 2 Aug 2005, 1:34 p.m.,*
in response to message #1 by g

God Blessing is Upon You Lucky Mortal,

With Thy Holy Calculator Turned OFF,

Thou shallt hold the "." key and Press ON.

This Will alternate Thy Holy Display,

Between The two different Radix modes.

And Thou shallt be Happy with your Calc.

See'ya mate!

Etienne

Re: hp 15c manual

*Message #3 Posted by **Pierre Lagrange** on 2 Aug 2005, 2:52 p.m.,*
in response to message #2 by Etienne Victoria

And do not forget to look like a smilling angel all the time..... Succes

Re: hp 15c manual (Obtaining)

*Message #4 Posted by **Frank Travis** on 3 Aug 2005, 1:12 p.m.,*
in response to message #3 by Pierre Lagrange

If you go to Ebay www.ebay.com you should be able to find the HP 15C manual for sale (sometimes is sold separate from the HP 15C calculator).

Re: hp 15c manual

*Message #5 Posted by **Mike H** on 4 Aug 2005, 2:27 p.m.,*
in response to message #1 by g

I would highly recommend purchasing the MoHPC DVD available at http://www.hpmuseum.org/cd/cddesc.htm

The manual can also be downloaded here http://www.hp15c.org/hp15c.pdf

Mike-

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All 11 SSMC's in One PDF File

*Message #1 Posted by **Bill (Smithville, NJ)** on 2 Aug 2005, 7:47 a.m.*

I finally had enough time last week to create a PDF file which has the complete message threads for all 11 Short and Sweet Math Challenges (SSMC). Thanks to Valentin for the Challenges, to all the members for their discussions, and to Dave for hosting the file.

The link is:

Link to ssmc110.pdf

There's a simple bookmark added to the start of each SSMC. Although the last SSMC was No. 10, there is actuall 11 total since No. 6 was used twice. I list them as No, 6 and No. 6A in the Booknmarks and kept the numbering the same for the remainder.

The only editing I did of the actual messages was to remove all the links. Otherwise, the messages appear with all the associated mis-spellings, etc, as originally written.

For those of you who have only recently discovered the fun of Valentin's challenges, this will give you the opportunity to try out some of the earlier ones.

Enjoy.

Bill

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Alternative HP-42S Manual (Another version)

*Message #1 Posted by **José Lauro Strapasson** on 1 Aug 2005, 11:38 p.m.*

Hi There!

I just finished another version of my HP-42S/Free42/Emu42 Manual. Now it has programming!:) It is at: http://sites.uol.com.br/disco_virtual/jlstrapasson/compartilhada/42s.pdf and the password is "joselauro".

José Lauro.

P.S.My page is also at "joselauro.com" but due to yahoo domains police is not simple to find.:(Many thanks to tripod too!:(

Re: Alternative HP-42S Manual (Another version)

*Message #2 Posted by **soueu** on 2 Aug 2005, 2:21 a.m.,*
in response to message #1 by José Lauro Strapasson

Obrigado !.

Re: Alternative HP-42S Manual (Another version)

*Message #3 Posted by **Gordon Dyer** on 2 Aug 2005, 4:16 p.m.,*
in response to message #1 by José Lauro Strapasson

Thanks for the manual, it will be very useful for a lot of people.
How about publishing it as a .rtf file on here so others can contribute new sections?

Re: Alternative HP-42S Manual (Another version)

*Message #4 Posted by **José Lauro Strapasson** on 2 Aug 2005, 8:24 p.m.,*
in response to message #3 by Gordon Dyer

Nice idea! :) I work with OpenOffice(.sxw) but this is not the problem. But what kind of license should we use? GNU? And where could we store the file?

Re: Alternative HP-42S Manual (Another version)

*Message #5 Posted by **Gordon Dyer** on 9 Aug 2005, 3:25 p.m.,*
in response to message #4 by José Lauro Strapasson

Sorry for the long delay in replying.
I am sure Dave Hicks would host the file on here if you ask him. Or use email to only those who are interested and see what happens. I would like to contribute, but time pressures may make it slow. Any contributions by others can only help and you can remain as chief editor to make sure it all fits together.
.rtf or .html formats would be more universal than any other.

Re: Alternative HP-42S Manual (Another version)

*Message #6 Posted by **mbrady** on 6 Aug 2005, 11:59 a.m.,*
in response to message #1 by José Lauro Strapasson

08/06/05/08:58AM PST I'm not having any luck bringing up the 42s manual's *.pdf file. I only get a empty page!

Re: Alternative HP-42S Manual (Another version)

*Message #7 Posted by **Vieira, Luiz C. (Brazil)** on 6 Aug 2005, 4:23 p.m.,*
in response to message #6 by mbrady

Hi;

forgive me if I`m asking silly questions, I just want to help if I can.

Do you have the Acrobat Reader already installed in your computer? If not, you cannot actually read a .pdf (pdf stands for Portable Document File);

have you tried to download the file prior to read it? In some cases, the www viewer (an additional plug in) may not be present, and the document shows blank;

when you wrote "*bringing up the 42s manual's *.pdf file*", which file are you actually reffering to?

Please, I`m not the author, I just want to help. So far I have not read about others trying to open without success, I myself could download and actually open the document. Would you, if applicable, briefly describe what did you do in order to view the file?

Thanks and forgive me if answers are obvious or if questions do not actually reffer to your needs.

Luiz (Brazil)

Edited: 6 Aug 2005, 7:47 p.m.

Re: Alternative HP-42S Manual (Another version)

*Message #8 Posted by **Charlie O** on 6 Aug 2005, 5:26 p.m.,*
in response to message #6 by mbrady

Did you page down? I initially thought the same thing because of the blank area.

Re: Alternative HP-42S Manual (Another version)

*Message #9 Posted by **José Lauro Strapasson** on 6 Aug 2005, 6:00 p.m.,*
in response to message #8 by Charlie O

I think your browser is trying to open the pdf file. Well, you must have of course the acrobat reader. Don't forget the password (senha) wich is "joselauro"

P.S. In case of need just send me an email.:) jlstrapasson@uol.com.br

Re: Alternative HP-42S Manual (Another version)

*Message #10 Posted by **José Lauro Strapasson** on 8 Aug 2005, 12:58 a.m.,*

in response to message #1 by José Lauro Strapasson

Another version. 0.4 now with more 2 pages on Statistics.:)

Re: Alternative HP-42S Manual (Another version)

*Message #11 Posted by **José Lauro Strapasson** on 9 Aug 2005, 9:01 p.m.,*
in response to message #10 by José Lauro Strapasson

Version 0.5 now with "Other bases", "flags" and "probability". There are only two sections to finish.:)

Re: Alternative HP-42S Manual (Another version)

*Message #12 Posted by **José Lauro Strapasson** on 9 Aug 2005, 9:04 p.m.,*
in response to message #11 by José Lauro Strapasson

Gordon! Please send an email to me. jlstrapasson@uol.com.br

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HP 2225A Thinkjet Printer not printing

*Message #1 Posted by **Ronald** on 1 Aug 2005, 4:06 p.m.*

Hello,

I have a non-printing HP 2225A Thinkjet Printer I am trying to fix, but sofar not succeeded. Seems to be working but puts nu ink on the paper. 1) The printhead is moving normally, also at start-up when you can have him print one page with all kind of test text. 2) I measured the print head resistors. I am not sure abou which contacts but between certain point I measure 120 ohhms. I checked this also at the connector at the main circuit board. There I head the same resistance. When removing the printhead then measured at the connector the resistance goes to infinity, so it seems to be oké. 3) The red powerlight always burns. I checked the battery under load in the printer, stays around 8 volts which seems reasonable given the fact that the accu is 6 cells.

For that I think it is something in the powersupply part in the printer.

Unfortunately I do not have the scematics of the printer.

Any suggestions where and how to proceed ?

Thank you.

Ronald

Re: HP 2225A Thinkjet Printer not printing

*Message #2 Posted by **Howard Owen** on 1 Aug 2005, 4:34 p.m.,*
in response to message #1 by Ronald

You didn;t mention if the print head was old or not. The print head and ink cartrdge are the same piece on the Thinkjets, of course. New cartridges are still available for those machines. The current HP part number is 51604A. I found some at a local Office Mart. They weren't on the shelf, but they showed up in inventory on the computer. It took me an hour to get the clerk to bump my complaint up to a manager. He said "no" right away too, but I pressed him on why he had them on the system. Eventually, he brought them out from a back room with an apology.

Re: HP 2225A Thinkjet Printer not printing

*Message #3 Posted by **Ronald** on 1 Aug 2005, 5:06 p.m.,*
in response to message #2 by Howard Owen

Hi Howard,

Yes, it is an old printhead. It was in the printer when I bought it last year. The ink itself is however still fluid and looks almost full. I remember from the past that when it get's empty the rubber bag get's a "dimple"if I express myself in English.

So far I was not able to locate a spare in the Netherlands. I will give the customer service at HP a call

tomorrow to see if they are able to get me a new one.

Ronald

Re: HP 2225A Thinkjet Printer not printing

*Message #4 Posted by **Wilson (Bill) Holes** on 1 Aug 2005, 6:56 p.m.,*
in response to message #1 by Ronald

You can purchase them online from Carrot Ink :

http://www.carrotink.com/

I hope this helps...

rgds, Wilson

Re: HP 2225A Thinkjet Printer not printing

*Message #5 Posted by **Ronald** on 2 Aug 2005, 2:46 a.m.,*
in response to message #4 by Wilson (Bill) Holes

Hi Wilson,

Thank you for Carrot ink. I just gave it a check. Due to the fact that I am not a US resident payment is very difficult (money order required, no foreign credit cards) and shipping to Europe is 33 dollars. This is unfortunately then a very expensive printhead (the cartridge itself is 13$). I will continue to search to find some Europe located suppliers.

Ronald

Re: HP 2225A Thinkjet Printer not printing

*Message #6 Posted by **Ulrich heller** on 6 Aug 2005, 12:00 p.m.,*
in response to message #5 by Ronald

Hi Gents! i´m following your conversation with great interest. I also bought an 2225B (HP-IL) Printer for my 41-collection at ebay from the U.S.. It isn´t working either. Yet i bought a new cartridge in Germany with expiry date May 2007! The adress is :

WENCOM GbR Danziger Platz 19 D 71332 Waiblingen GERMANY

www.wencom.de

It was 13.57 Euro´s + 4.10 p&p

The Thinkjet also looks pretty working mechanically but wasn´t printing a dot. Since this morning it refused mfrom power-up also. despite the battery looks fine. That´s why i´m also interested in schematics and any repair hints. BTW there is a printer repair page on the web. Just google "Thinkjet" and "repair". It gives some hints, but nothing that was not mentioned yet. Regards Uli

Re: HP 2225A Thinkjet Printer not printing

*Message #7 Posted by **Tony Duell** on 8 Aug 2005, 10:57 a.m.,*
in response to message #6 by Ulrich heller

Most of the time when a Thinkjet doesn't print, but the carriage and paper move correctly, it's the flexiprint cable, as discussed here over the last few days....

I have the service manual (with schematics). As ever I am happy to look things up for people who are repairing HP calculators/peripherals. But as mentioned in another thread I have no scanner, so I can't e-mail bits of the manual.

Re: HP 2225A Thinkjet Printer not printing

*Message #8 Posted by **Vassilis Prevelakis** on 2 Aug 2005, 1:45 p.m.,*
in response to message #1 by Ronald

have you tried to see if ink can come out of the printhead?

the manual suggests using a paperclip to push the bladder until a drop of ink appears on the printhead.

Wipe the printhead with a soft cloth and try the test again.

I may also be that the connections to the printhead are coated with leaked ink (unfortunately the 2225A and cartridge were designed to be in continous use and leak when left idle).

BE VERY CAREFULL WHEN CLEANING THE BASE OF THE CARTRIDGE (the black plastic holder that is visible when the print cartridge is removed). you can easily damage the contacts and then the entire assembly will have to be replaced (the contacts are bonded on the flexible PCB that runs to main PCB and I do not believe these can be repaired.

I would suggest removing the base and holding it under running water without any mechanical assistance (Q-tips, etc).

**vp

Re: HP 2225A Thinkjet Printer not printing

*Message #9 Posted by **Ronald** on 2 Aug 2005, 2:51 p.m.,*
in response to message #8 by Vassilis Prevelakis

Hi,

I tried pushing into the hole at the back of the printer head. I think I will be with black fingers for the rest of the week unfortunately, so the answer to that is yes. I will gently clean the base unit later tonight. I took a daring approach today and disassembled the complete printer and hooked my scoop to the print head connection on the circuit board. When i started the self test function I saw a lot of pulsing on the scope. For that reason I am continuing on the assumption that the electronics are oké. I also managed to find a Europe based supplier for new print heads so I ordered a new head. It will take about two weeks to arrive at my place. So except for cleaning again the base of the head I think I should wait now for the new print head and keep my fingers crossed it will work. If not back to disassembling again and maybe removing the whole print head to do a more thorough analysis, but to be honest it scares me a bit. I am not 100% convinced at this moment I will be able to get it in one piece again, but that is a worry for 2 weeks from now.

Ronald

Re: HP 2225A Thinkjet Printer not printing

*Message #10 Posted by **Howard Owen** on 2 Aug 2005, 4:12 p.m.,*

in response to message #9 by Ronald

If you aren't doing all this work for the love of it, remember that these printers come up on ebay fairly frequently. Even if you have to pay shipping from the US, the price might be cheap compared to the labor.

Re: HP 2225A Thinkjet Printer not printing

*Message #11 Posted by **gaston** on 3 Aug 2005, 4:04 a.m.,*
in response to message #1 by Ronald

hi if you need more informations about available cardrige to 2225 i found them with paper in germany still now

if you are believing that the head is out let you send 1 or 2 from the dealer in germany but d ont forget only average 500 perhaps less sheets printed..... let menow if you are interested

i have hp 110 + 9114 + 2225.....

gaston

Re: HP 2225A Thinkjet Printer not printing

*Message #12 Posted by **Ronald** on 3 Aug 2005, 4:29 p.m.,*
in response to message #11 by gaston

Hi Gaston,

I ordered a set of heads yesterday already with a company called microfix in the Netherlands. If this does not work out, I will come back to you for sure.

Thank you for thinking along.

Ronald

Re: HP 2225A Thinkjet Printer not printing

*Message #13 Posted by **Tony Duell** on 3 Aug 2005, 3:55 p.m.,*
in response to message #1 by Ronald

Firstly, I have the Thinkjet _service_ manual with full schematics. If you contact me at the above (unmunged) e-mail address I can look stuff up for you. This manual is not alongside me at the moment, so I am working from memory.

One thing confuses me. You mention that the battery is fully charged, but the Subject line refers to the 2225A which IIRC is the mains-powered HPIB model. There are significant internal differences mostly due to the different PSU (which leads to the motors being different!). What are you working on?

I think you've done the first test. The flexiprint cable to the PCB is the printhead connector. One of the tracks -- I think it's the middle one -- is obviously different to the others, it's the common connection. The others are the drives. With the cable disconnected from the PCB, check for resistance between the common connection and each of the others in turn. If any are open, suspect the printhead or the flexiprint. Be warned that ink leaking from the cartridge often corrodes the flexiprint at the carriage end, and AFAIK the flexiprint can't be repaired. I have dismantled a carriage to replace it, but getting the part is presumably next-to-impossible now.

The printhead drivers are ULN2803-like things (maybe 2003's). They take 12 outputs (IIRC) from the

processor chip (the big one, the other 2 large ICs are the font ROM and RAM, they communicate with the processor by something that's remarkably close to Saturn bus :-)).

In the battery-opperated Thinkjet (2225B and 2225P IIRC) there's a little switching converter to step the battery voltage up to drive the printhead. I think you should be able to measure something in excess of the battery voltage at the common connection to the printhead when the thing is printing. I can see if the manual gives a voltage for this point.

Re: HP 2225A Thinkjet Printer not printing

*Message #14 Posted by **Ronald** on 3 Aug 2005, 4:38 p.m.,*
in response to message #13 by Tony Duell

Hi Tony,

I thought it was the 2225A, but for it has an HP-IL interface it is probably a 2225B. On the printer (and carton box) it only indicates Thinkjet.

I will take it apart this weekend to measure the resistance between the center trace on the flexiprint and the other traces. The connectionpoints for the printhead were literally soaked in Ink which I cleaned more or less with some paper, assuming this was enough. I will revisit this when taken apart given your remark that the ink can be corrosive..

I think the switching converter is oké for the red light on the button circuit board is burning bright red continuously. Also when switching on and keepting two buttons pressed the printhead is swiftley moving formm left to right and the paper is advancing. The only thing lacking is the ink printed on the paper. If you have a few testpoint with the associated voltages I will make a check to that.

I will get back this weekend with the results after having it disaasembled.

Thank you

Ronald

Re: HP 2225A Thinkjet Printer not printing

*Message #15 Posted by **Tony Duell** on 4 Aug 2005, 6:32 a.m.,*
in response to message #14 by Ronald

I will have to check the schematics, but there are at least 2 power supply rails in this printer. A 5V line for the logic, and the stepped-up voltage for the printhead. I can't remember how the motors are powered, possibly straight off the battery.

IIRC (again) the printhead supply is only turned on when it's actually printing, to save the battery. The red LED does not depend on the printhead supply working.

A ruined flexiprint (due to ink corrosion) is a common cause of no printing in these printers. I can tell you how to replace it if you can get the part. It's the same part in all Thinkjets apart from the one built into the Integral PC, that one is longer.

Re: HP 2225A Thinkjet Printer not printing

*Message #16 Posted by **Tony Duell** on 5 Aug 2005, 6:36 a.m.,*
in response to message #15 by Tony Duell

I looked in the service manual last night, and I was basically correct.

The motors run off the unregulated 'Vbatt' line. This is regulated down for the logic. There's a step-up SMPSU for the printhead

That SMPSU provides around 22V to the printhead common line when the machine is printing. It's based round a 555 timer (wired as an astable) driving a power transistor. There's a voltage comparator between a divided-down version of the 22V output and a 1.2-ishV reference voltage. That comparator feeds the reset pin of the 555 to stop the oscillator when the output gets too high.

There's a 2-transsitor circuit to remove power from the 555 unless the machine is actually printing (this is to save the battery, of course).

So what I'd do next is find some way of connecting a voltmeter to the printhead common connection when the machine is running the selftest or similar, and see if that 22V is present.

Re: HP 2225A Thinkjet Printer not printing

*Message #17 Posted by **Ronald** on 5 Aug 2005, 9:40 a.m.,*
in response to message #16 by Tony Duell

Hi Tony,

I look already forward to the weekend to have hours going in again with voltmeters etc.

Ronald

Re: HP 2225A Thinkjet Printer not printing

*Message #18 Posted by **Ronald** on 6 Aug 2005, 11:53 a.m.,*
in response to message #16 by Tony Duell

Hi Tony,

Opened the 2225B again and went down deep until I had the flex connector out. 3 of the contacts were defective, which is really bad. It bad spot was between the flex cable itself and the contact point were the ink head is making contact. The worst of all places. I experimented at a corner to see if the base was heat resistant enough to solder one tiny wire over the gap, but even when coming close to the cable, it already started to melt.

I am afraid this printer therefore one has seen his Waterloo, unless I manage to get a spare flex cable somewhere. This is bad for it complete to the carton box, foam, everything and also still white, no yellowing at all. As a last rescue I will put an add to that matter in this website, but I have no great hopes to getting a spare part.

Thank you for your guidance,

Ronald

Re: HP 2225A Thinkjet Printer not printing

*Message #19 Posted by **Tony Duell** on 7 Aug 2005, 6:32 a.m.,*
in response to message #18 by Ronald

Unfortunately a defective flexiprint cable is a very common cause of no printing on these machines, and the point where it fails is where you're having problems, at the cartridge

contacts.

The good news is that it's the same part on _all_ Thinkjets (well, as I said earlier, apart from the one built into the Integral). If you can find another Thinkjet with other faults, or damaged case, or something, you can swap the part over.

Let me know if you find one, and I'll tell you what to undo. It's not totally obvious, you don't want to release the cable that moves the carriage. Re-threading that is 'fun'...

And for other Thinkjet (and Integral) owners here, please don't leave the cartridge in the printer if you're not using it. Leaking ink is the main cause of flexiprint damage

Re: Is this real?

*Message #20 Posted by **Ronald** on 7 Aug 2005, 5:30 p.m.,*
in response to message #19 by Tony Duell

Hi Tony,

Thank you, keep my finger crossed to another failed Thinkyet. I took of the carriage by loosening the screw and then winding some solder wire in a 8 like figure around the screw, so the transport wires could not get away from the screw.

Ronald

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coburlin: solved!

*Message #1 Posted by **Vassilis Prevelakis** on 31 July 2005, 11:05 p.m.*

I have just realized that the eBay advanced search allows you to exclude sellers. By doing this I have managed to get rid of all the bogus auctions by coburlin.

Recommended!

Of course this will not solve the problem of inflated prices resulting from his outrageous asking prices, but then again anything you cannot see cannot hurt you, right? :-)

**vp

Re: coburlin: solved!

*Message #2 Posted by **I, Claudius** on 1 Aug 2005, 4:36 a.m.,*
in response to message #1 by Vassilis Prevelakis

Good tip for those still willing to use eBay. I simply don't trust it anymore. eBay/PayPal has been discovered, so to speak, and is now the tool of fully commercialized sellers. The time is ripe for a startup alternative to eBay.

Really?

*Message #3 Posted by **Mark Lynch** on 1 Aug 2005, 10:04 a.m.,*
in response to message #2 by I, Claudius

> Quote:
>
> The time is ripe for a startup alternative to eBay.

What did you have in mind? More to the point, who is going to do it?

Re: coburlin: solved!

*Message #4 Posted by **Ron Ross** on 1 Aug 2005, 11:17 a.m.,*
in response to message #1 by Vassilis Prevelakis

Coburlin just uses ebay like all commercial sellers that use ebay. He is not the villian, just an oportunist, and there is nothing wrong with that. While many of us don't like his methods, there is nothing wrong morally or legally with his methods and I won't bash him for that. (I am not happy with him, but he may have single handedly doubled the value of my own collection, so maybe I should be happy with him???).

Regardless, ebay started out with a garage sale mentality and now is a regular flea market for professionals that still allows the little guy to sell at a retail price. No seller is going to complain. And that is who pays ebay. The ONLY recourse (and the ONLY recourse) is for buyers to boycott ebay. And one little area of electronics

wont be missed (ie calculator sales). Therefore ebay has evolved away from the great bargain bin it once was. And that is the result of information exchange. It allows a seller to make his item available to the maximum audience of potential buyers. Therefore, I conclude that we can whine all we want, but that wont affect the price of tea from China (or our calcualtor market).

I guess I will end my moot rant here.

Re: coburlin: solved!

*Message #5 Posted by **Mark Lynch** on 1 Aug 2005, 1:05 p.m.,*
in response to message #4 by Ron Ross

> Quote:
>
> Therefore, I conclude that we can whine all we want, but that wont affect the price of tea from China (or our calcualtor market).

Quite so. And yet there are those among us that *just don't get it*, prefering instead the paranoid world of conspiratorial evil-doers, plotting to undermine the value and dignity of our quirky little calculator collections. Throw in PayPal and you've got a plot to take over the world.

You have been warned!

What rubbish and more importantly: Who cares?

Have you ever heard the joke about the amish man who was losing sleep at night worrying about the fun others were having? This is the same thing.

Re: coburlin: solved!

*Message #6 Posted by **Howard Owen** on 1 Aug 2005, 1:44 p.m.,*
in response to message #4 by Ron Ross

Bingo!

People who retail for a living tend to be hard-nosed about the old adage "buy low and sell high." they have to be, since that's what puts bread on the table. I dont know if cobaby is among the ranks of those who depend on selling retail to make a living, but he acts like he is.

I have a different approach to selling on eBay. Since I'm principally an enthusiast, my sales are mostly to help me to continue to build my collection. I tend to try to give value, not only because it feels right, but because I won't last long in the collecting community if I piss off my customers. So coburlin's tactics are repugnant to me, and I would never consider buying from him.

However, his presence on eBay has this one beneficial element for me: his bids on equipment I know nothing about give me some sense of the monetary value eBay will ascribe to the item when the bidding is over. Thus I pay no attention to his auctions, but I watch his bids closely.

As far as eBay not being a bargain anymore, I disagree. The price you pay for any one item may be higher than before, but those prices almost always beat comparable prices elsewhere. It's always a good idea to do a sanity check before purchasing by comparing other sources for the item you are considering a bid on. But that usually, not always, but usually, tends to show eBay in a favorable light price-wise. I'm not familiar with much economic theory, but it makes common sense that a large, unfettered market will end up assigning optimal values to prices for goods, where "optimal" is a complex winnowing of the interests of

both buyers and sellers. No market is completely "unfettered" but eBay's is closer to that ideal than the local electronics store, to judge by the price spread.

Re: coburlin: solved!

*Message #7 Posted by **Ron Ross** on 1 Aug 2005, 2:10 p.m.,*
in response to message #6 by Howard Owen

"The price you pay for any one item may be higher than before, but those prices almost always beat comparable prices elsewhere. It's always a good idea to do a sanity check before purchasing by comparing other sources for the item you are considering a bid on. But that usually, not always, but usually, tends to show eBay in a favorable light price-wise. I'm not familiar with much economic theory, but it makes common sense that a large, unfettered market will end up assigning optimal values to prices for goods, where "optimal" is a complex winnowing of the interests of both buyers and sellers. No market is completely "unfettered" but eBay's is closer to that ideal than the local electronics store, to judge by the price spread."

Your logic applies to 90% of ebay, but doesn't apply to calcualtors and ebay. This is one area where economics is perverted by an absense of retail substitutes in comparision to yesterday.

Almost everything has benefited with progress. Antiques do command Antique prices due to rarity, not because they are as useful or more useful today than anything else available. Only since Hp released an Hp33s has the price of the Hp32s returned to below the $200 value it once commanded, not because of its rarity, but because there was nothing to compare it too until the Hp33s appeared.

RPN is not a popular calculator OS, but those that learn it, tend to become fanatical about keeping it. And that is one of the few things that skew this market. Another is the superior quality that these same fanatics are used to in a calculator that only Hp used to provide. Those two features are what has fueled this somewhat unique market. Normal marketing common sense doesn't seem to hold up in this market.

Now that Hp has released the new Hp33s and Hp49G+, there should be no real market for the older, but not antique HP32s or Hp48G series. Yet, both will still sell for twice the newer calculators list prices (and truthfully, both are worth twice the newer replacements). But the market HAS changed and most people do not rely on a calculator for the majority of their work. Therefore I have to be thankful for the Hp's that are available new so as to keep the older calculators value from skyrocketing due to user demand, not just collector demand.

Re: coburlin: solved!

*Message #8 Posted by **Howard Owen** on 1 Aug 2005, 4:23 p.m.,*
in response to message #7 by Ron Ross

I don't think the market is "skewed", it's just complicated. The price for 48-GX machines is high because professional surveyors still use them. The fact that collectors value them too doesn't mean that you have a skewed market. It just means you have two value systems chasing the same goods. Personally, I can't bring myself to spend the money for a 48GX because I wouldn't use or othewise appreciate the expandibility. (That could change if I learn of an application that I really, really want that will only run out of one of the GX ports.) I've settled for a 48S and 48G+ instead, giving me two examples of those generations. These are enough for me to follow along in William Wickes' books, which is what I really get pleasure from.

The market for the other machines I'm interested in, the 41C, 75C/D and 71B, seem to be driven almost completely by enthusiasts and collectors. I distinguish the two, by the way. I'm an enthusiast, in that I like to play with the gadgets I buy. I set up networks with them, for example. I am also a collector in that I want to obtain examples of each major category I'm interested in. Thus

the 48S is not much use as an enthusiast's toy when compared to the 48G+, but it fills an interesting gap. Anyhow, I've noticed that the 71B is a lot harder to obtain than the 75C. They come up on eBay at about the same rate, so why should the 71B, a younger computer, command more than a 75C? Because it is *cooler*. It's more expandable, and has neater software in the swap disks. It also is the first machine to run the Saturn processor. All of these qualities are prized by enthusiasts and collectors.

Then too, trying to figure out what makes the retro calculator market tick is a fairly large slice of the fun of participation. I hope to expound on this at more length at my new website, http://retrocalculator.com. I was astonished that domain was available, but it was, so I snagged it this weekend. There's nothing up there now but a logo consisting of a 75C with HPIL cables attached. I hope to have more before I have to get back to work, probably next week.

Re: Cobuba: solved!

*Message #9 Posted by **Namir** on 1 Aug 2005, 12:07 p.m.,*
in response to message #1 by Vassilis Prevelakis

Thanks for teh tip. This way I will not see Cobuba's stupid and trashy auctions. I don't think one person can influence prices. Behavioral psychologusts will tell you that when people don't get the reaction they want, they will do something else. Cobuba is no exception.

Namir

Re: coburlin: solved!

*Message #10 Posted by **Mike** on 7 Aug 2005, 5:07 p.m.,*
in response to message #1 by Vassilis Prevelakis

I'm just curious how he makes any money. He lists thousands of items **for every one he sells**. It costs him a few bucks for every listing. Insertion fees for $200-$500 is $3.60. If he lists 1000 items, he's nearly $4000 in the hole before he starts.

Even if he sells at these ridiculous prices, it's not enough to make up for the $4000 in listing fees. He must be doing a lot of outside ebay sells from these auctions to make that worthwhile.

Re: coburlin: solved!

*Message #11 Posted by **Vassilis Prevelakis** on 7 Aug 2005, 5:24 p.m.,*
in response to message #10 by Mike

```
Mike wrote:
> I'm just curious how he makes any money. He lists thousands of
> items for every one he sells. It costs him a few bucks for every
> listing. Insertion fees for $200-$500 is $3.60.
```

At the last moment he changes the auction to a $1 mouse (with $10 shipping to prevent anybody from taking him up on his offer). He is, thus, paying only a fraction of the nominal insertion fee.

I have let ebay know about this behavior, but they have ignored me.

**vp

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coburlin: solved!

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HP 41CV Power On

*Message #1 Posted by **eagre** on 31 July 2005, 9:23 p.m.*

I know I'm coming in very late - I just joined the forum. I have 41CV that I've used since the mid 80's (I earlier had a 35, 65, and 67). Recently it has often been reluctant to turn on, even though the N cells are fresh and the battery contacts are clean. I've heard this is a known problem. What is it? HP no longer suppoirts this calculator, but I have come to depend on it.

Ed Grens

Re: HP 41CV Power On

*Message #2 Posted by **don wallace** on 31 July 2005, 11:38 p.m.,*
in response to message #1 by eagre

Hi Eager,

It could be that your calculators internal interconnects are giving trouble. The calculator can be disassembled and cleaned but can also be wrecked by static electricity damage.

I am able to safely repair these machines. Happy to quote you if you like. This is NOT a plug... ;-) Just trying to help.

Speaking of which, you could check out my pages on repairing the 41CV at either: www.furlow.org or my own pages at:

donwallace.customer.netspace.net.au

I have 20 years experience in electronics repairs and have similar timespan of experience in electronics engineering.

Good luck!

Don Wallace

Re: HP 41CV Power On

*Message #3 Posted by **Howard Owen** on 1 Aug 2005, 3:34 a.m.,*
in response to message #2 by don wallace

Nice photo spread there!

Most of the 41s I've opened don't have the nuts on the screw posts, (I did open one that had that arrangement.) It seems like a much better plan than using the gripping power of the screws exclusively to press the processor PCB to the keyboard PCB, particularly given the tendency of the posts to crack with age and abuse. I also recognized a symptom you mentioned as being caused by static discharge - the strange behavior on "SIZE" and storing to registers. I have one calculator that starts showing garbled

program lines when size exceeds a certain value. I had concluded that this was a RAM problem, or possibly something with the CPU. Can you comment on whether one or the other is more likely? How would you go about distinguishing the two? (I might send it to you for repair, but mail between OZ and the US takes forever. 8)

Re: HP 41CV Power On

*Message #4 Posted by **Ronald** on 2 Aug 2005, 2:55 p.m.,*
in response to message #3 by Howard Owen

Hi,

Just a quickie: Is the black plastic piece for the electrical isolation still in place between the keyboard and the CPU board, I forgot to replace it one time myself and then I had also some strange behaviour on certain keys.

Good luck

Ronald

Re: HP 41CV Power On

*Message #5 Posted by **Howard Owen** on 2 Aug 2005, 4:58 p.m.,*
in response to message #4 by Ronald

Yup. It's still there.

Re: HP 41CV Power On

*Message #6 Posted by **don wallace** on 15 Aug 2005, 3:03 a.m.,*
in response to message #3 by Howard Owen

Hi Howard,

Thank you for the feedback on my photos of the 41CV repair. I shot them with a toy digital camera, so they are a bit rough.

Most definitely, you have a faulty RAM chip. I can replace it if you first get a sick 41CV from ebay and send me your machine and the one I'll use for parts to repair your calc. I will test the RAM first to ensure you get a functional system back. It's a long way to send a calculator for repair, so I would do the job properly.

Kind regards,

Don P.S. you may want to check my pages once in a while. The website is under heavy development with a lot of new material to be uploaded shortly. Any feedback or technical questions are welcome.

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hp 33 display

*Message #1 Posted by **daid bowers** on 31 July 2005, 2:29 a.m.*

hi i am a surveyor, in china at the moment. i am going to get some dedicated programs written and i was told it would be better on the hp 33 as they are newer than my old 48 gx with cogo. has the display comma been enlarged, does anyone know a good u.s.online source which has the newer version or a shop in frisco where a friend of mine can buy one and mail it to me i see they are as low as 49 bucks.in australia they are about 150 u.s.d.which is a waste if i dont like it should i look for serial nos above a certain number to clarify this cheers david

Re: hp 33 display

*Message #2 Posted by **John Limpert** on 31 July 2005, 7:22 a.m.,*
in response to message #1 by daid bowers

The HP-33S may be newer, but that doesn't mean that it is better than the HP-48GX. They aren't addressed at the same set of problems. The HP-33S is a programmable scientific calculator with a programming model that is similar to that of pre-RPL HP calculators. The HP-48GX is a graphing calculator with more memory and a much more sophisticated programming model. Which is better is determined by your needs and personal preferences.

You can get the HP-33S from Amazon or Walmart. I bought one recently at my local Walmart store. It had the improved LCD display. I still don't like the legibility of the key labels, the shiny metallic finish isn't helpful. For $50, I can live with its defects. It's small, supports RPN, and is programmable. Its keyboard works reliably, unlike my HP-49G+, which was replaced under warranty and still doesn't work properly.

If they ever get the hardware problems corrected, you may be better off with the HP-49G+ with its support for removable flash memory cards. That way, you can offload and backup data to a computer with a flash memory card reader.

Re: hp 33 display

*Message #3 Posted by **George Rose** on 31 July 2005, 7:35 a.m.,*
in response to message #1 by daid bowers

David, I too am a surveyor in Maryland. I have an HP48GX with a COGO card installed and I also have an HP33S with some COGO programs that I wrote installed in it. Not to "pat myself on the back", but just so that you know my programs are not trivial, a college in Texas is using them in their curriculum. So I can tell you from experience, if you have an HP48, you don't need nor will you be impressed with the HP33S for field work. The only reason I can think of to use the 33S is for the NCEES exam as it is allowed and the HP48 is not.

Re: hp 33 display

*Message #4 Posted by **Norris** on 31 July 2005, 2:11 p.m.,*
in response to message #3 by George Rose

Agreed. The 33S is a great calculator for solving problems on surveyor's licensing exams (e.g. LSIT/FS,

PLS/PS exams), since NCEES has banned all other programmable calculators from such exams. But it cannot be used as a field data collector like the HP48GX traditionally was. The 33S only has about 32 variable memories, and no way to download data. A current 48 or 49 series model, or an older 48GX, would be a better choice.

If you are interested in 33S surveying software for exams, there are some inexpensive commercial options, like this one.

Re: hp 33 display

*Message #5 Posted by **david bowers** on 1 Aug 2005, 6:34 a.m.,*
in response to message #4 by Norris

hi thanks all, what the programmer told me was that the physical mechanics of my two 48g and the gx are getting old, both are mint condition, but 10 years old, but how long does a calc last, i have an 11c, two 32s and the old 42 which all work. he suggested the 33 for a dedicated curve programe only,simply cause its new in build, i was going to get the survey pro card for my gx, tds said it would be better to get the tds recon, if i spent the money on a card, and the gx dies i am left with nothing, also a surveyor told me that his cogo card died after 10 years, maybre i should get the program written to a card for the gx and just buy used ones, what do others think cheers david

Re: hp 33 display

*Message #6 Posted by **Tim Wessman** on 1 Aug 2005, 8:48 a.m.,*
in response to message #5 by david bowers

You could wait a few months instead. This runs circles around the recon, ranger, allegro, and everything else out there. www.pssllc.com

TW

12345

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Free42 and Visor Deluxe

*Message #1 Posted by **Charles Oxford** on 30 July 2005, 4:29 p.m.*

I just got a Visor Deluxe and have spent alot of time trying figure it out. I managed to change owner to my name but all hotsync only uses previous owner name. I finally used that name and Free42 loaded. Can anyone tell me how to rid all memory of the previous owner? Also, what is the largest amount of flash ram can I use? Would the entire module be accessable or do you need multiple smaller modules? Hope this isn't too far off topic to be offensive. Thanks from a sweating Sonoran resident.

Re: Free42 and Visor Deluxe

*Message #2 Posted by **Gerson W. Barbosa** on 30 July 2005, 7:14 p.m.,*
in response to message #1 by Charles Oxford

For the first question, try this:

http://kb.palmone.com/SRVS/CGI-BIN/WEBCGI.EXE?New,kb=PalmSupportKB,CASE=obj(33416),ts=Palm_External2001

Re: Free42 and Visor Deluxe

*Message #3 Posted by **Charles Oxford** on 30 July 2005, 11:44 p.m.,*
in response to message #2 by Gerson W. Barbosa

Thanks Gerson, I was looking at a lot of info at Palm but missed that page. Option #1 is no longer there and #2 didn't work. I had to hard reset and reload but now its all mine. Had no idea these things could be so fun! A real computer in your pocket, and with Free42 now!

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HP97 Card Reader: recording problems (rephrased)

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 29 July 2005, 5:32 p.m.*

Hi all HP97 users and fans;

I had a somehow interesting experience with my HP97 yesterday night. After reading and writing a few magnetic cards, it started to show [Error] in the display when trying to write (read was fine). I disassembled the calculator and tried to readjust the sensors without success. Then, for the first time in this unit, I removed the card reader´s PCB and took a look at the contact plate.

It was slightly bent and I decided to remove it (five small screws). I cleaned it and decided to plain it. After a few small torque on the opposite direction, the contacts plate was almost plain again. I reassembled it and readjusted the contacts. Now it is working fine, again, but I noticed two small different behaviors in the card reader operation.

Although I've done all procedures the best of what I think, the card reader now seems to pull the cards a bit slowly, as if it is a bit more difficult to pull them in. Should that be due to excessive pressure in the contacts plate? Also, in one of the read/write operations, I touched the card prior to pull it out of the reader and it seems to me that it was slightly pushed back in backwards. The card reader motor started to run again and it stopped only after removing the card from the inside of it. An [Error] message was shown, again. Has anyone of you, guys, experienced such behavior?

I'm affraid of having to open the calculator again in order to readjust the plates. What I did was to slightly tighten the screws till each contact was close, by measuring the three connection points (M, F and H), and then slowly loose them back till the contact was open. Then I gently inserted and removed one card and checked if each contact was closed and opened. All seemed fine and after that, the card reader started to record again.

Any suggestions? Should I left it this way? If there is excessive pressure when the card is pulled inside the reader, both motor and magnetic head may be working outside their specifications. Is there any way to check for that?

BTW, I have some pictures of the reader PCB, component and solder sides. Should I post them here?

Best regards.

Luiz (Brazil)

Edited: 29 July 2005, 11:44 p.m.

Re: Is this real?

*Message #2 Posted by **Ronald** on 30 July 2005, 4:53 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Hi Luiz,

I am not sure if the contacts are the rootcause. Couls it be that the pressure of the rubber capstan is a bit higher than before, did you tried to give the black axis a little turn. I hope my explanation makes sense, otherwise I can send a .jpg of what i mean.

Succes

Ronald

Re: Is this real?

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 30 July 2005, 9:18 p.m.,*
in response to message #2 by Ronald

HI, Ronald; thank you for your followup.

You see, I thought about adjusting the roller axis, but since I did not touch it, I thought it would be a good idea to leav it as it was. If the adjustment you mention is the same, or close to, as the adjustment of the HP41 card reader (82104A), then I know what you mean: the excentric axis.

Based on the fact that I actually tried to leave the contacts plate as plain as possible, I thought that, after readjusting the screws, the small plastic actuators, that cause the contact blades to touch the pcb when the card is pulled in, might be pressing the card surface a bit more than before. Also, the pcb screws themselves. They were somehow thighten when I removed them, so I tried to screw them back as tight as I thougth they were.

Thank you for your valid suggestion. You see, I try not to disassemble the HP97 too much because it has too many moving parts and connections, and I have to take care of them all when either openning or closing it back. I`ll do that tomorrow again. In addition to the axis, any other suggestion?

Best regards.

Luiz (Brazil)

Edited: 30 July 2005, 11:41 p.m.

Re: Is this real?

*Message #4 Posted by **Ronald** on 31 July 2005, 6:37 a.m.,*
in response to message #2 by Ronald

Hi Louis,

Yes I did mention the exectric axis. I have no other suggestion, assuming that the contacts are as clean en smooth as they were before.

There is one thing that comes to my mind now, there are 2 (if I recall th # correctly) small "guidance" springs in the side of the cardreader path(about 1 cm long and bend). I assume they are still in place, smooth surface and can move freely ?

Ronald

Re: 97 reader repair

*Message #5 Posted by **don wallace** on 1 Aug 2005, 1:43 a.m.,*
in response to message #4 by Ronald

Hi all.

Pardon me for commenting; I don't own a 97 or a 41C card reader. So I am sticking my nose in

possibly where it is not wanted.

From many years experience repairing a very wide range of equipment, for copiers to mining machines and computers, I know of the damage one can do if one modifies the machinery too much.

It sounds like the capstan pressure is indded a little higher that normal and the motor is EXCESSIVELY loaded. I suggest you carefully re-do the job to correct this, as you may get failure in the electronics (if any) which switches the motor. The ERROR message you are getting is IMHO, a timing error due to the slower card scanning speed, which I guess would now be at the margins of operability.

If you keep running the 97 in this state, don't be surprised if something fails. Just trying to help...

Kind regards from Down Under!

Don Wallace

HP97 Card Reader working smoothly...

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 2 Aug 2005, 9:24 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Hi, all;

first of all, thanks to all of you that either added valid suggestions to this subject or at least wish to help somehow and were not able to. Also, thanks to all of those who have already placed posts in the past about the HP67/97b reader; because I read many of those I agregated many new knowledge to my own about these masterpieces.

With no further ado, I opened the HP97 again and checked the excentric adjustment. After carefuly inserting a card, I tried to reduce the pressure by adjusting it and I noticed that it was almost in the lowest pressure adjustment. Based on the difficulty on inserting the card, I assumed that this unit has a new rubber puller, an O-ring perhaps (I did not open the card reader mechanics). So, by setting the lowest pressurew possible, I adjusted the contact blades again and now the cards smoothly 'walk' through the card reader´s head, either reading or writing. Even the noise from the motor + pulling gear has been reduced somehow.

About the contacts adjustment, I once read an adjustment procedure that worked for me. I'm not sure who posted it, so I'll not even try to wrongly refer to someone, so forgive me the one who posted it! The HP67/97 card reader has three contacts: one that senses a card has been inserted, another that senses the card 'position' so it can be read/written, and a third one that senses if the card is protected or not (read-olny card, cannot write on it). This adjustment procedure states something like to make sure the three contacts are closed wihtout a card inside the reader, then one should slowly recess (unscrew) each screw while measuring the related contact(ohmmeter) till it is opened. By finding the closer screw position where the contact is opened, recess it 1/4 of a turn (90 degrees). After doing that with the three contacts (and related screws), gently insert a card and check if the contacts close with it inside the reader. Remove it and confirm that they are opened. I'd also add that the small plastic actuators, the ones that actually push the contact blades when the card is inserted, should not offer too much resistence to the card insertion, and if that happens, maybe you should have a look at the contacts plate and check if it is not bent or twisted.

BTW, to those that have gone any further with these readers, I still have two questions: the 'normal', average current measured when motor is pulling a card and if there is any way to adjust the motor speed.

Wow! I wrote too much. Hope this helps as a partial guidance to those experiencing related problems with card readers. If anything I wrote here is not in accordance with either regular procedures or specific card reader adjustments, please, I'd thank for any corrections and/or additional info to this post in order to avoid dammage

to calculators or related devices.

Best regards and thanks again.

Luiz (Brazil)

Re: HP97 Card Reader working smoothly...

*Message #7 Posted by **Tony Duell** on 3 Aug 2005, 4:01 p.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

The procedure I use for adjusting 97 card reader contacts is essentially the one in the service manual (on the CD-ROM set).

With no card in the reader, connect an ohmmeter across each contact in turn (there are testpoints for this on the reader PCB). Screw in the appropriate adjusting screw until the contact just closes, then back it off 1/8 of a turn (or so). Check that the contact switches reliably when you put a card in (if it doesn't, suspect bent or dirty contacts).

HP97 Card Reader: recording problems (rephrased)

*Message #8 Posted by **Bernhard** on 3 Aug 2005, 6:40 p.m.,*
in response to message #7 by Tony Duell

Hi Luiz,

you asked:

"BTW, to those that have gone any further with these readers, I still have two questions: the 'normal', average current measured when motor is pulling a card and if there is any way to adjust the motor speed."

Please see my recent post on HP67 card reader speed adjustment on this list and the responses from various people - there is all the info you need to get your HP97 card reader into perfect condition.

BTW, for spare motors, I buy those HP41 card readers advertised as "defunct" on Ebay (cheap because defunct - always was just the rubber !) and put those motors into my HP67s. Alas, some of the motor screws are glued so the screw heads must be milled off.

Regards, Bernhard

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HP 9825B Tape..still available?

*Message #1 Posted by **Neil** on 29 July 2005, 10:50 a.m.*

Hello, I just aquired a nice condition HP 9825B. Is there anyone still making the tapes for these machines?

Thanks for any help.

Regards, Neil

Edited: 29 July 2005, 10:52 a.m.

Re: HP 9825B Tape..still available?

*Message #2 Posted by **John Limpert** on 29 July 2005, 3:35 p.m.,*
in response to message #1 by Neil

I picked up several "new" 3M DC100A tape cartridges on eBay for a reasonable price, much less than what several media vendors were charging. I haven't had a chance to test them. I'm pessimistic that the tape drive still works, since capstan rot seems to be a common problem with these drives.

Re: HP 9825B Tape..still available?

*Message #3 Posted by **Neil** on 30 July 2005, 12:24 a.m.,*
in response to message #2 by John Limpert

HI, Thank for the info. It's funny, I never thought of ebay for them.

I know I used another tape in my HP-85, but I cant remember what it was. The HP-85 uses the same DC100 tape.

Thanks again,

Neil

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MoHPC *The Museum of HP Calculators*

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HP9825 and HP9862A plotter - how ?

*Message #1 Posted by **marais** on 29 July 2005, 8:44 a.m.*

Dear community, I need help getting my 9862 plotter to work with my 9825. I was hoping my 16 bit interface would be suitable for the plotter, but looking at the plug I begin to have a doubt. Which interface is necessary to use this plotter? It's not an HPIB model as far as I know. Furthermore, a plotter I/O is needed, which I luckily have as a combined 9862A plotter - general I/O - extended I/O cartridge. However, I am currently using a general I/O-extended I/O-matrix cartridge, which I use for the matrix functions. What happens if two cartridges with partly identical contents are inserted into the 9825? I know that this would be forbidden on the 85, and could even damage the machine.

Andreas

Re: HP9825 and HP9862A plotter - how ?

*Message #2 Posted by **Achim** on 31 July 2005, 7:38 a.m.,*
in response to message #1 by marais

You must no use two ROM cartridges with identical functions (e.g. general I/O) because they have identical addresses and would be selected at the same time. This might damage one ore both cartridges. The best is, you use the dedicated matrix ROM cartidge. Eventually you find this on ebay. Regarding the 9862, you will need the 16 bit I/O interface. If you haven't the matching cable you might solder one. I have the same problem and the interface and cable is laying on my workbench since weeks because I didn't have the time to work out the correct connections. Maybe if someone has an original cable and could give us the layout or make photos we could save much time.

By the way, how's your 9810 repair going on? I have also three machines repaired, including the card reader, maybe I can help.

Achim

Re: HP9825 and HP9862A plotter - how ?

*Message #3 Posted by **marais** on 31 July 2005, 4:58 p.m.,*
in response to message #2 by Achim

Achim, thank you for your reply. I do have the 16 bit I/O interface, with the printer option, but since the connectors don't match, I ruled the idea out. Now if someone had the layout for the adapter cable, I would be most interested! My 9810 is doing better, thanks for asking! You can find a report on the current status on 9810 repair status I will next work on the printer, I found a 74107 on an old pcb, and am considering soldering it onto the printer pcb.

Andreas

the 9862 is even supposed to work with the 9810

*Message #4 Posted by **marais** on 2 Aug 2005, 4:54 p.m.,*

in response to message #3 by marais

According to the museum, the 9862A plotter can also be used with the older 9810. I know some interface exists for the 9825, but I've never seen one for the 9810. A mystery.

Andreas

Re: the 9862 is even supposed to work with the 9810

*Message #5 Posted by **Tony Duell** on 3 Aug 2005, 3:57 p.m.,*
in response to message #4 by marais

For both the 98x0 and 98x5 series there were 'generic' parallel interfaces -- the 11202 for the 98x0 and the 98032 for the 98x5 IIRC. Many peripherals (including printers, card readers, paper tape readers, punches) used these interfaces with the right links fitted and the right cable. I wonder if the 9862 used them as well.

Re: the 9862 is even supposed to work with the 9810

*Message #6 Posted by **Achim (Germany)** on 5 Aug 2005, 4:02 a.m.,*
in response to message #5 by Tony Duell

There is a special 8 bit parallel unidirectional 9862 interface for use with the 9810/20/30. It's schematic is decribed in the 9810 patent.

Achim

Re: the 9862 is even supposed to work with the 9810

*Message #7 Posted by **marais** on 6 Aug 2005, 5:49 a.m.,*
in response to message #6 by Achim (Germany)

I just got myself the patent, more than 400 pages, wow! You must be referring to figure 171 on page 184 "Interface logic to plotter". I found the pin-out of the I/O backplane on Tony Duell's schematics, what's missing is the pin-out of the plotter, and of course the time to wire up the two latches, a FF and some gates. I'll give it some thought.

Andreas

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HP LJ 2430 installation on WINNT

*Message #1 Posted by **ruben** on 29 July 2005, 7:07 a.m.*

Hi everyone,

First of all... I just noticed that this is a forum for HP Calulators... Sorry for my post in here, I saw it too late.

Anyway, since there are HP-experts here, perhaps someone could help me.

I need to install the HP LaserJet 2430 printer on a WINNT4.0 machine. So far I have done a network installation on the Windows XP machines.

After contacting HP Techsupport on how to correctly install this printer onto a WINNT4.0 machine, I learned that I need to create a new TCP/IP port and assign the printer's IP-address to that.

However when adding the port, it requests the files LexNetUI.cnt, LexNetUI.hlp and LexStart.exe

I have searched the net but can not find these files. I have already downloaded and used the following files successfully: mvntinst.dll, lexlmpm.dll, lexbce.dll, lexbcelm.dll, lexip32.dll and lexll32.dll

Can someone please tell me where I can find LexNetUI.cnt, LexNetUI.hlp and LexStart.exe?

Kind regards, Ruben.

Edited: 29 July 2005, 7:35 a.m.

Re: HP LJ 2430 installation on WINNT

*Message #2 Posted by **.** on 29 July 2005, 9:11 a.m.,*
in response to message #1 by ruben

I really don't understand why did you post this message after you noticed this is HP Calculators Forum on the very beginning ?!?

sorry

*Message #3 Posted by **ruben** on 29 July 2005, 9:57 a.m.,*
in response to message #2 by .

I already posted it. Then I noticed it was for calculators so I edited my post to say sorry...

Edited: 29 July 2005, 9:57 a.m.

Re: HP LJ 2430 installation on WINNT

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 29 July 2005, 11:39 a.m.,*
in response to message #1 by ruben

Hi, Ruben;

by understanding that you posted wrongly, apologized and yet tried to find some help here, I see that you at least located yourself (never mind, `dot` is a little harsh, sometimes...)

I`m not sure about how new is the 2430 printer, and based on what you post, you may have probably searched for the files in its own installation CD set, right? Anyway, have you considered the Windows 2000 (or XP) instalation CD`s as a second source for these files? Windows NT is somehow old, and if the 2430 is too new, chances are you`ll not find these files accordingly.

Just a guess.

Last but not least... what do you have to offer now, related to HP calculators? It`s your turn...

Best regards.

Luiz (Brazil)

Edited: 29 July 2005, 11:41 a.m.

Re: HP LJ 2430 installation on WINNT

*Message #5 Posted by **Howard Owen** on 29 July 2005, 12:28 p.m.,*
in response to message #1 by ruben

Actually, I think the Windows NT CD is the place to look. What's needed is the TCP/IP print driver, which is not specific to the printer type, although I've only ever set up HP printers this way. From my dim recollections of NT, you have to go to the network settings for the interface and select "Add Component" or something like that. It may also be possible to do that from the add software/system components in Control Panel. In any event, it's an issue of NT, not the printer.

That's one bit of retro computing I'd rather forget. 8)

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hp 41cx - Surveying COGO Program

*Message #1 Posted by **altanet** on 28 July 2005, 11:56 p.m.*

I had a full COGO program, given to me by a friend to the mid eighties (1984-85), he got it from a firm in Western Canada - BC I think, I had used it for years and it was a great tool for a field surveyor. Two years ago my truck got broken into and the theives made off with both my Hp 41CX treasured calculators. I am now trying to rebuild my old field survey computation ability and find a copy of the cogo program I once used in earnest. If anyone knows of such a program, it had all the basic routines and the abilty to store up to 180 pts with an extended memory card, please contact me....

regards jkl

Re: hp 41cx - Surveying COGO Program

*Message #2 Posted by **db (martinez, ca.)** on 29 July 2005, 12:31 a.m.,*
in response to message #1 by altanet

The TDS Co-Op 41 Surveying Module would store 170 or so points on one extended memory, and 299 on two. Might be that one.

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41CX with Interesting Problem

*Message #1 Posted by **Howard Owen** on 28 July 2005, 8:09 p.m.*

I just obtained a halfnut CX that works great, except for one thing. The 'CLX' (left arrow) key doesn't work. What makes it interesting is that the key *does* work when doing a full reset. So "CLX-ON-release CLX" results in "MEMORY LOST," but pressing CLX after that doesn't clear the message. As far as I can tell, all the other keys are working. The calculator does seem reluctant to turn on from time to time.

Before I open it up, I thought I'd ask here to see if anyone had thoughts on that set of symptoms. Thanks for any help you can offer!

Re: 41CX with Interesting Problem

*Message #2 Posted by **Ángel Martin** on 29 July 2005, 7:33 a.m.,*
in response to message #1 by Howard Owen

Does CLA (CLX in ALPHA mode) or SHIFT-CLX work at all?

Re: 41CX with Interesting Problem

*Message #3 Posted by **Howard Owen** on 29 July 2005, 10:43 a.m.,*
in response to message #2 by Ángel Martin

I was going to say "NO" to both, but then I discovered that pressing SHIFT followed very rapidly by CLX works, both in alpha and normal mode. Pressing them simultaneously doesn't work, and any conscious delay beyond the shortest one I can manage won't work either.

Re: 41CX with Interesting Problem

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 29 July 2005, 11:29 a.m.,*
in response to message #3 by Howard Owen

Hi;

any related awkward behavior in PRGM mode, too? I mean, does it clear program steps as it should do the `back step` procedure?

Is there any chance that it has any additional module inside? Have you tried CAT 2 and observe if there is any occurrence?

This is actually interesting... I hope you succeed having your CX back into normal operation.

Luiz (Brazil)

Edited: 29 July 2005, 11:30 a.m.

Re: 41CX with Interesting Problem

*Message #5 Posted by **Howard Owen** on 29 July 2005, 12:21 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Yes, I thought it was interesting. 8)

Nothing unusual shows up in CAT 2. The machine came with an I/R module and a surveying module, but I've removed those. There was also a protected program in memory that went away when I reset the machine. I haven't asked the seller about that because he looks to be a surplus/second hand dealer with no other calculator stuff for sale. The machine came in a bundle of other machines from TI, Casio and Sharp. All that suggests the seller won't know anything specific about the machine.

The CLX key works the same in program mode. That is, pressing SHIFT-CLX in rapid succession enters "CLX" into the program. Pressing SHIFT, then SHIFT CLX rapidly deletes the current program line.

My theory is either that there there is internal corrosion that is affecting the CLX key press by itself due to increased resistance. In this scenario that resistence is overcome briefly by pressing the shift key. Or else there's a problem in the decoding of the key presses in the CPU. I guess it's also possible that it's the classic broken lower post problem. But pressing one or both keys forcefully doesn't seem to affect the behavior.

There's no sign of corrosion externally, but I sure hope I find some inside. There would be hope of fixing things in that case, whereas a bad CPU is probably the end of the line, since I don't have a spare halfnut CX. On the other hand, I find that I can reliably operate the key now that I have the hang of it. I think I'll make this my main 41 for a while. It has a scratch across the display too, which makes it less valuable for resale. My practice is to hold on to flawed but servicable equipment for my own use and sell the better quality stuff. I figure I add value through my selectivity in the base machine and the add-ons that way.

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48g

*Message #1 Posted by **brian goodger** on 28 July 2005, 7:17 a.m.*

hi i bought a used 48 with 2 programs dumped on it, written by the owner for surveying, i went to the built in library to use the geometry stuff, but i cant recall the other 2 programs or get them displayed by name in the left hand corner, i dont have the books, which buttons recall these, please can anyone advise thanks brian

Re: 48g

*Message #2 Posted by **Jim Creybohm** on 28 July 2005, 3:18 p.m.,*
in response to message #1 by brian goodger

My GX has each program assigned to a variable name. So, use the "VAR" key to bring up a list of variables in the directory. From there, you can use the "NXT" key to move the next group to the display. Once you find your program simply press the corresponding key and your calc. will run it. If there is a subdirectory assigned to a var name, then you will scroll down through the directory until you find the program. I would think that anyone literate enough to write their own program would be literate enough to store them in a subdirectory.

Be forewarned; if the you have a lot of variables, you will find this to be a tedious techique as there is a lot of garbage that hangs around that you have to scroll through. You may wish to download a garbage collector program from www.hpcalc.org.

Hope this helps.

12345

Re: 48g

*Message #3 Posted by **Howard Owen** on 28 July 2005, 3:50 p.m.,*
in response to message #1 by brian goodger

As mentioned, the calculator has a hierachical file system. To get to the "root" of the file system, press 'right-shift home'. From there you can proceed with your search as mentioned above.

If you recall the names of the programs, you can type the name and press EVAL to execute the program no matter where you are in the hierarchy. (Press alpha-alpha to set alpha lock, then type the name with the alpha keys. Press alpha again to exit alpha lock, then press EVAL.)

Finally, if you care about those programs, and if they are non-trivial in size, you should back them up to a PC using a serial cable and software. (You can get the latter at hpcalc.org.)

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calling for wish-list on custom 41CV/X i/o slave

*Message #1 Posted by **don wallace** on 28 July 2005, 3:47 a.m.*

I have 20 years experience in electronics repairs starting at Canon Australia in 1985. Engineering design and machine code programming experience runs from 1984 to present day.

I am currently in early stages of developing prototypes for hardware expansion of the 41CV /CX.

Features of prototype includes: a slave RISC microcontroller with multi-channel analogue i/o and / or stepper motor drive (six channel) for use in robotics. Remote (timed and untimed) hardware wakeup of 41C by interrupt. Extra ROM and flash RAM, useable for both MCODE and USER CODE.

If anyone is interested or has a wishlist for features to be included, please write:

donwallace63@yahoo.com.au

You can reach me on mobile telephone at: +61432 261 292 In Australia this is 0432 261 292. Basic (text only) SMS is ok. I am yet to build a webpage, but it's coming. . . ;-)

Thanks!

Don Wallace

Re: calling for wish-list on custom 41CV/X i/o slave

*Message #2 Posted by **Peter** on 6 Aug 2005, 2:46 a.m.,*
in response to message #1 by don wallace

anything that would help control robots remotely would be great. also: USB connection to PC

Re: calling for wish-list on custom 41CV/X i/o slave

*Message #3 Posted by **don wallace** on 13 Aug 2005, 8:22 p.m.,*
in response to message #2 by Peter

Okay, Peter. What did you have in mind exactly?

You can e-mail me rather than post here if you like, but maybe a few others here would be interested. I don't know.

Don

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belt dimensions for tape drives

*Message #1 Posted by **marais** on 28 July 2005, 3:30 a.m.*

Good morning, I would like to ask if the belt specifications (width) of the various tape drives built into the HP calculators HP-85, 9815 and 9825 can be found somewhere? I'll visit a belt manufacturing company later this year and would like to use the opportunity to get some belts in anticipation. I know that part of the specs concerns the reinforcement cord inside the belt, which can be Kevlar (yellow in color) or polyester (white). I do not know if the HP belts had a reinforcement cord, or if the presence of such a cord would impact the function.

Thank you Andreas

Re: belt dimensions for tape drives

*Message #2 Posted by **Vassilis Prevelakis** on 28 July 2005, 4:07 a.m.,*
in response to message #1 by marais

I do not know about the 9815 and 9825, but the HP-85 tape drive does NOT have a belt. The capstan is attached directly to the motor.

I suspect that the HP-9815 and HP-9825 also do not have bands as I do not recall seeing such bands in the spare parts lists for these computers.

Perhaps you are talking about the band inside the tape CARTRIDGES?

**vp

Re: belt dimensions for tape drives

*Message #3 Posted by **Vassilis Prevelakis** on 31 July 2005, 12:47 a.m.,*
in response to message #1 by marais

I am sorry for the earlier post, I have just come across an image of a tape catridge and the belts are referred to as "tape drive belts" so it was my bad.

http://www.series80.org/Articles/tape-cartridge-lr.gif

Sorry

**vp

Re: belt dimensions for tape drives

*Message #4 Posted by **marais** on 31 July 2005, 4:59 p.m.,*
in response to message #3 by Vassilis Prevelakis

Looking good! Do you have dimensions at hand?

Andreas

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11C aspect ratio

*Message #1 Posted by **Dave Chapman** on 27 July 2005, 1:39 p.m.*

Has anyone mentioned that the apsect ratio of the 11C and similar calculators is almost exactly the Golden Ratio, (Sqrt[5]+1)/2 ?

Re: 11C aspect ratio

*Message #2 Posted by **Howard Owen** on 27 July 2005, 2:09 p.m.,*
in response to message #1 by Dave Chapman

In nature when this shows up, we say it's the result of underlying physical processes that embody the mathematics that produce the ratio. In a calculator designed by HP in Corvalis, we'd have to say it's the result of underlying humor by mathematics geeks embodying the spirit of great engineering.

Where'd all that stuff go to, anyway?

Re: 11C aspect ratio

*Message #3 Posted by **don wallace** on 28 July 2005, 3:38 a.m.,*
in response to message #2 by Howard Owen

Hi all. IMHO, it's just (yet) another beautiful touch by the designers to enhance the visual beauty of the product. . .

Re: 11C aspect ratio

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 27 July 2005, 2:50 p.m.,*
in response to message #1 by Dave Chapman

Hi, Dave;

some time ago, Gerson mentioned this very fact in here. I tried to search the aschives but did not find it. If Gerson read this thread he'll probably remember when did he post it.

Sorry not being more precise about the message itself.

Best regards.

Luiz (Brazil)

Re: 11C aspect ratio

*Message #5 Posted by **Gerson W. Barbosa** on 27 July 2005, 6:13 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Hi Luiz,

I coudn't find the post either. In short, the length/width ratio in the Voyagers is 12.7cm/7.87cm = 1.6137 very close to 1.6180 [Sqrt(5)+1]/2. In inches, 5"/3.1" = 1.6129. These are official specifications listed at:

http://www.hp.com/calculators/financial/12c/specs.html

Actually, the first one to have mentioned this here was John Ioannidis:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=170

Now we know what the Parthenon and the Voyagers have in common: the golden ration. No wonder they are so wonderful!

Cheers,

Gerson.

Re: 11C aspect ratio

*Message #6 Posted by **bill platt** on 27 July 2005, 3:55 p.m.,*
in response to message #1 by Dave Chapman

No wonder it is so beautiful!

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Copy permissions for 75C materials?

*Message #1 Posted by **Howard Owen** on 27 July 2005, 11:25 a.m.*

I have several Users Library Solutions books for the HP-75C that I'd like to scan and upload here. I also have the mag cards for some of them. I'm in the process of writing those to a 9114 floppy, and I could load an image file with the results fairly easily. (Not using the 9114 directly, but with HP-IL and EMU41) Since there are quite a few HP-41 materials of a similar provenence here at the museum, I'm wondering how permission was obtained to host those files? Could the curator comment on how to go about getting permission from HP for this stuff? I'd be delighted to share these materials with the museum if I can obtain the proper permission.

Thanks.
Howard

Re: Copy permissions for 75C materials?

*Message #2 Posted by **Vassilis Prevelakis** on 27 July 2005, 12:27 p.m.,*
in response to message #1 by Howard Owen

I suggest you search the archives, this topic (as you can well imagine) has been discussed to death.

**vp

Re: Copy permissions for 75C materials?

*Message #3 Posted by **Howard Owen** on 27 July 2005, 1:55 p.m.,*
in response to message #2 by Vassilis Prevelakis

Search. The archives. Hahahahaha!

Actually, although the PDFs on the DVD are not cross indexed, they consist mainly of text that pdftotext can process. After doing this for the first twelve archives, I *was* able to search the result. I discovered an early post about the User Library ending up in a landfill. The implication is that HP isn't interested in pursuing the copyrights for user library programs. I guess that means I can go ahead and scan and upload the items I have.

Someone please correct me if I'm wrong about that. I'd hate to do all that work for nothing. 8).

Re: Copy permissions for 75C materials?

*Message #4 Posted by **Vassilis Prevelakis** on 27 July 2005, 8:11 p.m.,*
in response to message #3 by Howard Owen

```
Howard Owen wrote:
> Search. The archives. Hahahahaha!
```

Well it takes some talent. If you deposit $1.00 in my paypal account I can search the archives for you.

Best

**vp

Re: Copy permissions for 75C materials?

*Message #5 Posted by **Howard Owen** on 27 July 2005, 9:13 p.m.,*
in response to message #4 by Vassilis Prevelakis

It takes talent to click through the search form once for each archive? I never even ..

I guess that's worth a buck, but I prefer my expedient of stripping the text out of the PDFs so I can search the whole thing at once. Just a lack of talent, I guess. 8)

Re: Copy permissions for 75C materials?

*Message #6 Posted by **Howard Owen** on 27 July 2005, 9:27 p.m.,*
in response to message #1 by Howard Owen

I'm Going to do Some Scanning

.. and some transferring of programs to LIF format, thence to text listings. In addition to the 75C stuff, I just got several individual 41C library programs that aren't represented here. They are

- Mastermind (01608c, different from the one currently here)
- Swords and Sorcery (01763C)
- Precision Biorhythm Plot (00795, for pseudo-science fans)
- Sunrise/Sunset and Azimuth (02828D)

The last one has no machine readable copy, but it's also the shortest of the four, at 221 lines. (It uses the 1979 Nautical Almanac. It needs updating, or perhaps implementation of a perpetual almanac, if that's possible in the constraints of the machine. Does the Nav module have one?)

Re: Copy permissions for 75C materials?

*Message #7 Posted by **Olivier De Smet** on 5 Aug 2005, 6:08 a.m.,*
in response to message #1 by Howard Owen

I wonder if you have some informations about the hardware of the HP75?

I'm interested in I/O informations (I have rom dumps and some infos from Computer Journal and PPC) and VASM rom listing if someone have them.

Olivier

Re: Copy permissions for 75C materials?

*Message #8 Posted by **Tony Duell** on 5 Aug 2005, 7:12 a.m.,*
in response to message #7 by Olivier De Smet

I have the HP75C service manual (which includes schematics and _some_ I/O information IIRC). I also have the ROM source listing and comentary that was made available to PPC under the NOMAS scheme.

The problem, alas, is getting it to you. The listing in particular is very thing (I would estimate 1000 pages). I have no scanner, or anything to connect it to.

There is a chap in HPCC who offered to scan HP-related stuff for me, the idea being to give it to David Hicks to put on the museum CD-ROMs. I got the HPIL interface service manuals (things like the 82164 RS232 interface) to him, he scanned them, but apparently he couldn't produce a file format the David liked. In fact David's attitude was one of total non-interest from what I heard, so I couldn't be bothered to take any more of my manuals to him.

Pity, but there you are...

Re: Copy permissions for 75C materials?

*Message #9 Posted by **Olivier De Smet** on 5 Aug 2005, 7:55 a.m.,*
in response to message #8 by Tony Duell

Perhaps they could give the scan to www.bitsavers.org? So everyone could get it.

retrocalculator.com

*Message #10 Posted by **Howard Owen** on 5 Aug 2005, 10:22 a.m.,*
in response to message #8 by Tony Duell

I have a couple of scans of 41C materials up at retrocalculator.com:

Swords and Sorcery
Bode Plot of a General Transfer Function

There are no links pointing to these from the front page yet, but they are there nonetheless. The point is, I can host materials at retrocalculator.com. There is still the problem of getting it to me. Although I'm willing to do some scanning, shipping the paper across the Atlantic for that purpose seems impractical. (Speak up if you don't think so!). But if there are already existing scans, or if someone on the North American continent has something they'd like me to scan, I can make a home for it on the web.

I also intend to offer everything I do along these lines to David Hicks.

Re: Copy permissions for 75C materials?

*Message #11 Posted by **Howard Owen** on 5 Aug 2005, 10:09 a.m.,*
in response to message #7 by Olivier De Smet

Sadly, I don't have any materials like that. I'd love to see your 75C emulator succeed, though!

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Complex Solving w HP15C?

*Message #1 Posted by **Matti Övermark** on 27 July 2005, 10:02 a.m.*

Hello Fellows,

I recall somebody mentioned that the solver built in into the HP-15C actually could be used to (numerically of course) solve complex roots. I did it in high school back in the early 80s, but being old has its disadvantages... ;). Anyone remember? I RCL flag 8 was set and that there was an swaprecall of the imaginary and real registers multiplied and absolutevalued = 0.

/Matti

Re: Complex Solving w HP15C?

*Message #2 Posted by **Miki Mihajlovic** on 27 July 2005, 10:06 p.m.,*
in response to message #1 by Matti Övermark

From HP-15 Advanced Function Handbook:

"The SOLVE and INTEGRATE functions use algorithms that sample your function at values along the real axis. In Complex mode, these functions operate with only the real stack, even though your function subroutine may have complex computations in it.

For example, SOLVE will not search for the roots of a complex function, but rather will sample the function on the real axis and search for a zero of the function's real part..."

In the other words, you have to write a program that will solve for imaginary roots. There are some examples in the handbook.

Re: Complex Solving w HP15C?

*Message #3 Posted by **Matti Övermark** on 28 July 2005, 4:51 a.m.,*
in response to message #2 by Miki Mihajlovic

Ok, thanks. /Matti

Re: Complex Solving w HP15C?

*Message #4 Posted by **Karl Schneider** on 29 July 2005, 2:50 a.m.,*
in response to message #1 by Matti Övermark

Matti posted,

> Quote:
>
> I recall somebody mentioned that the solver built in into the HP-15C actually could be used to (numerically of course) solve complex roots. I RCL flag 8 was set and that there was an

> swaprecall of the imaginary and real registers multiplied and absolutevalued = 0.

Miki responded,

> Quote:
>
> From HP-15 Advanced Function Handbook:
>
> "The SOLVE and INTEGRATE functions use algorithms that sample your function at values along the real axis. In Complex mode, these functions operate with only the real stack, even though your function subroutine may have complex computations in it.
>
> For example, SOLVE will not search for the roots of a complex function, but rather will sample the function on the real axis and search for a zero of the function's real part..."
>
> In the other words, you have to write a program that will solve for imaginary roots. There are some examples in the handbook.

Based on the info from the AFH (which I have, and a scan on CD/DVD can be purchased from this website), it's quite easy to solve for the imaginary part of a complex-valued function: Calculate the function in Complex mode (SF 8), then do Re<>Im just before RTN in the function to leave the imaginary part as the return value of the function.

Complex-valued roots are a bit more complicated, but it seems that you might be referring to the technique and program listed on pp. 80-85 in the AFH. It uses SF 8, Re<>Im, as well as ABS on a complex-valued residual, to solve for complex-valued roots of a general equation (not merely a polynomial).

> Quote:
>
> I did it in high school back in the early 80s, but being old has its disadvantages... ;).

Hey! "Old"? I graduated high school in 1981....

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HP-75C "sendio" Lex?

*Message #1 Posted by **Howard Owen** on 26 July 2005, 4:53 p.m.*

I have just obtained a nice bundle of HP-75C gear, including the computer and the "I/O Utilities" solutions book. I have gotten it talking to EMU41 and to my 9114 over HP-IL, so I can move bits back and forth pretty easily. However the I/O book came without the card for the "sendio" utility. this is limiting my ability to load other programs that depend on it. Does anyone have a cache of those bits hanging around? The most convenient form for me would be as a LIF disk image, but I'll take them any way I can get them. 8)

Thanks in advance.

Edited: 26 July 2005, 4:53 p.m.

Re: HP-75C "sendio" Lex?

*Message #2 Posted by **Eric Smith** on 26 July 2005, 6:27 p.m.,*
in response to message #1 by Howard Owen

I'm in a similar position, as far as having a HP-75 but not some of the useful LEX files for it. Did any of the original series (pre-48) PPC swap disks have HP-75 related content? In addition to "sendio", I'd like to get one of the memory access (peek & poke) LEX files.

Eric

Re: HP-75C "sendio" Lex?

*Message #3 Posted by **Howard Owen** on 26 July 2005, 7:23 p.m.,*
in response to message #2 by Eric Smith

Yup, peek/poke would give you the whole machine, theoretically. There are several 75 lex files in the museum's collection that have peek and/or poke in their names, but I can't get any of them to work. That is, "PEEK <some integer>" always fails with "Syntax Error" after loading one of these LEX files. Here's a list of all lex75 files in the swap disks on the museum FTP site. I'm working through reading the old journals, starting with HPCC since they are well indexed, looking for references to these files. In a posting in this thread in the museum archives, Ellis Easley says that the RIOWIO lex (on the jpc01 swap file) gives you RIO(n) and WIO(n,x) where "n" is an HP-IL register number and "x" is a byte of data to store. This would be enough to eventually implement all of the HP-IL commands you could ever want. 8).

```
chhu01
=========
PODPMS1C    LEX75        2816/2816      07/04/85 00:36:39
FORTHRAM    LEX75        9472/9472      07/04/85 00:36:31
FORTH       LEX75       16640/16640     10/03/85 17:22:13
MEMXLEX     LEX75         512/512       22/03/85 21:01:27
PEEKROM     LEX75         256/256       20/03/85 20:55:41
TABS        LEX75         512/512       01/04/85 22:26:15
MEMXLX      LEX75         512/512       16/04/85 11:30:55
MUSICV2     LEX75         512/512       26/07/84 13:54:39
BEEPV2      LEX75         256/256       13/01/85 01:06:07
MEMLEXV2    LEX75         256/256       31/07/84 22:00:06
UTIL3       LEX75         256/256       22/03/85 12:28:14
```

```
chhu02
=========
RIOWIO      LEX75          256/256        08/01/86 23:44:10
DISPLEX     LEX75          768/768        08/01/86 23:52:19
XFERLEX     LEX75          512/512        08/01/86 23:53:15
PHYCONS     LEX75          768/768        08/01/86 23:54:54
F10AR16     LEX75        16640/16640      08/01/86 23:55:06


chhu03
=========
AUTOASN     LEX75          512/512        19/01/00 13:10:14
PEEK        LEX75          256/256        19/01/00 13:29:51
UTIL3       LEX75          256/256        19/01/00 13:32:52
ROMPEEK     LEX75          256/256        19/01/00 14:44:20
MEMLEX      LEX75          512/512        19/01/00 14:46:19
FKEYLEX     LEX75          256/256        23/11/85 20:59:21


chhu04
=========
VELEX       LEX75          256/256        20/09/85 20:45:49
SPACKLEX    LEX75          512/512        01/09/85 15:20:07


forth
=========
FORTH10     LEX75        12544/12544      01/01/00 01:41:43
F10D12      LEX75        12544/12544      01/01/00 01:27:32
F10K16      LEX75        16640/16640      01/01/00 01:31:28
F10L16      LEX75        16640/16640      01/01/00 02:14:17
F10V16      LEX75        16640/16640      01/01/00 02:33:17


hpcc88
=========
SIREN       LEX75          256/256        31/12/88 08:01:48
DATELEX     LEX75          768/768        31/12/88 08:01:57
HELP        LEX75          768/768        31/12/88 08:02:07
TJETLEX     LEX75          512/512        31/12/88 08:12:10
VARLEX      LEX75          512/512        31/12/88 08:15:50


jpc01
=========
RIOWIO      LEX75          256/256        28/10/86 20:29:38


jpc02
=========
SPACK75     LEX75          512/512        28/10/86 20:31:15
PEEKPOKE    LEX75         1280/1280       21/04/16 18:17:44
KEYLEX75    LEX75          256/256        06/03/88 09:59:31
GRAPH75     LEX75          512/512        06/03/88 09:57:52
MEMLEX75    LEX75          256/256        12/05/88 18:21:24


jpc03
=========
VARLEX      LEX75          512/512        23/05/88 12:18:58
TRILEX75    LEX75          256/256        01/10/88 11:30:50


swap08
=========
RESTLEX     LEX75          256/256        23/02/87 19:28:16


swap09
=========
MEMXLEX     LEX75          512/512        22/03/85 21:01:27
NEWLEX      LEX75          256/256        23/03/84 10:41:43


swap10
=========
NEWLEX      LEX75          256/256        23/03/84 10:41:43
LYTLEX      LEX75          256/256        31/01/88 15:47:37
```

```
DOWLEX      LEX75         256/256       01/09/86 20:08:10
PEEKPOKE    LEX75        1280/1280      20/03/84 20:39:38


swap12
=========
CHAINL      LEX75        1280/1280      27/05/88 08:27:17
CODE39L     LEX75         512/512       27/05/88 08:27:30
COPYL       LEX75         512/512       27/05/88 08:28:04
LOWBATL     LEX75         256/256       27/05/88 08:29:20
PRSTATL     LEX75         256/256       19/11/85 08:24:10


swapdk
=========
MADLEX      LEX75         768/768       27/03/87 21:03:41
BATTERY     LEX75         256/256       01/01/00 22:34:34
KILL        LEX75         256/256       01/01/00 00:14:12


swapgb
=========
TJLEX       LEX75         512/512       31/07/86 21:40:30
MCLEX       LEX75         512/512       23/10/86 22:24:39
XFERWLEX    LEX75         512/512       26/08/86 10:50:57
WNBSYLEX    LEX75         256/256       24/08/86 22:55:57
XFERLEX     LEX75         512/512       26/08/86 23:05:59
DOWLEX      LEX75         256/256       01/09/86 20:08:10
RENULEX     LEX75         256/256       03/08/86 16:01:50


ve75
=========
VELEX       LEX75         512/512       28/07/87 20:38:28
NEWLEX      LEX75         256/256       23/03/84 10:41:43
```

Edited: 26 July 2005, 7:25 p.m.

Re: HP-75C "sendio" Lex?

*Message #4 Posted by **Eric Smith** on 27 July 2005, 2:21 a.m.,*
in response to message #3 by Howard Owen

Cool, thanks for this and your other posts in this thread, which have been quite helpful!

Eric

Re: HP-75C "sendio" Lex?

*Message #5 Posted by **Howard Owen** on 27 July 2005, 11:18 a.m.,*
in response to message #4 by Eric Smith

You're welcome!

I'm finding the 75C to be lots of fun, particularly with the HP-IL stuff I already had going.

Complete Swap Disk 75C contents

*Message #6 Posted by **Howard Owen** on 26 July 2005, 7:46 p.m.,*
in response to message #1 by Howard Owen

While I'm at it, here's the complete list of 75C related files from the swap disk archives on the museum ftp site. I created this list using the following bash:

```
hbo@hpil|156> for l in *gz;do  echo $l;gunzip -c $l>lif; b=`basename
$l .gz`; echo "" >> 75;echo "$b" >> 75;echo "=========">> 75; lifdir
```

```
-f lif | perl -ane 'print if ($F[1]=~/75/);'>>75;done
```

So this extracts the directory listing using Tony Duell's **lifdir** utility, and prints only those entries with "75" in the second field, which is the file type.

```
chhu01
=========
PODKEYS     TEXT75        768/768       07/04/85 00:36:38
PODPMS1C    LEX75        2816/2816      07/04/85 00:36:39
PODRSW      BASIC75      2304/2304      07/04/85 00:36:39
CC          BASIC75       256/256       07/04/85 00:36:29
FF          BASIC75       256/256       07/04/85 00:36:30
LL          BASIC75       256/256       07/04/85 00:36:33
PP          BASIC75       256/256       07/04/85 00:36:40
DP          BASIC75       256/256       07/04/85 00:36:29
PC          BASIC75       512/512       07/04/85 00:36:36
SCR00072    TEXT75       1280/1280      07/04/85 00:36:41
FORTHRAM    LEX75        9472/9472      07/04/85 00:36:31
SCR00073    TEXT75        256/256       07/04/85 00:36:41
SCR00300    TEXT75        256/256       20/05/83 14:32:26
PL          BASIC75       256/256       07/04/85 00:36:37
MFRTH113    ROM75        7680/7680      01/01/00 13:08:27
NFRTH102    ROM75        8192/8192      07/04/85 03:21:55
SED1C104    ROM75        8448/8448      07/04/85 00:36:44
SED1C106    ROM75        8192/8192      07/04/85 00:36:45
SCR00700    TEXT75       1024/1024      10/03/85 17:22:15
SCR00701    TEXT75        768/768       10/03/85 17:22:15
SCR00702    TEXT75        768/768       10/03/85 17:22:16
SCR00703    TEXT75       1024/1024      10/03/85 17:22:16
SCR00704    TEXT75        768/768       10/03/85 17:22:17
SCR00705    TEXT75       1024/1024      10/03/85 17:22:18
SCR00706    TEXT75        768/768       10/03/85 17:22:18
SCR00707    TEXT75       1280/1280      10/03/85 17:22:19
SCR00708    TEXT75       1280/1280      10/03/85 17:22:20
SCR00709    TEXT75       1024/1024      10/03/85 17:22:20
SCR00710    TEXT75       1024/1024      10/03/85 17:22:21
SCR00711    TEXT75       1280/1280      10/03/85 17:22:22
SCR00712    TEXT75       1024/1024      07/04/85 00:36:42
SCR00713    TEXT75        512/512       07/04/85 00:36:44
FORTH       LEX75       16640/16640     10/03/85 17:22:13
SCR00900    TEXT75       1024/1024      10/03/85 17:22:15
SCR00901    TEXT75        768/768       10/03/85 17:22:15
SCR00902    TEXT75       1024/1024      10/03/85 17:22:16
SCR00903    TEXT75       1024/1024      10/03/85 17:22:16
SCR00904    TEXT75        768/768       10/03/85 17:22:17
SCR00905    TEXT75       1024/1024      10/03/85 17:22:18
SCR00906    TEXT75        768/768       10/03/85 17:22:18
SCR00907    TEXT75       1280/1280      10/03/85 17:22:19
SCR00908    TEXT75       1280/1280      10/03/85 17:22:20
SCR00909    TEXT75        768/768       10/03/85 17:22:20
SCR00910    TEXT75       1024/1024      10/03/85 17:22:21
SCR00911    TEXT75        512/512       10/03/85 17:22:22
KEYS1C      TEXT75        768/768       31/03/85 07:25:59
FTH1C113    ROM75        7680/7680      30/03/85 23:05:27
FTH1C102    ROM75        8192/8192      30/03/85 23:04:24
RSW1C       BASIC75       768/768       01/01/00 00:18:59
RENUSCR     BASIC75       768/768       12/03/85 23:42:10
EDITOR      BASIC75      7680/7680      04/10/84 20:43:04
MEMXLEX     LEX75         512/512       22/03/85 21:01:27
RAMDIR      BASIC75       512/512       28/08/84 13:28:18
LOOPCAT7    BASIC75       512/512       07/02/85 11:27:49
AUTOST      BASIC75       768/768       11/04/85 08:08:27
DIRALL      BASIC75      1792/1792      12/04/85 09:08:04
MKRMFL      BASIC75      1024/1024      13/04/85 21:25:39
DMPRMFL     BASIC75       768/768       13/04/85 21:25:41
PEEKROM     LEX75         256/256       20/03/85 20:55:41
TABS        LEX75         512/512       01/04/85 22:26:15
READLIF1    BASIC75       512/512       31/10/84 20:12:05
LINK7571    BASIC75      1280/1280      31/07/84 15:53:27
MEMXLX      LEX75         512/512       16/04/85 11:30:55
SED1D106    ROM75        8448/8448      26/04/85 06:38:40
PT          BASIC75      5888/5888      17/09/83 00:49:16
SW          BASIC75      1280/1280      01/10/83 21:15:13
CALENDAR    BASIC75      1024/1024      14/10/83 17:59:06
INPMFPIO    BASIC75      2560/2560      01/07/84 17:41:02
MFPLOTIO    BASIC75      3072/3072      01/07/84 17:41:17
TELDIR      BASIC75      2560/2560      17/07/84 17:46:27
```

```
WRTLEX      BASIC75      1280/1280      31/07/84 21:56:07
MUSICV2     LEX75         512/512       26/07/84 13:54:39
CHVOLBL     BASIC75       512/512       22/11/84 16:47:54
SCDCOPY     BASIC75      1536/1536      09/09/83 00:16:05
CHKPUFL     BASIC75       512/512       22/01/84 18:38:02
BEEPV2      LEX75         256/256       13/01/85 01:06:07
MEMLEXV2    LEX75         256/256       31/07/84 22:00:06
COPYCD1     BASIC75      1280/1280      20/01/85 01:44:33
COPYCD2     BASIC75      1536/1536      20/01/85 17:52:47
COPYCD3     BASIC75      3072/3072      21/01/84 18:55:11
BEEPCONV    BASIC75       512/512       26/01/85 00:17:53
CATALOG     BASIC75      2560/2560      14/02/85 14:43:21
BACH        BASIC75      8448/8448      26/12/82 14:32:41
MODCOM      BASIC75      3840/3840      04/08/84 01:16:43
BLACKJK     BASIC75      1792/1792      27/10/82 19:47:48
BIO         BASIC75      1536/1536      15/10/82 00:08:56
BIOCOM      BASIC75      1280/1280      20/10/82 01:32:05
PCATM1      BASIC75      1792/1792      07/08/84 09:58:47
VERIFY75    BASIC75       512/512       19/06/84 08:14:44
UTIL3       LEX75         256/256       22/03/85 12:28:14
NDAT        BASIC75       768/768       04/04/85 17:07:41
NREG        BASIC75      5632/5632      08/04/85 22:02:47
DIR         BASIC75      3072/3072      14/11/84 18:51:21
IBMHP75     TEXT75      12032/12032     07/11/84 20:08:59
TYPE        BASIC75      2560/2560      14/11/84 16:02:57
MRGTYPE     BASIC75      4096/4096      14/11/84 15:41:25
MRGDIR      BASIC75      3584/3584      14/11/84 19:40:45
TRACEFAT    BASIC75      1792/1792      14/11/84 16:13:51
TE          BASIC75      1024/1024      02/04/85 22:31:08
AST41N1     BASIC75      1536/1536      25/09/85 09:30:00
AST71N1     BASIC75      1792/1792      25/09/85 08:36:21
AST71N2     BASIC75      1280/1280      24/09/85 17:31:44
AST71N3     BASIC75      1536/1536      24/09/85 17:08:58
AST75N1     BASIC75      1792/1792      25/09/85 08:20:34
AST75N2     BASIC75      1536/1536      25/09/85 08:03:57


chhu02
=========
ATMXADRC    BASIC75       512/512       08/01/86 23:41:50
SEEKCA      BASIC75       256/256       08/01/86 23:41:55
DUMPCA      BASIC75       512/512       08/01/86 23:41:58
TAPECOPY    BASIC75       768/768       08/01/86 23:42:02
HOB         BASIC75      1536/1536      08/01/86 23:42:06
HKEYS       TEXT75        256/256       08/01/86 23:42:10
TAPEANAL    BASIC75      1024/1024      08/01/86 23:42:14
SKEYS       TEXT75        256/256       08/01/86 23:42:19
F75KEYS     TEXT75        256/256       08/01/86 23:42:23
PLANET      BASIC75      3584/3584      08/01/86 23:42:27
PDATA       BASIC75       256/256       08/01/86 23:42:33
ITIMER      BASIC75       256/256       08/01/86 23:42:37
SORT        BASIC75       512/512       08/01/86 23:42:44
BASES       BASIC75       768/768       08/01/86 23:42:49
TIMER2      BASIC75       512/512       08/01/86 23:42:56
LISTKEYS    BASIC75       256/256       08/01/86 23:43:01
CHIME       BASIC75       512/512       08/01/86 23:43:05
SUN         VCALC75      2304/2304      08/01/86 23:43:10
DECHA       BASIC75      2048/2048      08/01/86 23:43:15
AA          BASIC75       256/256       08/01/86 23:43:21
RECKEYS     TEXT75        256/256       08/01/86 23:43:25
R           BASIC75       256/256       08/01/86 23:43:29
CATMEM      BASIC75       256/256       08/01/86 23:43:34
TAPECAT0    BASIC75       512/512       08/01/86 23:43:39
OLDPASTE    BASIC75       512/512       08/01/86 23:43:43
FETCH       BASIC75       256/256       08/01/86 23:43:48
CALEND2     BASIC75      3584/3584      08/01/86 23:43:53
CODER       BASIC75       512/512       08/01/86 23:44:00
LISTCODE    BASIC75       512/512       08/01/86 23:44:05
RIOWIO      LEX75         256/256       08/01/86 23:44:10
WRITCODE    BASIC75       256/256       08/01/86 23:44:15
DUMPOLD     BASIC75       512/512       08/01/86 23:44:20
PIANO       BASIC75      1280/1280      08/01/86 23:44:25
TIMESET     TEXT75        256/256       08/01/86 23:44:33
ALLPASTE    BASIC75       512/512       08/01/86 23:44:41
TIMEINFO    BASIC75       256/256       08/01/86 23:44:46
LOADBBC     BASIC75       768/768       08/01/86 23:44:51
PRECISN     BASIC75      1024/1024      08/01/86 23:44:57
TAPENAME    BASIC75       256/256       08/01/86 23:45:02
PERMUTE     BASIC75       512/512       08/01/86 23:45:08
SETTERM2    BASIC75      1024/1024      08/01/86 23:45:13
```

TERM	TEXT75	7424/7424	08/01/86 23:45:19
VKW	TEXT75	1024/1024	08/01/86 23:45:29
CHISQD	BASIC75	768/768	08/01/86 23:45:35
READBBC	BASIC75	512/512	08/01/86 23:45:41
CHISQ	VCALC75	1280/1280	08/01/86 23:45:46
GOF	BASIC75	768/768	08/01/86 23:45:53
BM	BASIC75	1280/1280	08/01/86 23:45:59
TAPEDUMP	BASIC75	512/512	08/01/86 23:46:05
HMS	BASIC75	256/256	08/01/86 23:46:14
TAPECAT	BASIC75	1280/1280	08/01/86 23:46:20
SEEK	BASIC75	256/256	08/01/86 23:46:30
ALT	BASIC75	256/256	08/01/86 23:46:36
AZN	BASIC75	256/256	08/01/86 23:46:42
WRITETB	BASIC75	256/256	08/01/86 23:46:49
RPN	BASIC75	1536/1536	08/01/86 23:46:55
RKEYS	TEXT75	256/256	08/01/86 23:47:02
TIMER	BASIC75	512/512	08/01/86 23:47:09
INTERVAL	BASIC75	1024/1024	08/01/86 23:47:15
APPTREC	TEXT75	1536/1536	08/01/86 23:47:22
CHARDATA	BASIC75	2816/2816	08/01/86 23:47:30
CHAR0	BASIC75	512/512	08/01/86 23:47:38
CHAR1	BASIC75	256/256	08/01/86 23:47:45
CHAR2	BASIC75	512/512	08/01/86 23:47:52
CHARSP	TEXT75	768/768	08/01/86 23:48:01
CHARINFO	TEXT75	1792/1792	08/01/86 23:48:09
OLDPLS	BASIC75	512/512	08/01/86 23:48:16
PLS	BASIC75	768/768	08/01/86 23:48:23
ERAT1	BASIC75	512/512	08/01/86 23:48:34
ERAT2	BASIC75	512/512	08/01/86 23:48:41
SHELL	BASIC75	512/512	08/01/86 23:48:48
SWITCH	BASIC75	256/256	08/01/86 23:48:55
SQDATA	TEXT75	8448/8448	08/01/86 23:49:02
DUMP	BASIC75	256/256	08/01/86 23:49:15
CHEAT	BASIC75	256/256	08/01/86 23:49:22
CALD	BASIC75	1280/1280	08/01/86 23:49:30
DECALOG	BASIC75	512/512	08/01/86 23:49:38
DUMPF	BASIC75	512/512	08/01/86 23:49:48
SELPUR	BASIC75	512/512	08/01/86 23:49:55
APPEND	BASIC75	1536/1536	08/01/86 23:50:03
VVINI	BASIC75	1024/1024	08/01/86 23:50:11
VVSET	BASIC75	512/512	08/01/86 23:50:19
COMB	BASIC75	512/512	08/01/86 23:50:27
LOOP	BASIC75	512/512	08/01/86 23:50:38
SCR01000	TEXT75	512/512	08/01/86 23:50:46
MONTHS	TEXT75	256/256	08/01/86 23:50:53
MANAL	BASIC75	1280/1280	08/01/86 23:51:01
MSEEK	BASIC75	256/256	08/01/86 23:51:09
SELPURGE	BASIC75	512/512	08/01/86 23:51:17
MNAME	BASIC75	256/256	08/01/86 23:51:25
DMAPPEND	BASIC75	1024/1024	08/01/86 23:51:36
FILEDUMP	BASIC75	1280/1280	08/01/86 23:51:44
RAMPOKE	BASIC75	1024/1024	08/01/86 23:51:53
SPLIT	BASIC75	512/512	08/01/86 23:52:01
DISPLEXH	TEXT75	2048/2048	08/01/86 23:52:10
DISPLEX	LEX75	768/768	08/01/86 23:52:19
MVINI	BASIC75	1024/1024	08/01/86 23:52:27
MVSET	BASIC75	512/512	08/01/86 23:52:36
MDUMP	BASIC75	768/768	08/01/86 23:52:47
MVCAT	BASIC75	768/768	08/01/86 23:52:56
XFERASM	TEXT75	3072/3072	08/01/86 23:53:05
XFERLEX	LEX75	512/512	08/01/86 23:53:15
MCAT	BASIC75	1536/1536	08/01/86 23:53:26
MAPPEND	BASIC75	1792/1792	08/01/86 23:53:35
XFERASMC	TEXT75	5120/5120	08/01/86 23:53:45
FLDMPORG	BASIC75	1024/1024	08/01/86 23:53:56
XFERDOC	TEXT75	7424/7424	08/01/86 23:54:05
ASM	TEXT75	2816/2816	08/01/86 23:54:19
PLSDOC	TEXT75	3072/3072	08/01/86 23:54:30
PHYCONSH	TEXT75	2304/2304	08/01/86 23:54:41
PHYCONS	LEX75	768/768	08/01/86 23:54:54
F10AR16	LEX75	16640/16640	08/01/86 23:55:06
DAYS	TEXT75	256/256	08/01/86 23:55:26
UNITS	BASIC75	5120/5120	08/01/86 23:55:35
HMADD	BASIC75	256/256	08/01/86 23:55:52
NTOC	BASIC75	512/512	08/01/86 23:56:01
CONVERT	BASIC75	3072/3072	08/01/86 23:56:10
CONVDOC	TEXT75	10752/10752	08/01/86 23:56:21
CTON	BASIC75	512/512	08/01/86 23:56:37
HDUMPF	BASIC75	768/768	08/01/86 23:56:46
MPRIV	BASIC75	512/512	08/01/86 23:56:57
DTOF	BASIC75	512/512	08/01/86 23:57:10

```
SELPASTE    BASIC75       512/512       08/01/86 23:57:20
PASTE       BASIC75       512/512       08/01/86 23:57:30
PP          BASIC75       256/256       08/01/86 23:57:39
CONVHELP    TEXT75       1024/1024      08/01/86 23:57:49
CONVCOM     TEXT75       6400/6400      08/01/86 23:57:59
CONVERTT    TEXT75       3840/3840      08/01/86 23:58:13
PLS2        BASIC75       768/768       08/01/86 23:58:25
LSPLIT      BASIC75       256/256       08/01/86 23:58:38
FOURIER     BASIC75       768/768       08/01/86 23:58:48
TRNTEST     BASIC75       512/512       08/01/86 23:58:58
DOW75       BASIC75       512/512       09/01/86 00:00:30


chhu03
=========
COPCAS      BASIC75       512/512       19/01/00 12:40:46
ENPAGE75    BASIC75      1792/1792      19/01/00 12:41:56
ENPADOC     TEXT75       1536/1536      19/01/00 12:43:12
NETTCAS     BASIC75       512/512       19/01/00 12:44:28
LISTOLY     BASIC75      1792/1792      19/01/00 12:45:40
DUMPCAS     BASIC75      2560/2560      19/01/00 12:47:00
AZERTAC     TEXT75        256/256       19/01/00 12:48:28
ENPAGOLY    BASIC75      2048/2048      19/01/00 12:49:43
OLY         BASIC75       256/256       19/01/00 12:51:14
OLYDOC      TEXT75       1280/1280      19/01/00 12:51:48
BENCH       BASIC75      1280/1280      19/01/00 12:52:28
COPYDAT     BASIC75       512/512       19/01/00 12:53:10
FORMAT75    BASIC75      7936/7936      19/01/00 13:04:23
AUTOASN     LEX75         512/512       19/01/00 13:10:14
DUMP        BASIC75      1792/1792      19/01/00 13:28:17
MAKEFILE    BASIC75      2560/2560      19/01/00 13:29:01
PEEK        LEX75         256/256       19/01/00 13:29:51
MEMDUMPX    BASIC75      2304/2304      19/01/00 13:31:14
MEMDIR      BASIC75       768/768       19/01/00 13:32:05
UTIL3       LEX75         256/256       19/01/00 13:32:52
UNECOPIE    BASIC75      1536/1536      19/01/00 13:33:37
CATALPHA    BASIC75      5632/5632      19/01/00 13:34:27
CREECAS1    BASIC75      1792/1792      19/01/00 13:35:39
ECRICAS1    BASIC75      2048/2048      19/01/00 13:36:36
LIRECAS1    BASIC75      2048/2048      19/01/00 13:37:35
SECURE      BASIC75       256/256       19/01/00 13:39:31
UNSECURE    BASIC75       256/256       19/01/00 13:40:25
ROMPEEK     LEX75         256/256       19/01/00 14:44:20
ROMDIR      BASIC75      4096/4096      19/01/00 14:45:27
MEMLEX      LEX75         512/512       19/01/00 14:46:19
CREECAS2    BASIC75      2048/2048      19/01/00 14:46:56
ECRICAS4    BASIC75      3072/3072      19/01/00 14:49:01
LIRECAS2    BASIC75      2048/2048      19/01/00 14:50:07
DUMPCAS3    BASIC75      2816/2816      19/01/00 14:50:56
ENPAGE62    BASIC75      3072/3072      19/01/00 14:51:50
ROAM0AT     TEXT75      12032/12032     20/01/00 03:47:05
ROAMPC1     TEXT75       1536/1536      20/01/00 03:47:20
PRTEXT75    BASIC75       768/768       20/01/00 11:37:26
BAR75C      BASIC75      6400/6400      20/01/00 11:46:57
BAR75D      BASIC75      2816/2816      20/01/00 11:49:05
TPRP41D     BASIC75      6144/6144      20/01/00 11:49:55
COPYCD      BASIC75      3328/3328      20/01/00 12:23:50
TELDIRV3    BASIC75      4352/4352      20/01/00 12:25:07
EPSON       BASIC75       256/256       20/01/00 12:29:25
CATJ        BASIC75      3072/3072      20/01/00 12:30:40
BAR75DOC    TEXT75       7424/7424      20/01/00 12:34:36
TELDIRV2    BASIC75      2816/2816      20/01/00 12:51:47
LINK75      BASIC75      1536/1536      20/01/00 12:52:26
CATALOGT    BASIC75      2560/2560      20/01/00 12:53:01
SDDCOPY     BASIC75      1024/1024      20/01/00 12:53:42
IOCONV      BASIC75      1024/1024      20/01/00 12:54:18
INPMFPTJ    BASIC75      2304/2304      20/01/00 12:54:56
MFPLOTTJ    BASIC75      3072/3072      20/01/00 12:55:40
PLOT3DTJ    BASIC75      2048/2048      20/01/00 12:56:30
BPLOTTJ     BASIC75      2048/2048      20/01/00 12:57:17
GCALENTJ    BASIC75      2560/2560      20/01/00 12:58:06
MFPLOTIO    BASIC75      3072/3072      20/01/00 13:00:42
CALENDAR    BASIC75      1024/1024      20/01/00 13:01:50
COPYCD1     BASIC75      1280/1280      20/01/00 13:02:49
COPYCD2     BASIC75      1536/1536      20/01/00 13:03:51
COPYCD3     BASIC75      3072/3072      20/01/00 13:04:55
RDIR75      BASIC75      1536/1536      20/01/00 13:09:48
MCOPY71T    TEXT75      10240/10240     20/01/00 13:14:06
DUMPTAPE    BASIC75       768/768       01/11/85 21:17:48
LOADLIF1    BASIC75      1024/1024      23/11/85 20:56:00
TEXTSORT    BASIC75      1024/1024      23/11/85 20:56:11
```

```
XFIND       BASIC75      3584/3584      23/11/85 20:56:22
SHUTTLE5    BASIC75      1024/1024      23/11/85 20:56:44
ANIMALST    BASIC75      1792/1792      23/11/85 20:56:56
ZOOT        TEXT75        256/256       23/11/85 20:57:07
MUSIQUE5    BASIC75      1792/1792      23/11/85 20:57:18
MARTINOS    TEXT75        768/768       23/11/85 20:57:29
MARTINOO    BASIC75      1024/1024      23/11/85 20:57:41
HORIZON     BASIC75      3072/3072      23/11/85 20:57:52
PLISTM      BASIC75      1280/1280      23/11/85 20:58:07
KANGADOC    BASIC75      1792/1792      23/11/85 20:58:18
PACVSHT     TEXT75       2560/2560      23/11/85 20:58:30
PACVSH      BASIC75      3328/3328      23/11/85 20:58:42
VSHKEYS     TEXT75        256/256       23/11/85 20:58:55
FKEYSRC     TEXT75       2560/2560      23/11/85 20:59:06
FKEYLEX     LEX75         256/256       23/11/85 20:59:21
WALLBRKL    BASIC75      2816/2816      23/11/85 20:59:32
WALLBRKR    BASIC75       768/768       23/11/85 20:59:45
HP4175      TEXT75       1792/1792      23/11/85 20:59:56
HP41TO75    BASIC75       768/768       23/11/85 21:00:08
MSTRMIND    BASIC75       768/768       23/11/85 21:00:20
PASQUA      BASIC75       768/768       23/11/85 21:00:32
DRVMAP      BASIC75      1792/1792      23/11/85 21:00:44
LANDER      BASIC75      2816/2816      23/11/85 21:00:56
DIR1        TEXT75       3328/3328      23/11/85 21:01:12
FINDFILE    BASIC75      5632/5632      14/11/85 11:20:13
DIRALLD     BASIC75      2048/2048      11/11/85 17:26:26
GETLIF1     BASIC75      1280/1280      25/08/85 17:39:35
FIX01D      BASIC75      2816/2816      10/11/85 23:24:48
EDDIRENT    BASIC75      3328/3328      15/11/85 15:24:07
SCOPE75     BASIC75      2048/2048      28/11/85 21:26:15
MCOPY75     BASIC75       768/768       28/11/85 17:35:31
MCOPY75A    BASIC75      1024/1024      28/11/85 20:20:53
DIRALL      BASIC75      2048/2048      29/11/85 14:30:22


chhu04
=========
DECRYPT     BASIC75      2304/2304      04/01/86 00:18:29
VELEX       LEX75         256/256       20/09/85 20:45:49
INTRO       TEXT75       3584/3584      03/05/86 19:54:40
VE          BASIC75      6912/6912      02/12/85 18:02:21
PLSTC       BASIC75      1280/1280      03/05/86 19:43:56
SPACKLEX    LEX75         512/512       01/09/85 15:20:07
CHHUIT      TEXT75       2048/2048      04/05/86 14:10:28
LST         BASIC75      1792/1792      15/02/84 18:12:29
VEMAN       TEXT75      11776/11776     14/09/85 13:25:26


chhu06
=========
PFILEATF    BASIC75      1024/1024      25/11/86 23:18:34
VISIMSGS    TEXT75        768/768       23/10/86 18:06:16
PCATM1F     BASIC75      1792/1792      22/05/86 22:00:11
PDATAF      BASIC75       256/256       25/09/86 13:19:29
AUTOST      BASIC75       512/512       02/09/86 20:12:53
BAUTOST     BASIC75       256/256       09/12/86 23:28:38
CROSSF      BASIC75       768/768       03/12/86 22:51:14
KEYS        TEXT75        512/512       10/12/86 18:34:51
GIGANTE     BASIC75      1280/1280      24/11/86 22:15:38
CREALETR    BASIC75       768/768       24/11/86 22:48:30
LISTLETR    BASIC75       512/512       24/11/86 22:48:37
GRAFHP      BASIC75       512/512       24/11/86 18:41:59
LETRASET    BASIC75      2560/2560      24/11/86 22:47:12
CAR         BASIC75      1536/1536      14/10/86 18:08:26
R18         VCALC75      3840/3840      09/12/86 22:45:37
CALEND      BASIC75      1024/1024      29/03/86 20:24:05
PRTCALF     BASIC75      1280/1280      04/11/85 01:55:10
PCATHPF     BASIC75       768/768       27/05/86 19:32:12
PDUMPM1F    BASIC75      1280/1280      26/05/86 16:38:57
PDUMPHPF    BASIC75      1024/1024      20/05/86 23:03:03
LDUMPHPF    BASIC75       512/512       02/06/86 20:09:07
TABTOTAL    TEXT75        768/768       15/04/86 22:22:29
PINITM1F    BASIC75       512/512       10/12/86 19:45:13
ESPEREM     BASIC75      4352/4352      30/10/86 20:49:48


cshh01
=========
PRTEXT75    BASIC75      2048/2048      09/05/90 06:38:02
```

```
forth
=========
FORTH10     LEX75       12544/12544     01/01/00 01:41:43
F10D12      LEX75       12544/12544     01/01/00 01:27:32
F10K16      LEX75       16640/16640     01/01/00 01:31:28
SCR00040    TEXT75        768/768       01/01/00 07:32:43
F10L16      LEX75       16640/16640     01/01/00 02:14:17
F10V16      LEX75       16640/16640     01/01/00 02:33:17
SCR00010    TEXT75       1024/1024      01/01/00 07:27:45
SCR00011    TEXT75        768/768       01/01/00 07:28:14
SCR00020    TEXT75        768/768       01/01/00 07:28:39
SCR00021    TEXT75       1024/1024      01/01/00 07:29:06
SCR00022    TEXT75       1024/1024      01/01/00 07:29:35
SCR00030    TEXT75       1024/1024      01/01/00 07:30:06
SCR00031    TEXT75       1024/1024      01/01/00 07:30:46
SCR00032    TEXT75       1024/1024      01/01/00 07:31:24
SCR00033    TEXT75        512/512       01/01/00 07:31:57
SCR00041    TEXT75        512/512       01/01/00 07:33:26
SCR00050    TEXT75        768/768       01/01/00 08:30:30
SCR00051    TEXT75        768/768       01/01/00 08:31:17
SCR00052    TEXT75        768/768       01/01/00 08:32:05
SCR00053    TEXT75       1024/1024      01/01/00 08:32:54
SCR00054    TEXT75        512/512       01/01/00 08:33:45
SCR00060    TEXT75        512/512       01/01/00 08:34:24
SCR00061    TEXT75       1024/1024      01/01/00 08:34:55
SCR00062    TEXT75       1024/1024      01/01/00 08:35:35
SCR00063    TEXT75       1024/1024      01/01/00 08:36:21
SCR00064    TEXT75        512/512       01/01/00 08:37:01
SCR00070    TEXT75        768/768       01/01/00 08:37:43
SCR00071    TEXT75        512/512       01/01/00 08:38:35
SCR00072    TEXT75       1280/1280      01/01/00 08:39:26
SCR00073    TEXT75        256/256       01/01/00 08:40:21
SCR00080    TEXT75        768/768       01/01/00 08:41:10
SCR00160    TEXT75        768/768       01/01/00 08:34:24
SCR00161    TEXT75       1024/1024      01/01/00 08:34:55
SCR00162    TEXT75       1024/1024      01/01/00 08:35:35
SCR00163    TEXT75       1024/1024      01/01/00 08:36:21
SCR00164    TEXT75        768/768       01/01/00 08:37:01


hpcc88
=========
IOROMTXT    TEXT75       3328/3328      31/12/88 08:01:29
TDOC        TEXT75       2304/2304      31/12/88 08:01:34
TNOISE      BASIC75      1024/1024      31/12/88 08:01:37
TTONE       BASIC75       512/512       31/12/88 08:01:41
SIRENDOC    TEXT75       1280/1280      31/12/88 08:01:44
SIREN       LEX75         256/256       31/12/88 08:01:48
DATEDOC     TEXT75       4864/4864      31/12/88 08:01:51
DATELEX     LEX75         768/768       31/12/88 08:01:57
HELPDOC     TEXT75       5376/5376      31/12/88 08:02:01
HELP        LEX75         768/768       31/12/88 08:02:07
DATESDOC    TEXT75       3072/3072      31/12/88 08:10:20
DATES30     BASIC75       768/768       31/12/88 08:10:31
FERMATXT    TEXT75       1024/1024      31/12/88 08:10:40
FERMAT75    BASIC75       768/768       31/12/88 08:10:50
BAR75DOC    TEXT75       6912/6912      31/12/88 08:11:45
BAR75TJ     BASIC75      3328/3328      31/12/88 08:11:58
TJETLEX     LEX75         512/512       31/12/88 08:12:10
VCE2DOC     TEXT75       8448/8448      31/12/88 08:13:50
VISICME     BASIC75      2304/2304      31/12/88 08:14:05
VISIMSGS    TEXT75        512/512       31/12/88 08:14:17
FILLTEST    BASIC75       512/512       31/12/88 08:14:28
VCE2TXT     TEXT75       8192/8192      31/12/88 08:14:40
VARLXDOC    TEXT75       3584/3584      31/12/88 08:14:58
VARLXTXT    TEXT75       3584/3584      31/12/88 08:15:11
VARLEXHX    TEXT75       1280/1280      31/12/88 08:15:27
TEST        BASIC75       256/256       31/12/88 08:15:39
VARLEX      LEX75         512/512       31/12/88 08:15:50
BANKDOC     TEXT75       5888/5888      31/12/88 08:16:02
BANK        BASIC75      5888/5888      31/12/88 08:16:16


hphh01
=========
PRTEXT75    BASIC75      2048/2048      13/08/90 12:41:13


indx89
```

```
=========
NOTICE75    TEXT75       1024/1024      14/05/89 15:32:31
INTRO75     TEXT75       5376/5376      14/05/89 15:32:45
CREDIT75    TEXT75        768/768       14/05/89 15:32:58
PRTEXT75    BASIC75      2048/2048      14/05/89 15:37:28
INDEX89     TEXT75        512/512       29/12/89 12:06:49
PRAM        BASIC75      1280/1280      08/12/89 13:57:00


indxuk
=========
INDX75      TEXT75       3584/3584      26/01/88 00:01:38
INDEXUK     TEXT75       1536/1536      29/12/89 12:02:29


jpc01
=========
RIOWIO      LEX75         256/256       28/10/86 20:29:38


jpc02
=========
SPACK75     LEX75         512/512       28/10/86 20:31:15
PEEKPOKE    LEX75        1280/1280      21/04/16 18:17:44
KEYLEX75    LEX75         256/256       06/03/88 09:59:31
GRAPH75     LEX75         512/512       06/03/88 09:57:52
MEMLEX75    LEX75         256/256       12/05/88 18:21:24


jpc03
=========
VARLEX      LEX75         512/512       23/05/88 12:18:58
TRILEX75    LEX75         256/256       01/10/88 11:30:50


swap08
=========
RESTLEX     LEX75         256/256       23/02/87 19:28:16
RESTDOC     TEXT75       3584/3584      13/03/87 18:06:09
RESTEST     BASIC75       256/256       13/03/87 19:21:42
RESTASM     TEXT75        768/768       22/02/87 22:37:12
PMSART      TEXT75       1024/1024      13/03/87 19:08:26
ASMBART     TEXT75       7424/7424      11/03/87 19:05:51
ASMDIAG     BASIC75      1024/1024      11/03/87 20:49:43
ORDER       BASIC75      1536/1536      28/08/84 14:20:03
ORDERDOC    TEXT75       1792/1792      13/03/87 20:53:11
SELPASTE    BASIC75       768/768       14/03/87 11:25:45
SELPDOC     TEXT75       4608/4608      14/03/87 11:31:23
SELPTEST    TEXT75        512/512       14/03/87 11:26:51


swap09
=========
CHHUIT0     TEXT75       1024/1024      18/06/86 14:17:07
SECURE      BASIC75       256/256       09/11/86 11:06:26
UNSECURE    BASIC75       256/256       09/11/86 11:08:23
CATSEC      BASIC75      1024/1024      09/11/86 11:14:07
PURGEALL    BASIC75       256/256       09/11/86 11:10:53
MEMXLEX     LEX75         512/512       22/03/85 21:01:27
DIFF        BASIC75      1792/1792      01/06/86 13:26:52
TELLXROM    BASIC75      2048/2048      02/04/87 14:27:56
NEWLEX      LEX75         256/256       23/03/84 10:41:43
ASM         BASIC75      6144/6144      01/10/85 17:48:11
PRTEXT75    BASIC75      2048/2048      11/10/87 21:44:16
COMPDISK    BASIC75      4096/4096      11/10/87 18:51:04
CNTLREGS    TEXT75      10496/10496     04/02/87 14:11:25
CNTLGPIO    BASIC75      1792/1792      09/02/87 13:04:52
FRMTSNGL    BASIC75       768/768       12/10/87 01:09:23
AUTOST      BASIC75      2560/2560      09/04/87 15:41:13
ADDRESS     BASIC75      4096/4096      05/10/87 10:28:10


swap10
=========
VE75REV     TEXT75      12032/12032     28/10/87 06:31:25
ASM         BASIC75      6144/6144      01/10/85 17:48:11
CONGEN      BASIC75      1280/1280      21/09/87 16:31:43
FRAMEASM    TEXT75        512/512       03/09/87 20:44:26
NEWLEX      LEX75         256/256       23/03/84 10:41:43
KFCDOC      TEXT75       4864/4864      28/10/87 06:21:05
```

```
LCRNGDOC    TEXT75       2816/2816      24/11/87 15:18:02
TEST75      BASIC75       768/768       19/10/87 19:28:50
RNG75       BASIC75       512/512       26/10/87 16:26:44
LYTDOC      TEXT75       9216/9216      31/01/88 18:09:55
LYTLEX      LEX75         256/256       31/01/88 15:47:37
DOWDOC      TEXT75       7680/7680      01/09/86 20:41:26
DOWLEX      LEX75         256/256       01/09/86 20:08:10
DOWASM      TEXT75       1792/1792      02/07/86 22:40:11
LEXFV7N2    TEXT75       6912/6912      10/02/88 20:13:11
MAKELX75    BASIC75      1280/1280      30/12/87 10:16:00
DUMPLX75    BASIC75      1024/1024      30/12/87 10:17:28
PEEKPOKE    LEX75        1280/1280      20/03/84 20:39:38


swap12
=========
CHAINL      LEX75        1280/1280      27/05/88 08:27:17
CODE39L     LEX75         512/512       27/05/88 08:27:30
COPYL       LEX75         512/512       27/05/88 08:28:04
LOWBATL     LEX75         256/256       27/05/88 08:29:20
PRSTATL     LEX75         256/256       19/11/85 08:24:10
MESSAGES    BASIC75      3840/3840      02/09/87 10:38:25
LOADER      BASIC75      1280/1280      26/03/87 11:56:55
LC2PROG     BASIC75       256/256       02/01/87 00:20:07
PROGLC2     BASIC75       256/256       27/03/87 18:25:10
R           BASIC75       256/256       31/08/86 00:07:52
VAR1        BASIC75       256/256       28/01/86 13:14:29
VAR2        BASIC75       256/256       28/01/86 14:01:46
REBUILD     BASIC75       512/512       13/01/86 12:24:27
RESTART     BASIC75       256/256       19/11/85 08:23:03
TPRICE      TEXT75       1280/1280      09/04/87 19:23:11
SYSPARMS    TEXT75        256/256       03/03/86 11:25:21
DAILYTOT    TEXT75        256/256       08/12/85 22:36:03


swapdk
=========
TIMEDATO    BASIC75       768/768       01/07/84 20:10:36
TID         BASIC75       512/512       01/07/84 20:10:36
SOMTID      BASIC75       256/256       20/07/87 21:27:11
CATALOG     BASIC75      1536/1536      17/02/87 00:02:45
TEXTED      BASIC75      4352/4352      29/07/84 21:07:33
LVREF       BASIC75      2048/2048      08/10/86 22:06:52
SIMPLEX     BASIC75      1792/1792      12/05/85 23:16:32
VALIRRA     BASIC75      3328/3328      10/12/83 14:22:25
GEOMANN     BASIC75      4608/4608      06/10/85 23:42:19
BONDYLD     BASIC75      5888/5888      08/04/84 20:29:15
DATABASE    BASIC75      7936/7936      20/07/87 21:47:57
LLIST       BASIC75       768/768       05/10/86 19:30:00
FILESTAT    BASIC75      2048/2048      05/10/86 19:02:19
MASTMIND    BASIC75      1536/1536      12/08/84 18:01:17
VCPRISTR    BASIC75       512/512       25/09/86 17:26:45
OBLRENTE    BASIC75      4096/4096      02/11/84 08:13:50
OTHELLO     BASIC75      2048/2048      20/01/87 21:47:55
PRAPPT      BASIC75      1024/1024      16/02/87 23:19:24
DBMSHP75    BASIC75      7936/7936      13/01/86 20:58:05
VCDBASE     BASIC75      7168/7168      18/03/86 19:51:37
MADLEX      LEX75         768/768       27/03/87 21:03:41
DBMENU      BASIC75      1024/1024      23/07/87 22:52:45
DBCREATE    BASIC75      1792/1792      30/03/87 21:04:26
DBREADH     BASIC75      1536/1536      03/04/87 21:30:07
DBINPUT     BASIC75      2816/2816      02/04/87 23:14:10
DBPRINT     BASIC75      2816/2816      11/05/87 21:32:30
KALENDER    BASIC75      4352/4352      28/01/87 09:54:01
BATTERY     LEX75         256/256       01/01/00 22:34:34
KILL        LEX75         256/256       01/01/00 00:14:12
DIR         BASIC75       256/256       05/10/86 21:29:00
FETTOK      BASIC75       768/768       06/02/86 19:10:43
TOKLIST     BASIC75       512/512       05/02/86 18:33:19


swapgb
=========
BARTXT      TEXT75       1024/1024      28/10/86 06:13:56
BAR75MC     BASIC75      3328/3328      25/10/86 22:36:07
PBCTXT      TEXT75        768/768       28/10/86 06:31:22
IVLTXT      TEXT75       6656/6656      17/08/86 13:49:39
IVL75       BASIC75      1792/1792      06/07/86 22:23:40
ALMTXT      TEXT75       1024/1024      01/11/86 12:24:05
ALM75       BASIC75       512/512       01/11/86 12:37:50
```

```
DIRALLTX    TEXT75       1024/1024      02/11/86 08:25:38
DIRALL      BASIC75      2304/2304      02/11/86 08:25:56
CIRTXT      TEXT75       3328/3328      02/11/86 08:28:44
AUTOST      TEXT75       3584/3584      02/11/86 10:55:29
TA16S41     TEXT75       6400/6400      02/11/86 11:25:00
EAPTXT      TEXT75       2560/2560      09/09/86 12:49:01
PLSDOC      TEXT75       3328/3328      10/04/85 20:08:27
PLS         BASIC75      1024/1024      27/09/84 20:42:28
PLS2        BASIC75      1024/1024      27/09/84 20:42:28
LSPLIT      BASIC75       512/512       13/07/85 09:59:48
CHARINFO    TEXT75       2048/2048      23/09/84 20:21:52
CHARDATA    BASIC75      2816/2816      22/09/84 23:33:01
CHAR0       BASIC75       768/768       22/09/84 22:45:22
CHAR1       BASIC75       512/512       23/09/84 20:00:39
CHAR2       BASIC75       512/512       23/09/84 19:47:43
CHARSP      TEXT75       1024/1024      23/09/84 19:56:59
TJDOC       TEXT75       4864/4864      02/09/86 18:53:40
TJASM       TEXT75       3072/3072      31/07/86 21:21:45
TJLEX       LEX75         512/512       31/07/86 21:40:30
TJTEST      BASIC75       512/512       02/09/86 19:37:04
MCLEX       LEX75         512/512       23/10/86 22:24:39
XFER2DOC    TEXT75       8704/8704      31/08/86 09:55:55
XFERWASM    TEXT75       4352/4352      26/08/86 10:50:47
XFERWLEX    LEX75         512/512       26/08/86 10:50:57
WNBSYASM    TEXT75       1536/1536      21/08/86 22:00:42
WNBSYLEX    LEX75         256/256       24/08/86 22:55:57
XFERDOC     TEXT75       7424/7424      09/11/86 20:37:00
XFERASM     TEXT75       3840/3840      26/08/86 23:05:52
XFERLEX     LEX75         512/512       26/08/86 23:05:59
MAPPEND     BASIC75      1792/1792      31/08/86 19:14:04
DOWDOC      TEXT75       7680/7680      01/09/86 20:41:26
DOWASM      TEXT75       1792/1792      02/07/86 22:40:11
DOWLEX      LEX75         256/256       01/09/86 20:08:10
DATCHK      BASIC75       512/512       01/09/86 20:33:48
DOWLTST     BASIC75       512/512       23/07/86 21:27:06
WEARDOC     TEXT75       6400/6400      29/08/86 21:02:51
WEAROUT     BASIC75      1024/1024      15/12/86 21:12:07
CONVDOC     TEXT75      11008/11008     06/06/85 20:01:20
CONVERT     BASIC75      3328/3328      24/05/85 16:38:33
UNITS       BASIC75      5120/5120      24/05/85 21:32:16
CONVHELP    TEXT75       1024/1024      26/06/85 08:53:39
CONVCOM     TEXT75       6400/6400      29/06/85 21:02:13
RENUMDOC    TEXT75       9472/9472      03/08/86 19:49:10
MOVETV1     BASIC75      1024/1024      23/02/86 19:54:51
MOVETV2     BASIC75      1024/1024      27/02/86 20:09:52
MOVETV3     BASIC75       768/768       27/02/86 22:06:22
RENUASM     TEXT75       1280/1280      23/06/86 20:10:47
RENULEX     LEX75         256/256       03/08/86 16:01:50
VTEDOC      TEXT75      12288/12288     06/05/86 16:11:30
VISICM1     BASIC75      3840/3840      15/04/86 21:58:04
VISIMSGS    TEXT75        512/512       15/04/86 21:58:12
ISLANDOC    TEXT75       4096/4096      19/09/86 20:51:59
ISLAND      BASIC75      7936/7936      26/04/83 19:41:45
IISLAND     TEXT75        512/512       09/05/83 16:39:59
DOMEDOC     TEXT75       2560/2560      30/09/86 20:48:46
DOME        BASIC75      5120/5120      13/03/83 17:39:40
IDNT75TX    TEXT75       1280/1280      17/12/86 20:21:46
IDENT75     BASIC75       512/512       17/12/86 20:39:26
HP28CMC     TEXT75      10752/10752     28/12/86 10:32:40
APPEL41     TEXT75       3072/3072      28/12/86 10:33:24
HELP75      TEXT75        768/768       15/12/86 19:58:32


ve75
=========
VEM1C0      TEXT75       4864/4864      25/07/87 17:37:14
VEM1C1      TEXT75       4352/4352      25/07/87 17:37:18
VEM1C2      TEXT75       4096/4096      25/07/87 17:37:23
VEM1C3      TEXT75       5120/5120      25/07/87 17:37:27
VEM1C4      TEXT75       4096/4096      25/07/87 17:37:31
VEM1C5      TEXT75       4352/4352      25/07/87 17:37:35
VEM1C6      TEXT75       3840/3840      25/07/87 17:37:40
VEM1C7      TEXT75       4352/4352      25/07/87 17:37:44
VEM1C8      TEXT75       3328/3328      25/07/87 17:37:48
VEM1C9      TEXT75       2816/2816      25/07/87 17:37:52
VEM1C10     TEXT75       3328/3328      25/07/87 17:37:57
VEM1C11     TEXT75       4864/4864      25/07/87 17:38:01
VEM1C12     TEXT75       4352/4352      25/07/87 17:38:06
VEM1C13     TEXT75       3072/3072      25/07/87 17:38:10
VEM1C14     TEXT75       2816/2816      25/07/87 17:38:15
```

```
VEM1C15     TEXT75       3328/3328      25/07/87 17:38:19
VEM1C16     TEXT75       4096/4096      25/07/87 17:38:24
VEM1C17     TEXT75       3328/3328      25/07/87 17:38:29
VEM1C18     TEXT75       2048/2048      25/07/87 17:38:34
VEM1C19     TEXT75       3840/3840      25/07/87 17:38:38
VEM1C20     TEXT75       4352/4352      25/07/87 17:38:43
VEM1C21     TEXT75       4608/4608      25/07/87 17:38:48
VEM1C22     TEXT75       4864/4864      25/07/87 17:38:52
VEM1C23     TEXT75       3584/3584      25/07/87 17:38:59
VEM1C24     TEXT75       4096/4096      26/07/87 09:27:56
VEM1C25     TEXT75       3840/3840      25/07/87 17:39:09
VEM1C26     TEXT75       1024/1024      25/07/87 17:39:14
KC          BASIC75      1024/1024      28/07/87 21:07:23
VEFOLD      BASIC75       512/512       23/04/87 15:58:54
VEUSER      BASIC75       256/256       21/07/87 14:11:44
MKVEDB      BASIC75      1536/1536      20/07/87 22:15:05
VEDB        BASIC75       256/256       01/01/00 00:04:45
VEDBMC      BASIC75       256/256       21/07/87 14:28:42
VEDBPAC     BASIC75       256/256       22/07/87 14:12:08
VEDIT       BASIC75       512/512       28/07/87 19:44:56
VE          BASIC75      9984/9984      28/07/87 20:45:50
VELEX       LEX75         512/512       28/07/87 20:38:28
VELEXS11    TEXT75       7680/7680      25/06/87 20:43:13
DEMOKP      TEXT75       3328/3328      22/07/87 14:04:14
DEMOKEYS    TEXT75       3072/3072      23/07/87 10:43:21
DEMOKPC     TEXT75       3072/3072      23/07/87 10:39:48
DEMO        BASIC75       512/512       29/07/87 18:32:18
NEWLEX      LEX75         256/256       23/03/84 10:41:43
ASM         BASIC75      6144/6144      01/10/85 17:48:11
VE75CAT     TEXT75       1536/1536      04/01/90 22:17:59
```

One Key to HP-75 Understanding.

*Message #7 Posted by **Howard Owen** on 26 July 2005, 8:20 p.m.,*
in response to message #1 by Howard Owen

The HELP lex75 file on the hpcc88 swap disk was mentioned in an early DATAFILE article. This utility lists all the keywords in memory, including those in RAM resident LEX files, and ROMs. The text file describing this is HELPDOC on the same swap disk. I reproduce it here courtesy of Tony Duell's nice LIF utilities for Linux. Following that is the result of running HELP on my HP-75C with the Math ROM and one of the peek/poke LEX files loaded. This last was obtainable because of JF Garnier's great EMU41, which allows me to redirect display output to a DOS file. (This is really a Linux file since EMU41 is running under DOSEMU, a virtual machine for DOS, and FreeDOS under Slackware Linux. I just love these hall-of-mirrors layers, don't you? 8)

```
                              THE HP-75 LEX COLUMN



 CATALOGUE OF KEYWORDS


 I recently discovered that very few owners  of  HP-75s, other than those who got
 them in the early  days and were then members of PPC-UK (as HPCC then was), know
 that there is a LEXFILE which works rather like CAT 2 on  the  HP-41.   With the
 HELP  Lexfile  all  the  keywords  in  LEXFILES  in RAM and in ROM can be listed
 together  with  an indication of type (operator, statement, keyword etc)  and  a
 little more information including, for functions, the types of parameters.


 The HELP Lexfile adds one keyword to the system, HELP.  The syntax is


      HELP
         or
      HELP 'keyword'


 HELP without a parameter  will  scan  through all the LEXFILES, starting in RAM.
 When using this form of  HELP,  DELAY  should be set to a large value (eg 1000).
```

After invoking HELP almost any keyhit will move to the next available keyword. Hitting [ATTN] will jump to the beginning of the next LEXFILE. Running off the end of the list of keywords will end the HELP program. Alternatively, DELAY can be set to zero and a printer set as the DISPLAY IS device. The listing will then be printed.

HELP with a 'KEYWORD' as a parameter will display the available information about that keyword only.

The information provided by HELP takes the form:

```
      NNN x TYPE: NAME (parameter list)
        where
      NNN is the ROM ID as a decimal number
        x is a character giving the version number of the LEXFILE
        TYPE is the type of keyword which may be
      STMT: programmable statement legal after THEN etc
      stmt: programmable statement not legal after THEN etc
      CMND: not programmable
      FNC$: string function
      FNC#: numeric function
      OP#1: numeric unary operator
      OP#2: numeric binary operator
      OP$1: string unary operator
      OP$2: string binary operator
      OTHR: none of the above
 In the case of functions the parameter list will be shown.
 Parameters are defined as follows
      $ string parameter
      # numeric parameter
      #() numeric array parameter
      $() string array parameter
```

Below is a hexadecimal dump of the HELP LEXFILE that can be keyed in and turned into the LEX file by following the instructions given in my article on pages 28 and 29 of Volume 7 Number 2 (March 1988) of Datafile. In this case call the TEXT file HELPX (EDIT 'HELPX',TEXT) and MAKELX75 will produce the LEXFILE with the name HELP. If you need copies of the MAKELX75 and PEEKPOKE files mentioned in that article send me media (1 disk, 1 tape or 2 cards) and return postage and I will get them to you as quickly as possible.

HELP L 524 Bytes ROM ID: 101

Line	Data													Check
1	4F	B4	FA	01	8D	4C	A1	26	0D	9F	48	45	4C	50	20	20	B8
2	20	20	65	00	0A	00	12	00	0C	00	17	00	1A	00	2D	00	2C
3	1B	00	FF	FF	48	45	4C	D0	FF	96	80	1D	9E	CE	6D	46	1B
4	50	12	6C	A9	B4	65	00	00	6F	0A	E2	6C	E5	9E	A1	98	1A
5	74	93	CE	3A	1F	F9	0C	CE	CC	FD	CE	11	1F	76	0A	E3	33
6	5C	34	A3	56	B1	A3	82	7B	16	B5	53	00	7E	A9	60	00	85
7	C3	7B	B7	53	00	CE	48	48	0A	BF	40	A9	65	00	CE	61	F2
8	47	9E	74	06	E5	56	E5	5E	B9	A3	82	CE	8A	01	58	A9	1D
9	64	84	68	B1	FB	09	18	A7	CE	5A	F3	68	B1	64	84	4C	34
10	06	E3	74	E3	98	50	B1	A3	82	18	A3	12	A3	10	B5	04	3E
11	00	D3	A5	82	58	18	B5	02	00	D3	A5	82	52	12	B5	0A	44
12	00	D3	A5	82	8B	8B	40	A8	30	40	8A	41	C8	20	F7	F9	13
13	40	88	88	41	12	A4	42	B9	A3	82	F6	04	58	CB	48	00	D2
14	42	18	E1	56	A9	74	84	CE	4B	08	F9	07	CE	A3	07	56	28
15	0C	A1	9E	42	10	E0	C8	80	F7	06	C8	FF	F7	F1	F0	07	71
16	18	E1	F0	EF	42	10	E0	43	02	A0	CF	7F	16	E4	02	C0	01
17	F7	F2	74	91	F7	1E	7C	34	A1	40	16	A1	CD	74	84	3E	56
18	C1	F6	BD	A9	74	84	42	00	E0	43	3C	E0	02	C0	F6	B0	07
19	7E	8B	F6	F2	7E	18	A5	D3	A5	82	78	3E	B5	F8	FF	43	D4
20	3F	A0	CF	C0	F7	27	C8	40	F6	08	64	A9	43	4D	4E	44	C8
21	F0	12	C8	80	F6	08	64	A9	53	54	4D	54	F0	06	64	A9	A7
22	73	74	6D	74	42	A9	CF	01	0C	C3	06	E5	9E	7F	CF	3F	6F
23	C8	28	FA	3D	C8	2C	FB	20	64	A9	4F	50	20	20	7F	C8	70
24	2A	66	FA	04	A8	24	F0	02	A8	23	7F	90	F3	05	67	A8	34
25	32	F0	03	67	A8	31	F0	17	F7	17	C8	2F	FB	13	64	A9	93
26	46	4E	43	20	7F	90	67	F3	04	A8	23	F0	02	A8	24	F0	E3
27	06	64	A9	4F	54	48	52	64	C8	46	F6	35	99	78	81	81	07
28	81	98	F9	2D	42	A8	28	16	E4	7F	90	F5	05	42	A8	24	69
29	F0	03	42	A8	23	16	E4	78	85	7F	90	F5	05	42	A9	28	1A
30	29	E5	78	85	42	A8	2C	E4	9B	F8	DE	56	8B	42	A8	29	72

```
       31  E4 64 B3 6E 84 66 A9 3A 20 B3 72 84 68 B3 65 84  0B
       32  67 B2 6D 84 56 CD 65 84 B2 64 84 A9 64 84 CE E3  FA
       33  07 42 18 E1 A9 C1 00 0C C3 06 E5 9E              09
       34  F360


 Roger Wiley, 1 Goughs Lane, BRACKNELL, Berkshire, RG12 2JR
```

And here is what the command produces on my machine. No wonder that "PEEK" alone didn't work!

```
101 &#65533;    STMT: HELP
816 b    STMT: HPOKE
816 b    STMT: APOKE
816 b    FNC$: HPEEK$($,#)
816 b    FNC$: APEEK$($,#)
816 b    FNC$: HEXEC$($,$,$)
816 b    FNC$: AEXEC$($,$,$)
8195 a   STMT: REDIM
8195 a   STMT: MAT INPUT
8195 a   STMT: MAT READ
8195 a   STMT: MAT
8195 a   STMT: CONT
8195 a   FNC#: LOG2(#)
8195 a   FNC#: LOGA(#,#)
8195 a   FNC#: SINH(#)
8195 a   FNC#: COSH(#)
8195 a   FNC#: TANH(#)
8195 a   FNC#: ASINH(#)
8195 a   FNC#: ACOSH(#)
8195 a   FNC#: ATANH(#)
8195 a   FNC#: ROUND(#,#)
8195 a   FNC#: TRUNCATE(#,#)
8195 a   FNC#: FACT(#)
8195 a   FNC#: BVAL($,#)
8195 a   FNC$: BSTR$(#,#)
8195 a   FNC#: FNORM(#())
8195 a   FNC#: CNORM(#())
8195 a   FNC#: RNORM(#())
8195 a   FNC#: DOT(#(),#())
8195 a   FNC#: DETL
8195 a   FNC#: DET(#())
8195 a   FNC#: LBND(#(),#)
8195 a   FNC#: UBND(#(),#)
8195 a   FNC#: SUM(#())
8195 a   FNC#: ABSUM(#())
8195 a   FNC#: MAXAB(#())
8195 a   FNC#: AMAX(#())
8195 a   FNC#: MINAB(#())
8195 a   FNC#: AMIN(#())
8195 a   OTHR: CRTOP
8195 a   OTHR: CPTOR
8195 a   OTHR: CACOSH
8195 a   OTHR: CACOS
8195 a   OTHR: CASINH
8195 a   OTHR: CASIN
8195 a   OTHR: CATANH
8195 a   OTHR: CATN
8195 a   OTHR: CCOSH
8195 a   OTHR: CCOS
8195 a   OTHR: CDET
8195 a   OTHR: CEXP
8195 a   OTHR: CINV
8195 a   OTHR: CLOG
8195 a   OTHR: CONJ
8195 a   OTHR: CRECP
8195 a   OTHR: CSINH
8195 a   OTHR: CSIN
8195 a   OTHR: CTANH
8195 a   OTHR: CTAN
8195 a   OTHR: INV
8195 a   OTHR: PROOT
8195 a   OTHR: TRN
8195 a   OTHR: CTRN
8195 a   OTHR: RSUM
8195 a   OTHR: CSUM
8195 a   OTHR: LUFACT
8195 a   OTHR: CSQR
8195 a   OTHR: FOUR
8195 a   OTHR: CADD
```

```
8195 a   OTHR: CSUB
8195 a   OTHR: CDIV
8195 a   OTHR: CMULT
8195 a   OTHR: CPOWER
8195 a   OTHR: CROSS
8195 a   OTHR: SYS
8195 a   OTHR: CSYS
8195 a   OTHR: CMMULT
8195 a   OTHR: CROOT
8195 a   OTHR: CON
8195 a   OTHR: ZER
8195 a   OTHR: IDN
8195 a   OTHR: CIDN
8215 a   FNC#: FNGUESS
8215 a   FNC#: IVALUE
8215 a   FNC#: IBOUND
8215 a   FNC#: INTEGRAL(#,#,#,$())
8215 a   FNC#: FNROOT(#,#,$())
0 3      OP$2: &
0 3      OTHR: ;
0 3      OTHR: (
0 3      OTHR: )
0 3      OP#2: *
0 3      OP#2: +
0 3      OTHR: ,
0 3      OP#2: -
0 3      OTHR: .
0 3      OP#2: /
0 3      OP#2: ^
0 3      OP$2: #
0 3      OP$2: <=
0 3      OP$2: >=
0 3      OP$2: <>
0 3      OP$2: =
0 3      OP$2: >
0 3      OP$2: <
0 3      OP#1: -
0 3      OP#2: #
0 3      OP#2: <=
0 3      OP#2: >=
0 3      OP#2: <>
0 3      OP#2: =
0 3      OP#2: >
0 3      OP#2: <
0 3      OTHR: @
0 3      stmt: ON ERROR
0 3      STMT: OFF ERROR
0 3      STMT: DEF KEY
0 3      STMT: FN
0 3      STMT: AUTO
0 3      STMT: CAT ALL
0 3      STMT: LIST IO
0 3      FNC$: CAT$(#)
0 3      STMT: DISPLAY IS
0 3      STMT: CAT
0 3      STMT: LIST
0 3      STMT: NAME
0 3      STMT: DELAY
0 3      STMT: MERGE
0 3      STMT: CALL
0 3      STMT: READ #
0 3      STMT: FETCH KEY
0 3      STMT: WIDTH
0 3      STMT: POP
0 3      STMT: RUN
0 3      stmt: REAL
0 3      STMT: DISP
0 3      STMT: FETCH
0 3      STMT: PWIDTH
0 3      STMT: DEFAULT
0 3      STMT: GOTO
0 3      STMT: GOSUB
0 3      STMT: PRINT #
0 3      STMT: MARGIN
0 3      STMT: RESTORE #
0 3      STMT: INPUT
0 3      STMT: ASSIGN #
0 3      STMT: LET FN
0 3      STMT: LET
0 3      STMT: STANDBY
0 3      stmt: ON TIMER #
```

```
0 3       STMT: OFF TIMER #
0 3       STMT: ON
0 3       STMT: BYE
0 3       STMT: WAIT
0 3       STMT: PROTECT
0 3       STMT: PRINTER IS
0 3       STMT: PRINT
0 3       STMT: PLIST
0 3       STMT: RANDOMIZE
0 3       STMT: READ
0 3       STMT: RESTORE IO
0 3       STMT: RESTORE
0 3       STMT: RETURN
0 3       STMT: UNPROTECT
0 3       STMT: EDIT
0 3       STMT: OFF IO
0 3       STMT: STOP
0 3       STMT: PUT
0 3       STMT: TRACE FLOW
0 3       STMT: TRACE OFF
0 3       STMT: TRACE VARS
0 3       STMT: ENDLINE
0 3       STMT: CLEAR VARS
0 3       STMT: COPY
0 3       STMT: PURGE
0 3       STMT: RENAME
0 3       stmt: INTEGER
0 3       stmt: SHORT
0 3       STMT: DELETE
0 3       STMT: ROM missing
0 3       STMT: REM
0 3       stmt: OPTION BASE
0 3       stmt: END DEF
0 3       stmt: DATA
0 3       stmt: DEF FN
0 3       stmt: DIM
0 3       STMT: RENUMBER
0 3       STMT: END
0 3       STMT: !
0 3       stmt: FOR
0 3       stmt: IF
0 3       stmt: IMAGE
0 3       stmt: NEXT
0 3       STMT: BEEP
0 3       STMT: ASSIGN IO
0 3       STMT: CLEAR LOOP
0 3       STMT: CONT
0 3       STMT: CLEAR
0 3       OTHR: '
0 3       OTHR: TEXT
0 3       OTHR: BASIC
0 3       OTHR: LIF1
0 3       FNC#: RES
0 3       OP#2:  INTO
0 3       OP#2:  OR
0 3       OTHR: TO
0 3       OTHR: ON
0 3       OTHR: OFF
0 3       FNC#: IP(#)
0 3       FNC#: EPS
0 3       FNC#: FP(#)
0 3       FNC#: CEIL(#)
0 3       FNC#: MAX(#,#)
0 3       FNC#: SQR(#)
0 3       FNC#: MIN(#,#)
0 3       FNC#: MEM
0 3       FNC#: ABS(#)
0 3       FNC#: SGN(#)
0 3       FNC$: KEY$
0 3       FNC#: COT(#)
0 3       FNC#: CSC(#)
0 3       OTHR: APPT
0 3       FNC#: EXP(#)
0 3       FNC#: INT(#)
0 3       FNC#: LOG10(#)
0 3       FNC#: LOG(#)
0 3       FNC$: VER$
0 3       FNC#: SEC(#)
0 3       FNC$: CHR$(#)
0 3       FNC$: STR$(#)
0 3       FNC#: LEN($)
```

```
0 3       FNC#: NUM($)
0 3       FNC#: VAL($)
0 3       FNC#: INF
0 3       FNC#: PI
0 3       FNC$: UPRC$($)
0 3       OTHR: USING
0 3       OTHR: THEN
0 3       OTHR: TAB
0 3       OTHR: STEP
0 3       OP#2:  EXOR
0 3       OP#1: NOT
0 3       OP#2:  DIV
0 3       FNC#: ERRN
0 3       FNC#: ERRL
0 3       OTHR: CARD
0 3       OP#2:  AND
0 3       OTHR: KEYS
0 3       OTHR: ELSE
0 3       FNC#: SIN(#)
0 3       FNC#: COS(#)
0 3       FNC#: TAN(#)
0 3       OP#2:  TO
0 3       OTHR: [
0 3       OTHR: ]
0 3       OP#2: \
0 3       FNC#: POS($,$)
0 3       FNC#: DEG(#)
0 3       FNC#: RAD(#)
0 3       FNC#: FLOOR(#)
1 "       STMT: ALARM
1 "       STMT: LOCK
1 "       STMT: OPTION ANGLE DEGREES
1 "       STMT: OPTION ANGLE RADIANS
2 &#65533;       STMT: TRANSFORM
2 &#65533;       STMT: PACK
2 &#65533;       STMT: INITIALIZE
2 &#65533;       FNC$: TIME$
2 &#65533;       FNC$: DATE$
2 &#65533;       FNC#: TIME
2 &#65533;       FNC#: DATE
2 &#65533;       FNC#: ANGLE(#,#)
2 &#65533;       FNC#: ACOS(#)
2 &#65533;       FNC#: ATN(#)
2 &#65533;       FNC#: ASIN(#)
2 &#65533;       FNC#: RMD(#,#)
2 &#65533;       FNC#: MOD(#,#)
2 &#65533;       FNC#: RND
```

Re: HP-75C "sendio" Lex?

*Message #8 Posted by **Vassilis Prevelakis** on 29 July 2005, 1:49 a.m.,*
in response to message #1 by Howard Owen

The SENDIO command is included in the HPILCMD LIF supplied with the HP-75 I/O Utilities.

http://www.series80.org/Misc/HPILCMD.bin

The file in HP LIFUTIL format (*DFS to LIF file type preserved* xfer type).

You can get the LIFUTIL binary from ftp://ftp.hpmuseum.org/lif/lifutil

If you run into trouble the easiest way to remove the header is to copy the file skipping the first 0x200 (512) bytes. i.e.

```
dd if=HPILCMD.bin of=HPILCMD bs=256 skip=2
```

And then you have to restore the directory info:

```
HPILCMD       -8055        5      256      18
```

Best Regards

**vp

Re: HP-75C "sendio" Lex?

*Message #9 Posted by **Howard Owen** on 29 July 2005, 11:38 a.m.,*
in response to message #8 by Vassilis Prevelakis

Thank you, Vassilis! That was exactly what I was looking for. I had no idea you had HP-75 stuff. I guess it makes sense though, seeing as how the 80 series and the 75 both run a capricorn processor.

I can use the LIF format directly, (see my latest addtion to the articles forum for a description,) but the file name doesn't work with the 75C. It's "WS_FILE" which results in "invalid filespec" on an attempt to copy. I edited the binary to remove the underscore and things went smoothly after that.

Thanks again. That certainly is worth a buck! 8)

Edited: 29 July 2005, 11:39 a.m.

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E-bay 41-CV

*Message #1 Posted by **Tony** on 26 July 2005, 7:02 a.m.*

I can't believe this 41-CV is still only 7,50 GBP with 1 day left! http://cgi.ebay.ie/ws/eBayISAPI.dll?ViewItem&item=5791165035&rd=1&sspagename=STRK%3AMEWA%3AIT&rd=1

I won't be buying, but I thought someone here might like to.

Re: E-bay 41-CV

*Message #2 Posted by **Sean** on 26 July 2005, 10:37 p.m.,*
in response to message #1 by Tony

Of course you won't buy it; you're the seller .. :-)

Re: E-bay 41-CV

*Message #3 Posted by **Tony** on 27 July 2005, 3:45 a.m.,*
in response to message #2 by Sean

No, I'm not the seller, and I don't even know the seller. I seem to remember prices around €200 being fetched for second-hand 41-CV's, so I was amazed at the lack of interest being shown in that one.

Re: E-bay 41-CV

*Message #4 Posted by **Menno** on 27 July 2005, 7:06 a.m.,*
in response to message #3 by Tony

The prices were very high because the HP41's were used in the Concorde.

Air France was buying every available HP41.....

Re: E-bay 41-CV

*Message #5 Posted by **Howard Owen** on 27 July 2005, 2:20 p.m.,*
in response to message #1 by Tony

Three points:

1. It still has 3 hours to go and it's up to 54 bucks or so. It will probably move higher before it sells.
2. It's a bare 41-CV and it has stuff in the display. That won't command premium prices. (The photos are poor as well.)
3. It's listed in Consumer Electronics > Gadgets > Calculators, whereas most 41s go in Scientific Calculators > Hewlett Packard under that category. Misfiling is what a buyer looks for on eBay.

Re: E-bay 41-CV

*Message #6 Posted by **Howard Owen** on 27 July 2005, 9:45 p.m.,*
in response to message #1 by Tony

Final price: GBP 72.00

That's low in my opinion, but not out of line for the condition of the display.

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9815 repairs: spare some silicone hose?

*Message #1 Posted by **John Ioannidis** on 25 July 2005, 6:30 p.m.*

I recently got an 9815 S on ebay. The electronics are functioning fine, but the tape had a gooey capstan. The repair requires either silicone tubing or heatshrink. I can't use the heatshrink because I can't get the motor/capstan out of its base without dangerously bending some cables that are in front of the holding screws. I've been scouring the hardware stores and Home Depot in Manhattan for silicone tubing, but the thing appears to be rarer than hens' teeth!

Does anyone (who has hopefully repaired a 98XX/HP85 tape drive) have a small piece of silicone tubing they can put in an envelope and post to me?

Thanks

/ji

Re: 9815 repairs: spare some silicone hose?

*Message #2 Posted by **Katie Wasserman** on 25 July 2005, 10:15 p.m.,*
in response to message #1 by John Ioannidis

Here's a nice writeup that Vassilis did with my advice and others. http://www.series80.org/Articles/capstan-repair.html

The HP85 uses the same drive mechanism as the 9815A and 9825A/B. You don't need to take the entire assembly apart when using the Magic Wrap tape.

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how to repaur a 3.5" floppy drive

*Message #1 Posted by **Patrice** on 25 July 2005, 1:00 p.m.*

Hi all, I have some 3.5" floppy drives but the parts do not slide any more or with dificulty. The greace seems sticky.

What are your hints to clean it and to regreace the parts after.

Thanks for ,help Patrice

Re: how to repaur a 3.5" floppy drive

*Message #2 Posted by **Tony Duell** on 25 July 2005, 1:49 p.m.,*
in response to message #1 by Patrice

I am sure I've commented on this before, it may be worth searching the archives...

Anyway, the normal problem, at least on the earlier drive, the one used in the 9114A, is that the grease on the eject mechanism goes sticky. The thing then doesn't latch properly when you eject a disk, the upper disk head gets caught in the disk, and gets ripped off the gimbal spring. If this has happened, you need a new head assembly, and you have all the fun of aligning it...

If the head is still OK, then you need to dismantle the drive and clean off the old grease. Remove the drive from the unit and take off any mounting brackets/plates. Undo the single screw on the back and take off the top cover.

Untangle the wiring to the stepper motor. Take out the 3 screws on the bottom and take off the screening cover. Ease the PCB away from the drive chassis and unplug all the connectors (note where they all go, of course). Put the PCB aside in an anti-static bag.

Inside the drive chassis (on the bottom, where the PCB came from), take out the 2 screws at the very front. Remove the front panel, don't damage the in-use LED or lose the eject button or spring.

On top, take off the eject damper at the back left (1 screw). Undo the 2 screws on the head load bracket (one holds the earthing tag in place), put a piece of clean tissue between the heads and remove the bracket. Feed the solenoid wires through the chassis and remove the complete assembly.

Underneath again, undo the 4 screws at the sides which hold the disk holder/eject mechanism in place. Remove the mechanism.

Take off the E-clips that hold it together. Pull out the shafts (don't lose the spacers). Unhook the springs (note where they all go). Then clean the old grease off with propan-2-ol (isopropanol).

Put it all back together, and it should be fine again.

Re: how to repaur a 3.5" floppy drive

*Message #3 Posted by **John Limpert** on 26 July 2005, 6:43 p.m.,*
in response to message #1 by Patrice

I've fixed some larger drives by cleaning all of the gunk off the rails and worm screw, and applying a light coating of molybdenum grease.

Re: how to repaur a 3.5" floppy drive

*Message #4 Posted by **jaymar quemado** on 1 Aug 2005, 2:34 a.m.,*
in response to message #1 by Patrice

> Quote:
>
> Hi all, I have some 3.5" floppy drives but the parts do not slide any more or with dificulty. The greace seems sticky.
>
> What are your hints to clean it and to regreace the parts after.
>
> Thanks for ,help Patrice

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What happened to OpenRPN?

*Message #1 Posted by **Walter B** on 24 July 2005, 1:42 a.m.*

For several days now, I cannot reach openrpn.org - seems this site is down, at least it doesn't respond :-(. Did they change their address? Google lists the old one still ...

Well...

*Message #2 Posted by **Aston** on 24 July 2005, 5:52 a.m.,*
in response to message #1 by Walter B

... Maybe they realized that talking is fun, but producing real-world products takes a little more than 3D drawings?

Re: Well...

*Message #3 Posted by **.** on 24 July 2005, 6:40 a.m.,*
in response to message #2 by Aston

I suspect that the site is down only for the short-term. However you have a point. The project is sadly on the decline.

Re: What happened to OpenRPN?

*Message #4 Posted by **Nelson M. Sicuro (Brazil)** on 24 July 2005, 1:57 p.m.,*
in response to message #1 by Walter B

I think that the OpenRPN project starved to death...

I also think that the "thing" that they are building are anything but a calculator. For a PDA I'll go to the next store and buy one.

These are *my* opinions as an earlier collaborator to this project, before it was even founded. Now I'm only an eventual reader due to differences of what I expected from it.

Best regards,

Nelson

Re: What happened to OpenRPN?

*Message #5 Posted by **hugh steers** on 24 July 2005, 3:22 p.m.,*
in response to message #4 by Nelson M. Sicuro (Brazil)

i wrote a functioning 20 digit bcd library with trig functions. i put some of these into a windows demo of what the calculator might be like. if interested, get the windows binary here;
www.voidware.com/tmp/rpndemo.zip

unfortunately, no one seemed to be able to make a decision on how the buttons should be laid out. my take was that i am happy to help write the software but i don't have time to drive the decision process.

the other thing was that i didn't really want to write the rpl system. the problem was over just how compatible it was supposed to be to the hp one. i didn't like the idea of 100% compatibility because then you're just reimplementing an hp. and on the other hand, i personally have never been a real big fan of rpl. i would prefer to see something like 71b basic which was really easy to work with.

on the hardware side, i don't have a strong preference as long as it works. although i did expect someone to, at least, make a prototype board with a display and maybe get it to add numbers or something.

otherwise what are you doing.

Re: What happened to OpenRPN?

*Message #6 Posted by **Hugh Evans** on 24 July 2005, 8:31 p.m.,*
in response to message #1 by Walter B

The site went down sometime last week while our admin was out of town. Everything will come back to life within the next 24 hours. Contrary to other posts in this thread the project is not starving to death (as for making too much of a PDA I will be posting some updates to thoroughly dispell this belief).

In addition I have worked out a tentative complete keyboard layout, and we are working on a dynamic wiki-based software development model and possibly a browser plugin. Hardware development has been going on behind the scenes.

In conclusion, OpenRPN is doing great. We bypass hosting costs by using our own servers... which saves money but occassionally bites us with reliability issues.

-HDE

Re: What happened to OpenRPN?

*Message #7 Posted by **Gene** on 24 July 2005, 11:24 p.m.,*
in response to message #6 by Hugh Evans

I'm beginning to really doubt that this will go far. The words are always the same, and the servers are down a lot.

However, I would be very glad to eat my words. I just don't expect to have to do so.

Gene

Yeah, sure...

*Message #8 Posted by **Aston** on 25 July 2005, 2:04 a.m.,*
in response to message #6 by Hugh Evans

Glad to know that you are "working" on yet another keyboard layout. Most urgent stuff, I guess.

Sorry guys, I've seen this kind of amateur projects fail so often. Nothing personal against you. Look at the previous months, look was was produced? Nope.

At the same time, it is possible to use a perfect simulator (V41, NonPareil, etc...) or buy real, solid, perfect vintage HP's on eBay.

Re: Yeah, sure...

*Message #9 Posted by **Hugh Evans** on 25 July 2005, 3:03 a.m.,*
in response to message #8 by Aston

No offense taken. The vast majority of this community will remain skeptical until calculators start arriving in their mailboxes :-)

Many achievements involve disproving skeptics... So that's my job here.

-HDE

Re: Yeah, sure...

*Message #10 Posted by **Chan Tran** on 25 July 2005, 7:39 a.m.,*
in response to message #9 by Hugh Evans

I just read the FAQ for the first time. I think the goal of $100 for an all aluminum, water tight and with molded thru keys is too ambitious.

Re: Yeah, sure...

*Message #11 Posted by **Hugh Evans** on 25 July 2005, 1:46 p.m.,*
in response to message #10 by Chan Tran

Actually those features are among the least ambitious. We probably won't be using aluminum in our first production run since we need a material that is easy to machine and cut with a laser. Plastics will be used instead. Custom molded labels are nothing special to make given that you use modern technology.

The FAQ page you read is horribly out of date, please refer to this page (I will also correct the link on the OpenRPN site.):

OpenRPN FAQ

-HDE

Edited: 25 July 2005, 1:47 p.m.

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NEW HP 20S ?

*Message #1 Posted by **Walter B** on 24 July 2005, 1:23 a.m.*

Perhaps I missed something. Please look at this:

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=5792137082&category=58039&rd=1

Until now, I thought the only Pioneer with this colour scheme was the late HP 32SII. Does anyone of you know the production dates of these HP 20S? Thanks in advance!

Re: NEW HP 20S ?

*Message #2 Posted by **Karl Schneider** on 24 July 2005, 2:23 a.m.,*
in response to message #1 by Walter B

Walter --

That's what I believed, also. I'd guess that it's a warranty-replacement unit made in Indonesia (ID). I have an ID 20S with the yellow-and-blue scheme made in 1997. My co-worker has an ID 32SII (yellow-and-blue) made in 1998; my ID 32SII (green-and-lavender) is from 2001.

So, sometime between 1998 and 2001, HP made the decision to abandon the sensible colors on the 20S and 32SII in pursuit of trendiness and maybe lower production costs.

-- KS

Re: NEW HP 20S ?

*Message #3 Posted by **Julian Miranda (Spain)** on 25 July 2005, 2:44 p.m.,*
in response to message #1 by Walter B

I don't know in the USA, in Europe you could buy one new at the stores.

Re: NEW HP 20S ?

*Message #4 Posted by **Norris** on 26 July 2005, 1:47 a.m.,*
in response to message #3 by Julian Miranda (Spain)

The collection at www.rskey.org shows two types of 32SII. The older type (brown bezel, yellow/blue labels) is dated 1991-1999. The newer type (silver bezel, teal/lavender labels) is dated 1999-2002.

If rskey is correct, then the 32SII was redesigned in 1999. This is consistent with my old-style 32SII, which is dated mid-1998. The redesign may have coincided with a packaging change in the US, from cardboard boxes to clear blister packs.

The 20S was apparently redesigned at about this time as well. The 20S underwent the same change in label colors (though the bezel stayed black). I have a 20S with teal/lavender labels dated mid-2001.

Curiously, the 20S owner's manual apparently did not get updated to reflect the new color scheme. The front cover of the manual that came with my teal/lavender 20S shows a model with yellow/blue labels, and the text inside explicitly refers to the yellow/blue labels. The manual is Edition 6, dated 11/94.

I can compare the two 20S color schemes by placing the calculator and the manual side by side. The yellow/blue scheme appears to be much superior.

Re: NEW HP 20S ?

*Message #5 Posted by **Frank K** on 26 July 2005, 8:43 a.m.,*
in response to message #4 by Norris

Yes, somehow, HP forgot these legends needed to be clearly seen rather than just an aestetic accent color, happened on the 10B also with the change from gold to green legends on the black background.

Re: NEW HP 20S ?

*Message #6 Posted by **Hugh Evans** on 26 July 2005, 8:48 a.m.,*
in response to message #4 by Norris

From an optical standpoint the blue and yellow color scheme is superior for only one reason: whoever selected them obviously did their homework on LAB colors and how to properly use the system. I'm planning to write a short article about color selection for the OpenRPN site. The later scheme could have worked just as well had higher luminance values been selected.

Here is the set from OpenRPN. Blue and yellow-orange will be the standard colors. Green may be used for alpha labels. Various combinations could be selected for color visual impairments as well.

http://openrpn.org/images/userimages/Colors.jpg

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HP-42S Rom Dumping using PalmOS.

*Message #1 Posted by **José Lauro Strapasson** on 23 July 2005, 9:24 p.m.*

Hi There!

I would like to get the rom from my brother's calculator but the problem is I never got the serial cable of my old hp-48g to work. So I was thinking about using my palmtop with Power48 or some other program. Is is possible?? Or does someone have another idea? Thank you very much!

José Lauro. jlstrapasson@uol.com.br

Re: HP-42S Rom Dumping using PalmOS.

*Message #2 Posted by **Artur - Brasil** on 24 July 2005, 7:49 p.m.,*
in response to message #1 by José Lauro Strapasson

Hi, Jose

Please, confirm your email is jlstrapasson@uol.com.br

Até mais, Artur arturmj@elibertas.com.br

Re: HP-42S Rom Dumping using PalmOS.

*Message #3 Posted by **José Lauro Strapasson** on 24 July 2005, 10:41 p.m.,*
in response to message #2 by Artur - Brasil

Thank you! Actualy the HP-48G serail cable worked!:)

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Printing barcodes with HP82162A

*Message #1 Posted by **Artur - Brasil** on 23 July 2005, 9:12 p.m.*

Hi,

Could someone help me on how to print my programs for HP41 in barcodes using the HP 82162A printer? Is there a way to print (list) directly from the calculator? Best regards, Artur

Re: Printing barcodes with HP82162A

*Message #2 Posted by **Vassilis Prevelakis** on 23 July 2005, 9:31 p.m.,*
in response to message #1 by Artur - Brasil

The easiest way is to use the printer/plotter module.

If you do not have the module itself you can buy a module emulator and use the ROM image from TOS.

Alternatively you may want to check old PPC journals on the MoHPC CDROM. I believe there is a program there that does what you want.

**vp

Program listings online here

*Message #3 Posted by **Gene** on 23 July 2005, 10:22 p.m.,*
in response to message #2 by Vassilis Prevelakis

http://www.rskey.org/gene/calcmuseum/41bc.htm

Five different programs with various requirements.

Enjoy!

Thanks!

*Message #4 Posted by **Artur - Brasil** on 23 July 2005, 11:02 p.m.,*
in response to message #3 by Gene

I'll try the programs in the link. As I don't have the plot module (any for sale/trade?), I'll try the dangerous synthetic programming ...

Thank to all of you again! Artur

and the 82143?

*Message #5 Posted by **marais** on 24 July 2005, 4:01 a.m.,*
in response to message #4 by Artur - Brasil

Do these programs also work for the non-IL version of the thermal printer, the 82143?

Andreas

No, only the HP-IL version...Re: and the 82143?

*Message #6 Posted by **Gene** on 24 July 2005, 7:25 a.m.,*
in response to message #5 by marais

Sorry...only the 82162 printer. Won't work with the original printer.

Gene

Re: No, only the HP-IL version...Re: and the 82143?

*Message #7 Posted by **marais** on 24 July 2005, 7:35 a.m.,*
in response to message #6 by Gene

Is there a fundamental reason, i.e. does the 82143 lack features that the IL has and that are essential for the barcodes?

Re: No, only the HP-IL version...Re: and the 82143?

*Message #8 Posted by **HrastProgrammer** on 24 July 2005, 12:31 p.m.,*
in response to message #7 by marais

AFAIK, HP-82143A doesn't have the ability to directly print bar codes (no #80..#8F sequence in 8-bit mode or ESC * z sequence in ASCII mode as on the HP-82162A printer). They can eventually be printed using column mode on HP-82143A with the aid of appropriate program.

Re: No, only the HP-IL version...Re: and the 82143?

*Message #9 Posted by **Eric Smith** on 24 July 2005, 2:39 p.m.,*
in response to message #8 by HrastProgrammer

Not even with column mode, because the print buffer is only forty-someodd bytes long, and because you can't control the vertical spacing of printed lines, so you can't get suitable bar widths lengthwise.

Re: No, only the HP-IL version...Re: and the 82143?

*Message #10 Posted by **HrastProgrammer** on 25 July 2005, 1:16 a.m.,*
in response to message #9 by Eric Smith

Yes, buffer size might be a big problem. I haven't been thinking about that because in my implementation of Helios printer the buffer size is 224 bytes :-)

Re: No, only the HP-IL version...Re: and the 82143?

*Message #11 Posted by **Eric Smith** on 25 July 2005, 6:13 p.m.,*
in response to message #10 by HrastProgrammer

I suppose I could make the buffer size configurable in Nonpareil, but thus far I've tried to keep things as close to identical to the real hardware as possible.

There may be 41 programs that depend on the behavior of the 82143A buffer, and generate incorrect output if the simulated printer has a larger buffer.

Eric

Problems!

*Message #12 Posted by **Artur - Brasil** on 24 July 2005, 7:27 p.m.,*
in response to message #4 by Artur - Brasil

```
Hi, Gene and other guys,


I have reformated the program listing and saw some problems:
-lines 183,187,209 - are they empty?
-lines 184,188,217, 259 show X="0?" - is that correct?


Best regards,
Artur


ps: my reformated program listing, for better printing (copy and paste):


<table BORDER=1 style="page-break-before:always;" width="90%"><tr VALIGN=TOP>
<td width="50%"><pre>
Lin Instruction
01  LBL &quot;BCD&quot;
02  CF 10
03  LBL 04
04  CF 12
05  ACA
06  PRX
07  ADV
08  CLRG
09  ABS
10  INT
11  X = 0?
12  SIGN
13  13
14  X &gt; Y?
15  X <> Y
16  STO 06
17  12
18  +
19  PSIZE
20  1
21  -
22  1 E3
23  /
24  STO 03
25  SF 25
26  SAVEP
27  FIX 0
28  CF 29
29  RCLPTA
30  2
31  -
32  STO 05
33  LASTX
34  +
35  ACX
36  FLSIZE
37  X <> Y
38  &quot; BYTES&quot;
39  ACA
40  ADV
41  RCL 06
42  /
43  INT
44  LASTX
45  FRC
46  X NE 0?
47  SIGN
48  +
```

```
49  &amp;quot;=&amp;quot;
50  ACA
51  ACX
52  &amp;quot; ROWS&amp;quot;
53  ACA
54  ADV
55  ADV
56  SF 12
57  RDN
58  CLA
59  32
60  XTOA
</pre>
</td>
<td><pre>
61  RDN
62  190
63  XTOA
64  RDN
65  0
66  XTOA
67  XTOA
68  XTOA
69  RDN
70  256
71  /
72  XTOA
73  LASTX
74  *
75  LASTX
76  MOD
77  XTOA
<FONT face=Tahoma size=2>
Note: Stop here, press GTO . ., and scan in
the barcode for the small program for RCL M.
Clear the END created just after the XTOA step
above, and then delete the steps of the new small
program except for the next line, RCL M.
</font>
78  RCL M
79  XEQ 06
80  STO 06
81  SF 08
82  1
83  STO 01
84  XEQ 08
85  CLA
86  192
87  XTOA
88  RDN
89  0
90  XTOA
91  RDN
92  47
93  XTOA
94  RDN
95  3
96  STO 04
97  STO 05
98  XEQ 11
99  FS?C 09
100 XEQ 05
101 RCL 06
102 BEEP
103 PWRDN
104 LBL 06
105 CLA
106 11
107 XTOA
108 RDN
109 224
110 XTOA
111 RDN
112 1
113 XTOA
114 RDN
</PRE></TD></TR></TABLE>


<BR>
```

```
<table BORDER =1 style="page-break-before:always;" width="90%"><tr VALIGN=TOP>
<td width="50%"><pre>
115 105
116 XTOA
117 RDN
118 11
119 XTOA
120 RDN
121 224
122 XTOA
123 RDN
124 176
125 XTOA
126 RDN
<FONT face=Tahoma size=2>
Note: Stop here, press GTO . ., and scan in
the barcode for the small program for RCL M.
Clear the END created just after the RDN step
above, and then delete the steps of the new small
program except for the next line, RCL M.
</font>
127 RCL M
<FONT face=Tahoma size=2>
Note: Stop here, press GTO . ., and scan in
the barcode for the small program for X <> c.
Clear the END created just after the RCL M step
above, and then delete the steps of the new small
program except for the next line, X <> c.
</font>
128 X <> c
129 X <> Y
130 X <> 00
131 X <> Y
<FONT face=Tahoma size=2>
Note: Stop here, press GTO . ., and scan in
the barcode for the small program for X <> c.
Clear the END created just after the X <> Y step
above, and then delete the steps of the new small
program except for the next line, X <> c.
</font>
132 X <> c
133 X <> Y
134 CLST
135 +
136 RTN
137 GTO 04
138 LBL 15
139 ISG 03
140 GTO 02
141 XEQ 05
142 LBL 08
143 RCL 03
144 FRC
145 12
146 +
147 STO 03
148 16
149 RCL 01
150 1
151 -
152 *
153 STO 11
154 LBL 02
</pre>
</td>
<td><pre>
155 DSE 05
156 GTO 02
157 RTN
158 LBL 02
159 DSE 04
160 GTO 11
161 7
162 STO 04
163 GETX
<FONT face=Tahoma size=2>
Note: Stop here, press GTO . ., and scan in
the barcode for the small program for STO M.
Clear the END created just after the GETX step
above, and then delete the steps of the new small
program except for the next line, STO M.
```

```
</font>
164  STO M
165  LBL 11
166  SF 09
167  ALENG
168  RCL 04
169  X NE Y?
170  0
171  X = Y?
172  ATOX
173  ENTER
174  STO IND 03
175  ST+ 09
176  DSE 01
177  GTO 15
178  143
179  -
180  X <= 0?
181  97
182  64
<b>183</b>
184  X <="0?"
185  34
186  32
<b>187</b>
188  X <="0?"
189  3
190  STO 01
191  STO 07
192  GTO 15
193  LBL 05
194  CF 09
195  RCL 08
196  16
197  MOD
198  LASTX
199  FS? 10
</PRE></TD></TR></TABLE>


<BR>
<table BORDER =1 style="page-break-before:always;" width="90%"><tr VALIGN=TOP>
<td width="50%"><pre>
200  ST+ X
201  +
202  ST+ 09
203  STO 10
204  ISG 08
205  DEG
206  RCL 07
207  RCL 01
208  DSE X
<b>209</b>
210  RCL 11
211  +
212  STO 11
213  RCL 09
214  +
215  255
216  MOD
217  X="0?"
218  LASTX
219  STO 09
220  ASTO 02
221  RCL 03
222  INT
223  8999
224  +
225  1 E3
226  /
227  STO 00
228  LBL 12
229  RCL 08
230  ACX
231  ADV
232  ADV
233  ADV
234  PWRDN
235  PWRUP
236  AUTOIO
237  SF 17
```

```
238  CLX
239  ACCOL
240  118
241  RCL 03
242  INT
243  +
244  CLA
</pre>
</td>
<td><pre>
245  27
246  XTOA
247  RDN
248  49
249  XTOA
250  RDN
251  XTOA
252  OUTA
253  RCL 00
254  LBL 13
255  RCL IND X
256  CLA
257  XTOA
258  SF 25
259  X="0?"
260  ACCOL
261  X NE 0?
262  OUTA
263  RDN
264  INSTAT
265  FS? 03
266  GTO 14
267  RDN
268  ISG X
269  GTO 13
270  ADV
271  ADV
272  ADV
273  ADV
274  ADV
275  ADV
276  CLA
277  ARCL 02
278  RTN
279  LBL 14
280  PWRDN
281  "PAPER"
282  BEEP
283  BEEP
284  PROMPT
285  RCL 00
286  GTO 12
287  END
</PRE>
</td></tr>
</table>
<hr>
That's it. Hope it's useful!<br>
Reformated by Artur - 2005.
</body></html>
```

Re: Problems solved!

*Message #13 Posted by **Gene** on 25 July 2005, 8:05 a.m.,*
in response to message #12 by Artur - Brasil

Best way to know the correct listing is to pull out your trusty PPC Journal collection:

"The program presented below is basically the program presented by Winfried Maschke of West Germany in the V9N4P44 PPC Journal (May/June/July 1982)."

What? You don't have physical copies of the PPC Journal?

Then surely you have the PDF copies from Jake Schwartz? If not, why not? :-) No collector should be without them.

1) Ignore the " " marks around the 0 in the X=0? lines. They are just normal x=0? lines. The HTML was giving me trouble with them for some reason.

2) Lines 183 and 187 and 209 should all be a - (minus).

Not sure why the formatting is off, but this agrees with the listing on page 44 of V9N4.

Gene

Problems solved! Many Thanks

*Message #14 Posted by **Artur - Brasil** on 25 July 2005, 8:32 a.m.,*
in response to message #13 by Gene

Thanks again, Genre! I'll try and verify if I have the PPC Journal in HPMuseum DVD. I'll also correct the reformated page I've listed and if you would like, put it in place of yours in your site. Best regards! Artur

The fixed listing

*Message #15 Posted by **Artur - Brasil** on 25 July 2005, 8:51 a.m.,*
in response to message #13 by Gene

```
<br>
<table BORDER=1 style="page-break-before:always;" width="90%"><tr
VALIGN=TOP>
<td width="50%"><pre>
Lin Instruction
01  LBL &quot;BCD&quot;
02  CF 10
03  LBL 04
04  CF 12
05  ACA
06  PRX
07  ADV
08  CLRG
09  ABS
10  INT
11  X = 0?
12  SIGN
13  13
14  X &gt; Y?
15  X <> Y
16  STO 06
17  12
18  +
19  PSIZE
20  1
21  -
22  1 E3
23  /
24  STO 03
25  SF 25
26  SAVEP
27  FIX 0
28  CF 29
29  RCLPTA
30  2
31  -
32  STO 05
33  LASTX
34  +
35  ACX
```

```
36  FLSIZE
37  X <> Y
38  &quot; BYTES&quot;
39  ACA
40  ADV
41  RCL 06
42  /
43  INT
44  LASTX
45  FRC
46  X NE 0?
47  SIGN
48  +
49  &quot;=&quot;
50  ACA
51  ACX
52  &quot; ROWS&quot;
53  ACA
54  ADV
55  ADV
56  SF 12
57  RDN
58  CLA
59  32
60  XTOA
</pre>
</td>
<td><pre>
61  RDN
62  190
63  XTOA
64  RDN
65  0
66  XTOA
67  XTOA
68  XTOA
69  RDN
70  256
71  /
72  XTOA
73  LASTX
74  *
75  LASTX
76  MOD
77  XTOA
<FONT face=Tahoma size=2>
Note: Stop here, press GTO . ., and scan in
the barcode for the small program for RCL M.
Clear the END created just after the XTOA step
above, and then delete the steps of the new small
program except for the next line, RCL M.
</font>
78  RCL M
79  XEQ 06
80  STO 06
81  SF 08
82  1
83  STO 01
84  XEQ 08
85  CLA
86  192
87  XTOA
88  RDN
89  0
90  XTOA
91  RDN
92  47
93  XTOA
94  RDN
95  3
96  STO 04
97  STO 05
98  XEQ 11
99  FS?C 09
100 XEQ 05
101 RCL 06
102 BEEP
103 PWRDN
104 LBL 06
105 CLA
106 11
```

```
107 XTOA
108 RDN
109 224
110 XTOA
111 RDN
112 1
113 XTOA
114 RDN
</PRE></TD></TR></TABLE>
<BR>
<table BORDER =1 style="page-break-before:always;" width="90%"><tr
VALIGN=TOP>
<td width="50%"><pre>
115 105
116 XTOA
117 RDN
118 11
119 XTOA
120 RDN
121 224
122 XTOA
123 RDN
124 176
125 XTOA
126 RDN
<FONT face=Tahoma size=2>
Note: Stop here, press GTO . ., and scan in
the barcode for the small program for RCL M.
Clear the END created just after the RDN step
above, and then delete the steps of the new small
program except for the next line, RCL M.
</font>
127 RCL M
<FONT face=Tahoma size=2>
Note: Stop here, press GTO . ., and scan in
the barcode for the small program for X <> c.
Clear the END created just after the RCL M step
above, and then delete the steps of the new small
program except for the next line, X <> c.
</font>
128 X <> c
129 X <> Y
130 X <> 00
131 X <> Y
<FONT face=Tahoma size=2>
Note: Stop here, press GTO . ., and scan in
the barcode for the small program for X <> c.
Clear the END created just after the X <> Y step
above, and then delete the steps of the new small
program except for the next line, X <> c.
</font>
132 X <> c
133 X <> Y
134 CLST
135 +
136 RTN
137 GTO 04
138 LBL 15
139 ISG 03
140 GTO 02
141 XEQ 05
142 LBL 08
143 RCL 03
144 FRC
145 12
146 +
147 STO 03
148 16
149 RCL 01
150 1
151 -
152 *
153 STO 11
154 LBL 02
</pre>
</td>
<td><pre>
155 DSE 05
156 GTO 02
157 RTN
158 LBL 02
```

```
159 DSE 04
160 GTO 11
161 7
162 STO 04
163 GETX
<FONT face=Tahoma size=2>
Note: Stop here, press GTO . ., and scan in
the barcode for the small program for STO M.
Clear the END created just after the GETX step
above, and then delete the steps of the new small
program except for the next line, STO M.
</font>
164  STO M
165  LBL 11
166  SF 09
167  ALENG
168  RCL 04
169  X NE Y?
170  0
171  X = Y?
172  ATOX
173  ENTER
174  STO IND 03
175  ST+ 09
176  DSE 01
177  GTO 15
178  143
179  -
180  X <= 0?
181  97
182  64
183  -
184  X <= 0?
185  34
186  32
187  -
188  X <= 0?
189  3
190  STO 01
191  STO 07
192  GTO 15
193  LBL 05
194  CF 09
195  RCL 08
196  16
197  MOD
198  LASTX
199  FS? 10
</PRE></TD></TR></TABLE>
<BR>
<table BORDER =1 style="page-break-before:always;" width="90%"><tr
VALIGN=TOP>
<td width="50%"><pre>
200  ST+ X
201  +
202  ST+ 09
203  STO 10
204  ISG 08
205  DEG
206  RCL 07
207  RCL 01
208  DSE X
209  -
210  RCL 11
211  +
212  STO 11
213  RCL 09
214  +
215  255
216  MOD
217  X = 0?
218  LASTX
219  STO 09
220  ASTO 02
221  RCL 03
222  INT
223  8999
224  +
225  1 E3
226  /
227  STO 00
```

```
228  LBL 12
229  RCL 08
230  ACX
231  ADV
232  ADV
233  ADV
234  PWRDN
235  PWRUP
236  AUTOIO
237  SF 17
238  CLX
239  ACCOL
240  118
241  RCL 03
242  INT
243  +
244  CLA
</pre>
</td>
<td><pre>
245  27
246  XTOA
247  RDN
248  49
249  XTOA
250  RDN
251  XTOA
252  OUTA
253  RCL 00
254  LBL 13
255  RCL IND X
256  CLA
257  XTOA
258  SF 25
259  X = 0?
260  ACCOL
261  X NE 0?
262  OUTA
263  RDN
264  INSTAT
265  FS? 03
266  GTO 14
267  RDN
268  ISG X
269  GTO 13
270  ADV
271  ADV
272  ADV
273  ADV
274  ADV
275  ADV
276  CLA
277  ARCL 02
278  RTN
279  LBL 14
280  PWRDN
281  "PAPER"
282  BEEP
283  BEEP
284  PROMPT
285  RCL 00
286  GTO 12
287  END
</PRE>
</td></tr>
</table>
```

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HP-41 UAC version 0.5.2 released

*Message #1 Posted by **Geir Isene** on 23 July 2005, 5:35 p.m.*

After an unprecedented effort from both the development community and the testing crew, we are now proud to present the new version of the HP-41 Ultimate Alarm Clock.

Version 0.5.2 offers improved functionality and is even more user frendly than the previous versions. From the change log:

- Added 10 minute snooze (pressing R/S after stopping the alarm when it has gone off)
- Added "LBL e" to "hold" the alarm
- Modified "LBL b" to be user defined. Enter the time to put the set alarm into the future
- Added version number to show as the third R/S press after the initial menu

Go to the Sourceforge project site for the download.

Obviously, these are great advancements in the program. However, as we aim to make this alarm clock a historical milestone, a full 0.6 release will require even greater feature enhancements. Future enhancements may include a plug-in (via HP-IL) to your body to sense your state of sleep and adjust the tones so that you get the best possible waking up in the morning.

Re: HP-41 UAC version 0.5.2 released

*Message #2 Posted by **Theo** on 24 July 2005, 7:31 a.m.,*
in response to message #1 by Geir Isene

Hello, This looks like a fun program, but on the site there is no download possibility. Clicking on download merely bring's one to a page with descriptions of the the program and a text doc, nothing else.... Am I missing something here? Thanks, Theo

Re: HP-41 UAC version 0.5.2 released

*Message #3 Posted by **Geir Isene** on 24 July 2005, 8:19 a.m.,*
in response to message #2 by Theo

Hello,

The program's official home page is http://www.isene.com/artweb.cgi?article=009-hp41alm.txt .

On the Sourceforge project site, the text file for download is the program listing itself. Here you can also enter feature requests and bug reports :)

Re: HP-41 UAC version 0.5.2 released

*Message #4 Posted by **doug** on 25 July 2005, 4:36 a.m.,*
in response to message #3 by Geir Isene

So, there is development community, testing crew and merchandise (T-shirts, teddybear and underwear) for a rather simple 174-line program any experienced HP-41C user on this forum can write ?!?

Re: HP-41 UAC version 0.5.2 released

*Message #5 Posted by **Geir Isene** on 25 July 2005, 6:23 a.m.,*
in response to message #4 by doug

Yes indeed, doug!

Would you like to join the HP-41 UAC community?

We have experienced an unprecedented growth of the community the last weeks (around 100% increase). The community is contributing in many ways - feature requests, feature discussions, buying mercandise and more. In fact, due to overwhelming interest in the T-shirt with the code listing on the back, we have started shipping the first few T-shirts to the most active community members

We would be happy to have you on our team, doug. That would lead to another 50% increase of our large and active community.

Re: HP-41 UAC version 0.5.2 released

*Message #6 Posted by **Theo** on 25 July 2005, 7:55 a.m.,*
in response to message #4 by doug

Well, all I would like to say is that in my personal opinion, (for whatever that's worth!) anyone who is doing something....on any level....to keep the interest in the HP 41 active for newbie collectors or high-end hacks...is fine with me!

Let everyone enjoy the 41 as they wish and according to their level. Maybe some people (like me mucho years ago) will have their first contact with very basic concepts of programming by completing a program like this for fun- and then have the pleasure to hear it work if they did a good job of it....

And no, I have nothing to do with this program or the people involved! Cheers all, Theo

Re: HP-41 UAC version 0.5.2 released

*Message #7 Posted by **don wallace** on 1 Aug 2005, 1:32 a.m.,*
in response to message #6 by Theo

Hi all.

Reading this thread sure did give me a laugh!

Congrats to the programming "team" at UAC; cool, really kewl!

Although programming the 41CV is not exactly rocket science, as an owner for 24 years who has written a lot of software for it, (one carefully written app of mine still filled the machine), I can appreciate what a 174 line program for a 41CV can actually do!

You can pack a lot of computation into the USER programs we all write. Anyone who disparages such efforts, well... Beneath me to comment on it.

Hp rpn programming is not BASIC ya know, "Doug"... Compare it to Forth, it's closer. ;-)

Kind regards,

Don Wallace

Those who talk do not know. Those who know do not talk

(Lao Tsz)

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Best way to open a modul-housing

*Message #1 Posted by **Wilhelm Loidl** on 23 July 2005, 7:55 a.m.*

Hello!

In Gary Friedmans Book "Control the world with HP-IL" is an I/O-adaption of the HP-41c/cv time-modul desribed.

Can someone tell me how to "crack" the modul-case without problems ;)

Thank you

Wilhelm Loidl

Re: Best way to open a modul-housing

*Message #2 Posted by **Wilson W Holes** on 23 July 2005, 11:21 a.m.,*
in response to message #1 by Wilhelm Loidl

Check out --> http://www.tla.org/hp41/module.html

Other, possibly better methods exist but this has always worked well for me.

Re: Best way to open a modul-housing

*Message #3 Posted by **Wilhelm Loidl** on 23 July 2005, 11:32 a.m.,*
in response to message #2 by Wilson W Holes

Thank you!

Found another way:

http://www.hpmuseum.org/guest/klug/dblxmem.pdf

(but this finding was not nice: now I have to build a dblXmem modul too;)

Wilhelm Loidl

Re: Best way to open a modul-housing

*Message #4 Posted by **Miki Mihajlovic** on 23 July 2005, 1:48 p.m.,*
in response to message #3 by Wilhelm Loidl

I find that using long nose pliers (nozzle pliers) works best for me. This is the trick Diego Diaz told me about. The longer and thinner the nose the better. Put the nose of pliers in the module opening, and CAREFULLY open the pliers while at the same time applying counter pressure with your fingers opposite to pliers action (for balancing) until the module cracks. In 95% of cases the module opens

flawlessly.

Thank you!

*Message #5 Posted by **Wilhelm Loidl** on 24 July 2005, 11:20 a.m.,*
in response to message #4 by Miki Mihajlovic

Hello!

The "knife-method" works perfect for me - thank you again!

Wilhelm Loidl

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How to compare HP solvers ?

*Message #1 Posted by **jose goncalves (brasil)** on 22 July 2005, 10:22 p.m.*

I´ve been checking the different solvers for some HP calculators and I wonder if there is any organized paper that compares the features and limitations of of them. Since the one that we have in the HP 80, that might have been the very first one, HP created a whole family of those time saving tools.

I´ve seen several messages here at MoHPC discussing some types of solvcers, but I´m looking for something more comprehensive and complete. Can someone tell me where to find a paper on HP solvers ?

Thanks.

Re: How to compare HP solvers ?

*Message #2 Posted by **Vincent Weber** on 23 July 2005, 2:17 a.m.,*
in response to message #1 by jose goncalves (brasil)

Try this, a good detailed descriptions of HP solvers.

http://www.finseth.com/hpdata/solvers.html

To my mind, the best solver is the one featured on 17BII/19BII; also in 27S, even though it does not seem to have symbolic simplification (which is transparent in the user interface). More than a solver, this is a true programming language, almost as powerful as BASIC (unfortunately, the lack of user-defined functions limits its power). The L() and G() functions allows intermediate variables and true programming. A pity that despite this, the 17BII/19BII/27S are often refered to as 'non-programmable devices' !!

Next would be the 42S solver, which lacks algebraic equation entry (RPN is nice, but NOT for equation entry) and forces you to 'MVAR' any variable supposed to appear in the menu (But let you access to the full power of RPN programming). A pity, really - think of the killer machine a merge of 42S and 27S would be...

Next, the 32SII/33S solver - neat, simple to use, well integrated with RPN (a unique case in HP calcs of harmony between RPN and algebraic equations), but with severe limitations: no editing capabilities of equations, no long variable names, no implicit multiplication (a nonsense when you don't have long variable names - you could have at least the benefit when you pay for the cost !), and somewhat clumsy interface (you need to circulate through all variables instead of the neat menus of 17BII/19BII/27S/42S). However, this works well for most problems.

Hope this helps. Cheers, Vincent

Re: How to compare HP solvers ?

*Message #3 Posted by **Katie Wasserman** on 23 July 2005, 8:56 p.m.,*
in response to message #2 by Vincent Weber

I think that the solver on the 100LX/200LX (and 95LX?) is the most sophisticated. It interfaces with Lotus 1-2-3 as well as the other calc functions (like list-based statistics). You can use 1-2-3 as a R/W array and

really write BASIC-equivalent programs. Take a look at the this thread and the pi program at the bottom of it: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv014.cgi?read=49560

Re: How to compare HP solvers ?

*Message #4 Posted by **Namir** on 24 July 2005, 1:45 a.m.,*
in response to message #1 by jose goncalves (brasil)

I am preparing a presentation for the HHC2005 conference in Chicago this coming September to compare HP solvers. I expect it to be posted on the web. I am using a set of 17 equations to test various solvers, ranging from the HP34C to the HP49G+. The solvers seem to fall into a family of implementations:

1. The financial calculators 2. The HP28S, HP42s, and the graphics calculators (HP48SX did show some minor differences in results) 3 The HP32S, HP32SII, HP33s set of calculators.

I did test the TI-200 also and it showed superior results in the case of where the initial guess is near a minimum of an equation that has a root (y = exp(x) - 3 * x^2 + 8). None of the HP solvers found the root given initial guesses near the minimuum--most DID report the minimum value. The TI-200 found the root.

The HP solvers seem to have a common root (the HP34C solver) and share common criteria for when to continue to search and when to stop iterating.

Namir

Re: How to compare HP solvers ?

*Message #5 Posted by **Chris Dean** on 24 July 2005, 7:35 a.m.,*
in response to message #4 by Namir

Namir

Will you be posting your results anywhere on the internet as I am sure people including myself would be interested in your results? In fact I would expect the 17 equations would be enough to create some dialog.

You could possibly benefit by posting them early and see the programming techniques that are used by various people to solve them using the Solver function.

Chris Dean

Re: How to compare HP solvers ?

*Message #6 Posted by **Namir** on 24 July 2005, 9:14 a.m.,*
in response to message #5 by Chris Dean

I have the info on PowerPoint slides and will convert them into PDF that are easy to post. I also have a leading part of the presentation that includes a discussion (and brief comparison) between various algorithms (Bisection, Newton, Secant, Richmond (Halley), Householder, Brent, and Ridder). The presentation includes psuedo-code so folks can implement them in their favorite language. This too comes as a PowerPoint presentation that I will submit as a PDF. Both PDFs will be posted on the net. The presentation also includes a new algorithm that I designed that improves on Bisection. Moreover, I present a suggestion by DeMoivre that reduces the number of slope caculations. This has the effect of reeducing the number of function calls when approximating the derivatives using difference equations.

If you can't wait, then I encourage you to attent HHC2005 in Chicago.

Namir

Re: How to compare HP solvers ?

*Message #7 Posted by **Chris Dean** on 24 July 2005, 2:45 p.m.,*
in response to message #6 by Namir

namir

Thanks for the offer but work commitments will not allow going to conferences as I am based in England. I will await the PDFs.

Good luck with the presentation.

Chris Dean

My name in the list (not the HHC2005...)

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 24 July 2005, 6:29 p.m.,*
in response to message #6 by Namir

Hi Namir, all;

this is one of the (so too many) subjects I`d like to enhance my knowledge about. I`m sad I have no means to go to the HHC2005, so please, my name in the list waitting for your papers.

Good luck in your presentation (should it be 'break a leg'?)

Best regards.

Luiz (Brazil)

Re: My name in the list (not the HHC2005...)

*Message #9 Posted by **Namir** on 25 July 2005, 8:17 a.m.,*
in response to message #8 by Vieira, Luiz C. (Brazil)

Thank you guys for yoru comments. Root-finding has been my hobby for the last 30 years!! I recently switched to playing with optimization methods because you can use then to solve multiple nonlienar equations AS WELL AS non-linear regression.

I also have a C# and VB.Net listing of a class that solves for a root of single-variable nonlinear equations and take into account the weaknesses of Newton methods-- low slope value near root and functions with parallel assymptotes (such as artan or tanh functions). I have the pcode for that cobined algorithm, which should appear in the PDF file.

Namir

Re: My name in the list (not the HHC2005...)

*Message #10 Posted by **Vieira, Luiz C. (Brazil)** on 26 July 2005, 1:07 a.m.,*
in response to message #9 by Namir

Hello, Namir;

I`d like to drop you some lines related to numerical root-fiding for your appreciation. The

issue is related to the root-fiding process itself, but probably will not add anything to your words (and presentations) at HHC2005. Would you contact me so I can send you some files?

lcvieira at quantica dot com dot br

Thank you.

Luiz (Brazil)

123456 to remove

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Audio fails on 712/60

*Message #1 Posted by **Mark Bielman (USA)** on 22 July 2005, 6:25 p.m.*

I recently revived a 712/60 (HP-UX 10.20) but the audio is not working. (Aserver not running due to rpcd not running.) The system is NOT connected to a network. Did I mess up on the OS install?

Re: Audio fails on 712/60

*Message #2 Posted by **.** on 23 July 2005, 1:51 a.m.,*
in response to message #1 by Mark Bielman (USA)

Who cares ?!?

Read the name of this forum (MoHPC: The Museum of HP Calculators) and think a little before posting ...

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HP85 Games

*Message #1 Posted by **Mark Bielman (USA)** on 22 July 2005, 6:23 p.m.*

Looking for the GAMES II Pac for HP-85 (00085-13057). Far superior to the GAMES I Pac, GAMES II had such titles as BATS, FATCAT, ASTEROID and (I think) FOOTBALL.

Anyone out there have a copy of this? (my tape has turned to dust!)

Thanks in advance.

Mark

Re: HP85 Games

*Message #2 Posted by **bottles** on 11 Aug 2005, 3:44 a.m.,*
in response to message #1 by Mark Bielman (USA)

I have a copy of this cartridge (the files, the cartridge is long gone) on a hard disk attached to a hp85b. I dont know, however, how to get them off. Any suggestions and I will try to put them on a web page.

Re: HP85 Games

*Message #3 Posted by **Vassilis Prevelakis** on 11 Aug 2005, 12:06 p.m.,*
in response to message #2 by bottles

```
In order to tell you how to transfer stuff off you HP-85, I need to
know exactly what configuration you have. E.g.


        - You have n HP-85B. How much RAM does it have installed?
        - Adapter cards (obviously you have HPIB, anything else?)
        - ROM modules (e.g. EMS ROM, etc)
        - You have a hard disc drive, which model?
        - Floppy drives? (their size and whether they known to work)
        - anything else ...


Also I need to know what "modern" systems you have near the HP-85B
(e.g. PC running Windows/Linux/BSD*, etc.)


**vp
```

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Differences between Classic ROMs from AMI or MOSTEK ?

*Message #1 Posted by **Bernhard** on 22 July 2005, 4:22 p.m.*

Question to the hardware hackers on this list (or maybe a retired HP engineer): is there some particular feature in the two Clocks, SYNC and POR which causes Classic HP Mostek ROMs to fail with a read timing that works with the like AMI parts having the same HP part number ? I have examined signals of CTCs from both Mostek and AMI on the scope and saw no feature that should make such a big diffence between go / nogo. The trouble is, the Mostek ROMs do not start up (they always give out the same dataword on IS) despite the addresses do count up. Seems some state machine within the ROM hangs, so there must be something wrong with the timing sequence, but what detail eluded me I don't know.

Any hint is much appreciated. You may use my above email address but remove everything after the first four lower case digits and the at.

Regards, Bernhard

Re: Differences between Classic ROMs from AMI or MOSTEK ?

*Message #2 Posted by **Michael F. Coyle** on 23 July 2005, 10:44 p.m.,*
in response to message #1 by Bernhard

Hi Bernhard,

I have an old article about the HP-35 which states in part

> Quote:
>
> Production models are either all-AMI or all-Mostek because the two suppliers' chips don't really run well together. Though the parts are the same electrically, the different locations of the precharge make it impossible for the Mostek A&R to operate with the AMI ROMs.

Although they mention a different combination of chips than you do I suspect it's the same problem.

The article also mentions that the prototype HP-35 did use chips from both vendors so apparently some combinations are possible.

Hope this helps.

Michael

Re: Differences between Classic ROMs from AMI or MOSTEK ?

*Message #3 Posted by **Bernhard** on 25 July 2005, 8:08 a.m.,*
in response to message #2 by Michael F. Coyle

Hi Michael,

"different precharge location" - a very good clue, I'll reexamine both AMI and MOSTEK CTCs, ARCs and ROMs again on the scope and watch out for what happens around the clock pulses. Maybe it's a combined effect in the chip set, like in the Woodstocks, where I also had some initital difficulty to operate ROMs without the ACT.

One odd observation, though: the stubborn Mostek ROM I have got is from a fully functional HP55 which has the following strange mix of ICs:

Mostek: RAMs and the 1818-0120 ROM (page 0...3) AMI: CTC, ARC and the two other ROMs

I also have a HP45 with all-AMI chipset except for the Mostek ARC.

Both machines are 1975 vintage. Maybe the progress in process technology since 1973 has helped to relax the timing issue so HP was able to start mixing chips from different manufacturers, but a small difference was left - which is not properly implemented in my current ROM reader hardware. AMI ROMs read perfectly, though.

best regards, Bernhard

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Ghost image on HP 8550N Printer

*Message #1 Posted by **Gulshan Chawla** on 22 July 2005, 1:51 a.m.*

We have received all pages ghost image on next page (in light mode)in HP 8550N Printer...

Re: Ghost image on HP 8550N Printer

*Message #2 Posted by **.** on 22 July 2005, 4:13 a.m.,*
in response to message #1 by Gulshan Chawla

So what ?!?

Read the name of this forum (MoHPC: The Museum of HP Calculators) and think a little before posting ...

Edited: 23 July 2005, 1:51 a.m.

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Any Inside Photos of HP 12C Platinum

*Message #1 Posted by **Jeff** on 20 July 2005, 11:56 a.m.*

I know they are out there. Would anyone mind re-posting those, or e-mailing them to me? Thanks a million!

Re: Any Inside Photos of HP 12C Platinum

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 21 July 2005, 3:02 p.m.,*
in response to message #1 by Jeff

Hi, Jeff;

I have two HP12C Platinum and I can take some pictures of the inside of it (Nikon 3.2MP Coolpix). Should I send them to you by using the e-address you used in this thread? I could also let the pictures available for some time and share the link here.

Some time ago, prior to the HP12Cp being available for sale, G.W. posted some pictures of it, one of them showing the beast´s guts. The Chinese assy is easily verified: a big epoxy bubble in the mid-right of the mainboard and some spare SMD around it. For the sake of technology it's pretty neat, but when we actually think of an HP calculator...

Let me know what you (all) believe is the best choice. Sharing the pictures might be the best choice, though, but I'd like to know what's the best choice.

Cheers.

Luiz (Brazil)

Re: Any Inside Photos of HP 12C Platinum

*Message #3 Posted by **Jeff** on 22 July 2005, 9:50 a.m.,*
in response to message #1 by Jeff

Luiz,

Many thanks. Yes, I recall that Gene posted them here awhile back, but I could never open the images.

Yes, if you could put 'em on this site, I'm sure that others would like that, as well.

Thanks again, Jeff

Inside Photos of HP 12C Platinum

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 22 July 2005, 3:20 p.m.,*
in response to message #3 by Jeff

Hi, Jeff;

it took me more time to squeeze the files in the homepage's available space (had to remove a few) than to take the pictures themselves. Please, check them out:

Click to enlarge http://www.logeng.com.br/images/s_plat_screws.jpg
Prior to open. The new HP12Cp case has some tabs that serve as interlocks. I did not see that comming...

Click to enlarge http://www.logeng.com.br/images/s_plat_inside_.jpg
After removing the back case; and...

Click to enlarge http://www.logeng.com.br/images/s_plat_compon_.jpg
...the componnets themselves.

If you need some better images, let me know. I'll find a way to reduce the camera shaking somehow and try to zoom them in, if needed.

Best regards.

Luiz (Brazil)

Edited: 22 July 2005, 3:29 p.m.

Re: Inside Photos of HP 12C Platinum

*Message #5 Posted by **Jeff** on 24 July 2005, 4:21 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Many thanks!!!!

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9810 restoration - my report

*Message #1 Posted by **marais** on 19 July 2005, 6:19 p.m.*

...for those of you who remember the discussion about my dead 9810 in late december last year, I am glad to report that the machine now works again, at least partially. There is still some work to do on the printer and tape drive units, as well as on the power supply, but the calculator itself works flawlessly. I wrote a report on the repair hoping that it might be helpful to revive other 9810s:

9810 repair job

It's a fascinating machine, and I learned a lot about its architecture. Long live the 9810!

Andreas

Re: 9810 restoration - my report

*Message #2 Posted by **Vassilis Prevelakis** on 20 July 2005, 1:57 a.m.,*
in response to message #1 by marais

Congratulations, very nice page.

I also checked your HP 97 repair page, but since my German is prety weak, I didn't make much out of it.

How about translating that one as well?

**vp

Re: 9810 restoration - my report

*Message #3 Posted by **Tony Duell** on 20 July 2005, 3:36 p.m.,*
in response to message #1 by marais

When you want to sort out the printer or card reader, feel free to contact me. I've taken both sections _totally_ apart, and can explain how they should work and how to repair them.

Re: 9810 restoration - my report

*Message #4 Posted by **marais** on 21 July 2005, 3:50 a.m.,*
in response to message #3 by Tony Duell

Thank you Tony. I will soon replace the faulty 74107 in the printer, and frankly expect it to work right after that - the print head looks like new, as does the motor. The card reader however seems to require more work. I think I'll make it my christmas holiday project.

Re: 9810 restoration - my report

*Message #5 Posted by **don wallace** on 1 Aug 2005, 2:31 a.m.,*

in response to message #4 by marais

Hi Marias,

(Guten Tag!)

Had a look at your 9810 page; really cool!

I am wondering if you also have a failed driver transistor on the output side of the 74107 motor "state machine" logic?

Just a thought.

Kind regards from Down Under!

Don W

Re: 9810 restoration - my report

*Message #6 Posted by **marais** on 1 Aug 2005, 2:47 a.m.,*
in response to message #5 by don wallace

Don, that's quite likely, but these don't worry me, as I got plenty of transistors in my spare parts box. As soon as I found out that the 107 FF was dead, I did not bother to look any further. Maybe I'm in for a surprise when I replace the 107 - I'll keep reporting. Thank you for your suggestion!

Andreas

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33s -- Newton's Method

*Message #1 Posted by **Tim Wessman** on 19 July 2005, 4:01 p.m.*

As my teacher was talking (for a rather long time--I've teaken the class before) about newton's method in calculus I started trying to make a program on my 33s for calculating it step by step. I know the solver does basically the same thing, but it was really driving me nuts that I couldn't get something working.

Does anyone have a working newton's method program on their calcs that I could look at for starting? I haven't done much programming yet on the 33s. Is there a way to evaluate an equation from my list? Or would I have to edit my program for each equation?

TW

Re: 33s -- Newton's Method

*Message #2 Posted by **José Lauro Strapasson** on 19 July 2005, 8:28 p.m.,*
in response to message #1 by Tim Wessman

Here is a program to calculate with Newton methold. It is not for 33S but for Ada95 language (like Pascal), maybe it helps.

P.S. I have a 33S too (not that bad) I will try on it too!:)

with Ada.Float_Text_IO, Ada.Numerics.Elementary_Functions, Text_IO, Ada.Integer_Text_IO; use Ada.Float_Text_IO, Ada.Numerics.Elementary_Functions, Text_IO, Ada.Integer_Text_IO;

procedure Newton is

X1:Float; N:Integer;

function Funcao (X:Float) return Float is Y:Float; begin --Put here your function Y:=(abs(X))**2.0 - 5.0 * X + 4.0; return Y; end Funcao;

function Derivada (X:Float) return Float is YLinha,variacao:Float; begin Variacao:=abs(X/1000.0); --This gives the precision. YLinha:=(Funcao(X+Variacao)-Funcao(X))/Variacao; return Ylinha; end Derivada;

begin Put_Line("Enter X1 (not zero)"); Get(X1); Put_Line("Enter the number of interactions:"); Get(N);

for A in 1..N loop Put_Line("F(X" & Integer'Image(A) & ") is : "); Put(Funcao(X1)); New_Line; Put_Line("F'(X" & Integer'Image(A) & ") is : "); Put(derivada(X1)); New_Line; Put_Line("X" & Integer'Image(A+1) & " vale: "); X1:=X1- (Funcao(X1)/derivada(X1)); Put(X1); New_Line; end loop;

end Newton;

Re: 33s -- Newton's Method

*Message #3 Posted by **José Lauro Strapasson** on 19 July 2005, 9:35 p.m.,*

in response to message #1 by Tim Wessman

Hi!

Here is your program. Write your function in program F using X as RCL X. (In the case shown it is x^2-5x+4) Put the initial value in A memory (STO A) Then XEQ N, XEQ N, XEQ N! Have fun!

José Lauro.

P.S. 1000.000 is for the derivative. To create the delta. P.S.2 Could someone delete my other message? Thank you!

LBL F RCL X 2 y^x RCL X 5 x - 4 + RTN

LBL D RCL A 1000000 / STO V RCL A RCL V + STO X XEQ F STO D RCL A STO X XEQ F STO –D RCL V STO / D RCL D RTN

LBL N RCL A STO X XEQ F STO N RCL A STO X XEQ D STO / N RCL A RCL N - STO A RTN

Re: 33s -- Newton's Method

*Message #4 Posted by **Karl Schneider** on 20 July 2005, 2:52 a.m.,*
in response to message #1 by Tim Wessman

Tim --

The 33S, as well as the predecessor 32SII and 32S upon which it was based, all include the SOLVE function. Therefore, I doubt that there would be a Newton's Method program in the manuals, because such a capability is already built in.

The programming and letter-variable paradigm is unique to those three models. However, there is an RPN-based Newton's Method program starting on p. 154 of the HP-11C manual.

Also, there are TVM Equation programs in the HP-11C manual (starting on p. 189) and in the HP-41 Finance and Advantage ROM's. These programs include code to iteratively solve for interest rate in terms of the other four variables, since no direct equation can be derived.

The HP-11C manual is on CD #1 of the MoHPC set for purchase.

-- KS

Re: 33s -- Newton's Method

*Message #5 Posted by **Tim Wessman** on 20 July 2005, 10:16 a.m.,*
in response to message #4 by Karl Schneider

thanks for the program, and the info. It gives me a place to start at so I can see how to start programming this little beast. =)

TW

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The New HP Way: Cut More Jobs

*Message #1 Posted by **I, Claudius** on 19 July 2005, 8:19 a.m.*

http://news.bbc.co.uk/1/hi/business/4696567.stm

http://money.cnn.com/2005/07/19/technology/hp_restructuring/index.htm

Edited: 19 July 2005, 8:22 a.m.

Re: The New HP Way: Cut More Jobs

*Message #2 Posted by **Arnaud Amiel** on 19 July 2005, 9:26 a.m.,*
in response to message #1 by I, Claudius

These are big cuts indeed. In an other article I read that the cuts will concentrate on where hp does not meet its competitors' performance. How will this affect the calculators division?

Edited: 19 July 2005, 9:26 a.m.

Re: The New HP Way: Cut More Jobs

*Message #3 Posted by **Jim Creybohm** on 19 July 2005, 9:39 a.m.,*
in response to message #2 by Arnaud Amiel

Those of us who are facetious would say "Not at all".

Seriously though, I am glad to see that some of the cuts are coming into the accounting sections and the IT group. (IT group? The hardware people, the software people, or the support people?)

Having said that however, I am less inclined to think that the calculators division will survive the next four years unless they find a killer application/platform.

12345

Re: The New HP Way: Cut More Jobs

*Message #4 Posted by **Bill Wiese** on 19 July 2005, 3:39 p.m.,*
in response to message #2 by Arnaud Amiel

I'm hearing that lots of the cuts will be in services/support groups - the 'consulting' groups that compete w/Big 4 accounting firms, IBM, Sun etc for customer tech implelemtations.

From what I've heard, much of the cuts in these groups will happen in Europe, apparently. IBM did this too a few months ago. European econimic growth just isn't there.

The calculator group is so small CEO Mark Hurd may not even know it exists. Dollar-wise compared to HPs other groups it's "in the noise". Even if it were brilliantly executing and was growing well it could still be cut since it's "small potatoes".

Bill Wiese
San Jose CA

Re: The New HP Way: Cut More Jobs

*Message #5 Posted by **Arnaud Amiel** on 20 July 2005, 3:32 a.m.,*
in response to message #4 by Bill Wiese

> Quote:
>
> Even if it were brilliantly executing and was growing well it could still be cut since it's "small potatoes".

That is what I fear.

Re: The New HP Way: Cut More Jobs

*Message #6 Posted by **Eric Smith** on 19 July 2005, 2:51 p.m.,*
in response to message #1 by I, Claudius

A better solution would be for them to build a "B Ark" for the upper and middle management. But managers usually aren't willing to lay themselves off; they blame any problems on their underlings, who blame it on theirs, and so it's the individual workers, most of whom were hard-working and contributing directly to the bottom line, who get sacked. The managers that made the stupid decisions that hurt the company's P&L usually stick around forever.

Sigh.

Re: The New HP Way: Cut More Jobs

*Message #7 Posted by **Pierre Lagrange** on 19 July 2005, 4:45 p.m.,*
in response to message #6 by Eric Smith

Hi,

I suggest you look at the press release from this afternoon. The remarks made here are more or less very different from the real story and do not give credit to the big design behind the change plan.

Pierre

Re: The New HP Way: Cut More Jobs

*Message #8 Posted by **Frank K** on 21 July 2005, 6:51 a.m.,*
in response to message #7 by Pierre Lagrange

Let's face it, this is still fall out and clean up from lack of performance under Carly along with Compaq acquisition. I'd still like to see HP return to the company it once was, but it's probably not in the cards.

Re: The New HP Way: Cut More Jobs

*Message #9 Posted by **Jim Creybohm** on 22 July 2005, 9:35 a.m.,*
in response to message #8 by Frank K

Not to beat a dying or dead horse, but this morning (July 22/05) I read that HP has disbanded it

Advanced SOftware Research Team and laid off Alan Kay - inventor and visionary.

Oh yeah, HP is definitely on the right track....

Re: The New HP Way: Cut More Jobs

*Message #10 Posted by **Eddie Shore** on 22 July 2005, 10:13 a.m.,*
in response to message #1 by I, Claudius

BOOOOOOOOOOO!!!! Sorry, but I always hate it when companies cut thousands of jobs.

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An alternative HP-42S/Free42 Manual.

*Message #1 Posted by **José Lauro Strapasson** on 18 July 2005, 11:55 p.m.*

Hi There!

As it is hard to find the HP-42S manual I decided to create my own. It is in very begining stage and can be download at:

http://joselauro.tripod.com/chp.html

José Lauro. Brazil.

Re: An alternative HP-42S/Free42 Manual.

*Message #2 Posted by **Richard Garner** on 19 July 2005, 6:39 p.m.,*
in response to message #1 by José Lauro Strapasson

Nicely written so far. I am looking forward to reading more as you continue. I did find in section 2.7 where you first describe how the stack works. In ii and iii you swapped the T and Z registers. Other than that what you have started looks great.

Re: An alternative HP-42S/Free42 Manual.

*Message #3 Posted by **José Lauro Strapasson** on 19 July 2005, 8:18 p.m.,*
in response to message #2 by Richard Garner

Thank you very much!

P.S. It is said to realize that texas instruments give information about retired models and HP doesn't.:(And I bought a TI-36X Solar model from 1992 and even today the TI-36X solar is being manufactured while HP-48G, HP-42S, etc are long gone.:(

Re: An alternative HP-42S/Free42 Manual.

*Message #4 Posted by **José Lauro Strapasson** on 22 July 2005, 8:59 p.m.,*
in response to message #1 by José Lauro Strapasson

Hi There!

I just finished another version. It is at:

[link: http://jlstrapasson.sites.uol.com.br/42s.pdf] http://jlstrapasson.sites.uol.com.br/42s.pdf[/link]

José Lauro.

P.S. Dear Richard, I did not find the bug you talked about.:(

Re: An alternative HP-42S/Free42 Manual.

*Message #5 Posted by **Richard Garner** on 23 July 2005, 12:21 a.m.,*
in response to message #4 by José Lauro Strapasson

In section 2.7 you have:

i) The content of lines t and z are lost. ii) The content of line y goes to line t. iii)The content of line x goes to line z. iv)The content just entered goes to line y and line x.

Should it not read this way:

i) The content of line t is lost. ii) The content of line z goes to line t. iii)The content of line y goes to line z. iv)The content just entered goes to line y and line x.

I look forward to reading you new additions.

May I? (was: An alternative HP-42S/Free42 Manual.)

*Message #6 Posted by **Vieira, Luiz C. (Brazil)** on 23 July 2005, 3:07 p.m.,*
in response to message #5 by Richard Garner

Hi, Richard;

first of all, I`m sorry taking the priviledge of answering (espero que o José Lauro me perdoe - I hope José Lauro forgives me), but if you consider that the example José Lauro uses in his book is based on the sequence (2 [ENTER]), then his explanation is correct, meaning he considers the first and last stack contents in one shot. In this case, his analysis considers that the stack contents are liftted twice, one time after [2] and another time after [ENTER^].

Those who already know the stack lifting, enabling/disabling 'nuts and bolts' should take care when reading, but those who do not know the stack and are reading for the first time it might need some experiments to understand it in practice. Please, take this as my personal view.

Best regards.

Luiz (Brazil)

Edited: 23 July 2005, 3:10 p.m.

Re: May I? (was: An alternative HP-42S/Free42 Manual.)

*Message #7 Posted by **José Lauro Strapasson** on 23 July 2005, 9:15 p.m.,*
in response to message #6 by Vieira, Luiz C. (Brazil)

Ops, This things happens!:):) In fact when you type something enter this enter two times and we lost the content of the last two lines. (at least in Free42) Thank anyway Richard!:) And Thank you Luiz too! By the way Luiz, do you have an account in orkut? I am there now in a section about HP calculators (in portuguese).

P.S. As I said I finished version 0.2.;)

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Display polish on vintage calculator displays?

*Message #1 Posted by **Arne Helme** on 18 July 2005, 2:00 a.m.*

Question: have any of you tried to remove scratches from vintage calculator displays (transparent or red) using display polishers such as the one sold under the name Displex? It's being advertised as doing wonders to the screens of mobile phones, PDAs, etc. I am just curious whether it will work on older synthetic materials too.

-- Arne

Re: Display polish on vintage calculator displays?

*Message #2 Posted by **Ronald** on 18 July 2005, 5:03 a.m.,*
in response to message #1 by Arne Helme

Hi,

My 2 cents: The polish works fine, only you loose the mate gloss of the display...

So at the end of the day it is a question of keeping the original little bit mate gloss and keeping it original or if loosing this and having a mirror in which you can comb you hair.

Personnaly I keep it original unless it is really badly damaged.

Ronald

Re: Display polish on vintage calculator displays?

*Message #3 Posted by **S. Martin** on 18 July 2005, 9:20 a.m.,*
in response to message #1 by Arne Helme

A very good product for LCD displays (HP 41 series, voyager series, etc...) is CrystalClear sold by Pinnacle supplies. It will make these types of displays look brand new.

Pinnacle Supplies CrystalClear

Re: Display polish on vintage calculator displays?

*Message #4 Posted by **Albert** on 19 July 2005, 5:04 p.m.,*
in response to message #1 by Arne Helme

Hi, You can use the classical toothpaste with a cotton cloth or handkerchief. Regards, Albert

Re: Display polish on vintage calculator displays?

*Message #5 Posted by **John L. Shelton** on 20 July 2005, 2:39 a.m.,*
in response to message #1 by Arne Helme

On HP calculators, you can't use polish.

You have to use "reverse" polish.

<g>

Re: Display polish on vintage calculator displays?

*Message #6 Posted by **Arne Helme** on 20 July 2005, 2:45 a.m.,*
in response to message #5 by John L. Shelton

> Quote:
>
> On HP calculators, you can't use polish.
>
> You have to use "reverse" polish.
>
> <g>

Very funny! Thanks for the input :-)!

Arne

Re: Display polish on vintage calculator displays?

*Message #7 Posted by **don wallace** on 1 Aug 2005, 2:42 a.m.,*
in response to message #6 by Arne Helme

Hi Arne!

Yeah, as Albert says, toothpaste works fine as he suggested.

I use it sparingly on cotton wool to buff CDs and have done for 13 years, a few years before the CD repair "kits" came out.

If you can polish polycarbonate and perspex (and LEXAN) with toothpaste, then i think "reverse polish" is ok to use on the calcs. I'd watch how wet you got the cotton wool, though of course!

The key factor is the SIZE OF the PARTCLES in the paste.

Many years ago I built a 12" mirror (4 a reflecting telescope) so I picked up info on the physics of polishing versus grinding. In polishing, abrasive particles are fixed in a matrix which is dragged across the surface to be polished. In grinding the particles are free to roll around and do more "damage".

Cheers from Down Under,

Don W

Re: Display polish on vintage calculator displays?

*Message #8 Posted by **Paul Brogger** on 1 Aug 2005, 12:18 p.m.,*
in response to message #1 by Arne Helme

I've used Bon-Ami cleanser successfully on a large polycarbonate thermometer lens/cover. It ground out a lot of surface checking & scratches, leaving a very slightly "fogged" finish which then was clarified with a coat of

Armor-All.

But I haven't tried it on a calculator yet, so proceed with caution, and try a test application on a scrap unit before proceeding with something valuable.

Whatever you use, good luck! (& let us know how it turns out.)

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Questions about the RDM Command

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 17 July 2005, 10:35 p.m.*

I was working with the 7x7 Hilbert on my HP-28S and decided that I wanted to work with the 5x5. I placed the 7x7 in level 2, placed {5,5} in level 1, and hit RDM. I didn't get a 5x5 Hilbert. Instead I got the following

```
  1     1/2     1/3     1/4     1/5

1/6     1/7     1/2     1/3     1/4

1/5     1/6     1/7     1/8     1/3

1/4     1/5     1/6     1/7     1/8

1/9     1/4     1/5     1/6     1/7
```

Wow! I decided to follow the advice I have often given to others "When all else fails, try reading the instructions." I found that my strange result was due to the way the 28 (and the 49) does a Redimension. Quoting from HP28S Reference Manual:

"... Elements taken from array1 preserve the same row order in array2. If array2 is dimensioned to contain fewer elements than array1, excess elements from array1 at the end of the row order are discarded. ..."

Once I understood what RDM did I could get from the 7x7 to the 5x5 with the following sequence:

7x7 matrix in level 1

{ 5,7} in the display

Press RDM - Discards the bottom two rows of the 7x7

Press TRN - Moves the 6th and 7th columns to the 6th and 7th rows

{5,5} in the display

Press RDM - Discards the 6th and 7th rows, which were the 6th and 7th columns

Press TRN

I now have a 5x5 matrix using the 5x5 elements from the 7x7 matrix. Of course, when working with symmetric matrices like the Hilberts I do not have to do the final TRN.

I have two questions:

Is there an easier way to accomplish the desired task?

What is an application for the RDM function as mechanized?

Re: Questions about the RDM Command

*Message #2 Posted by **chris dean** on 18 July 2005, 12:40 p.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Palmer

Surely it would have been easier to generate the new Hilbert matrix using a(i, j) = 1 / (i + j - 1) but this spoils the fun/challenge, doesn't it?

I would imagine most people would only use it to increase the size of matrices but they have covered themselves for the reduction process. The algorithm you have used to create the 5x5 appears correct mathematically.

Chris

Re: Questions about the RDM Command

*Message #3 Posted by **Palmer O. Hanson, Jr.** on 18 July 2005, 10:00 p.m.,*
in response to message #2 by chris dean

When I try to go the other way, say from a 5x5 to a 7x7, by placing the 5x5 in level 2, placing {7,7} in level 1 and pressing RDM I get

```
 1      1/2     1/3     1/4     1/5     1/2     1/3

1/4     1/5     1/6     1/3     1/4     1/5     1/6

1/7     1/4     1/5     1/6     1/7     1/8     1/5

1/6     1/7     1/8     1/9      0       0       0

 0       0       0       0       0       0       0

 0       0       0       0       0       0       0

 0       0       0       0       0       0       0
```

Double Wow! But, again, reading the manual explaiins what happened:

"...If array2 is dimensioned to contain more elements than array1, the additional elements in array2 at the end of the row order are filled with zeroes ..."

You are correct in surmising that my interest in this goes beyond finding an easy way to change the dimensions of Hilbert matrices using the HP-28S. One of my interests is in collecting calculators, and I am particularly interested in those machines which exhibit characteristics of which I would say "Why in the world did the manufacturer do it that way?" An obvious example is "Why did TI make the TI-59 with a multiply that was not commutative?"

The Dimension command (dim) in machines such as the TI-83+ and TI-85 does redimensioning as I would expect. The RDM command in machines such as the HP-28S and HP-49G doesn't. So I am asking "Does anyone know of an application where the RDM mechanization makes sense?"

Re: Questions about the RDM Command

*Message #4 Posted by **chris dean** on 19 July 2005, 6:10 a.m.,*
in response to message #3 by Palmer O. Hanson, Jr.

I cannot think why it is done like this. The algorithm seems to be very naive.

Re: Questions about the RDM Command

*Message #5 Posted by **Thomas Okken** on 19 July 2005, 6:55 a.m.,*
in response to message #3 by Palmer O. Hanson, Jr.

It makes sense only from an implementation standpoint. Bear in mind that internally, a matrix is stored as a one-dimensional array; depending on the platform or programming language you're using, that array can be organized in "row-major" or "column-major" order.

For example, the matrix

```
1   2   3
1   4   9
```

Would be stored as [1 2 3 1 4 9] in row-major order, or as [1 1 2 4 3 9] in column-major order.

The HP-28 and 48 series, and the HP-42S, store matrices in row-major order. The behavior of the RDM function (DIM on the 42S) that you describe is caused by the fact that these machines only resize the array, but don't make any effort to keep matrix elements at the same row/column positions.

- Thomas

Re: Questions about the RDM Command

*Message #6 Posted by **Chris Dean** on 19 July 2005, 1:33 p.m.,*
in response to message #5 by Thomas Okken

I think the conclusion is that RDM is great for 1 dimensional arrays otherwise use with care.

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HP-29C Schematic/pin out

*Message #1 Posted by **Carlos** on 17 July 2005, 12:42 p.m.*

In order to fix a HP-29C I'm looking for a schematic, IC's pin out or any other technical information. Thanks in advance. Carlos

Re: HP-29C Schematic/pin out

*Message #2 Posted by **Eric Smith** on 17 July 2005, 5:55 p.m.,*
in response to message #1 by Carlos

http://www.hpcc.org/cdroms/

Re: HP-29C Schematic/pin out

*Message #3 Posted by **Carlos** on 18 July 2005, 7:39 a.m.,*
in response to message #2 by Eric Smith

Thank you very much Eric. Carlos

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32SII Repair

*Message #1 Posted by **Neil Thomason** on 17 July 2005, 8:34 a.m.*

After following 32SII deconstruct instructions I am now at the reconstruct stage, however I did not take note of the "Zebra stripe's" orientation and a gut feeling tells me this is can be a show stopper.

The "zebra stripe" is one of the 2 the rubber spacers located between the LCD and the PCB. Its footprint matches the pinouts on the PCB and it may act as a ground or something.

if any one out there has useful info. Please advise

Re: 32SII Repair

*Message #2 Posted by **John Limpert** on 17 July 2005, 12:44 p.m.,*
in response to message #1 by Neil Thomason

Zebra stripes are use to connect signals between two assemblies, like a main board and a daughter board. They are composed of alternating sections of conductive and non-conductive material, hence the striped appearance. If you look at the signal contacts on each assembly, the placement of the zebra stripe should be obvious. Each dark section of the zebra stripe behaves like a jumper wire, connecting the adjacent contacts on the assemblies.

Re: 32SII Repair

*Message #3 Posted by **Neil Thomason** on 17 July 2005, 3:42 p.m.,*
in response to message #2 by John Limpert

Thanks John, I suspected somthing like this but what threw me was no signal when I dropped my tester along the dark stripe.

Best regards nth

Re: 32SII Repair

*Message #4 Posted by **Neil Thomason** on 17 July 2005, 4:02 p.m.,*
in response to message #3 by Neil Thomason

P.S. I am assuming Dark side faces PCB

Re: "Zebra stripes"

*Message #5 Posted by **Paul Brogger** on 18 July 2005, 12:11 p.m.,*
in response to message #2 by John Limpert

I've only seen the "Zebra stripe" appearance in those from the earliest LCD calculators (not necessarily H-P) that I've disassembled. The most "zebra-like" examples I remember were strips of mylar (perhaps) with parallel conductive traces, wrapped around a squishy rubber core.

Later versions are rubbery (insulating) strips with conductors somehow embedded. In my experience, there isn't necessarily an obvious color coding to indicate which sides are conductive. Neither is it easy to determine with a multimeter, as the conductors themselves are tantamount to individual, fine wires, and it's hit-or-miss when you're trying to touch both sides of the thing with probes.

Also, while orientation is all-important, alignment isn't necessarily an issue for the later types. The pitch of the conductor grid being MUCH finer than that of the PCB/LCD contacts, when placed in approximation, correct connection of the various pads is virtually guaranteed, regardless of the left-to-right alignment of the conductor strip itself.

FYI

Re: "Zebra stripes"

*Message #6 Posted by **Neil thomason** on 18 July 2005, 8:18 p.m.,*
in response to message #5 by Paul Brogger

Hi Paul,

Repair now completed and tested, correct orientation for the zebra stripes is as follows:

Upper spacer dark stripe against LCD with white facing top of calculator Lower spacer dark stripe against LCD with white facing bottom of calculator

Thanks to all

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HP-41 Ultimate Alarm Clock - merchandise!

*Message #1 Posted by **Geir Isene** on 17 July 2005, 3:56 a.m.*

Update: The merchandise for the project is now available at this place.

The only thing missing is the T-shirt with the code listing on the back. This will be available as soon as the demand is high enough (around 1000 requests for the T-shirt will do).

As the number of test users has increased by around 100% the last week, version 0.5.1 is soon production ready. Stay tuned.

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Voyager feet

*Message #1 Posted by **Robert Hobbs** on 16 July 2005, 3:14 p.m.*

Hello, I am new to the forum and have some questions about voyager feet. I searched the archives and did not find a thread on this. Have I overlooked something?

I have two questions, the first is simple: Is there a source for replacement feet or the feet material (and glue)?

My second question has to do with the views of collectors on replacement feet. The situation arises because I acquired an HP-15c with rough-cut replacement feet. As I was thinking of getting feet for my main calculator anyway, I thought I would replace the poor ones on the other calculator. Then I began to wonder what collectors thought. Is a repaired calculator less valuable than an original? Does it depend on the quality of the repair or simply on the fact of the repair as it would for some other types of collectibles?

Thank you in advance for your thoughts on these questions.

Edited: 16 July 2005, 3:16 p.m.

Re: Voyager feet

*Message #2 Posted by **Chris dean** on 16 July 2005, 4:19 p.m.,*
in response to message #1 by Robert Hobbs

Look at item 5790041392 on ebay.

Re: Voyager feet

*Message #3 Posted by **Robert Hobbs** on 16 July 2005, 10:28 p.m.,*
in response to message #2 by Chris dean

Hey thanks! That is the first half solved. Since hp still makes the 12c, do they provide these feet?

Re: Voyager feet

*Message #4 Posted by **Chris Dean** on 18 July 2005, 12:17 p.m.,*
in response to message #3 by Robert Hobbs

Robert

I am surprised no one else has responded. I would expect that serious collectors would possibly do their own maintenance. If you are worried and you want to sell the calculator just advertise it as the calculator including a set of replacement Voyager feet not fitted.

Chris

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Tips on Getting Publishing Permission

*Message #1 Posted by **Howard Owen** on 16 July 2005, 1:40 p.m.*

I just obtained a copy of "The HP-IL SYSTEM: An Introductory Guide to the Hewlett-Packard Interface Loop." With a view toward preservation, I've diassembled the book, which was having problems with the binding anyway, and scanned it into a PDF. I'd love to share this with the community. The copyright is held by "OSBORNE/McGraw-Hill" and is dated 1982.

It appears the above named entity may be the education division of McGraw-Hill now. I've found the address to write to in order to ask permission to redistribute "portions" of McGraw-Hill copyrighted material. What I want is to ask for permission to redistribute the whole enchilada. Basically, this would mean abandoning the copyright.

I have no idea how likely it is that McGraw-Hill will agree to this, but here is my pitch:

- The book is highly specialized and long out of print
- HP has made most of the source documents referred to free to redistribute
- There is a vibrant (take a bow) though small community with an interest in the material contained in the book.
- I'm not interested in making money off the text. I just want to add it to the public corpus of knowledge.
- Won't you please please please help?

As I say, I have no idea if this pitch will work. What do folks here think? Is there a way I can increase the (rather long, I think) odds that McGraw-Hill will be generous?

Thanks.

Re: Tips on Getting Publishing Permission

*Message #2 Posted by **John L. Shelton** on 16 July 2005, 1:45 p.m.,*
in response to message #1 by Howard Owen

Naturally, you will want to give them a copy of your PDF. You will state clearly that rights remain with the publisher, and all your copies will reflect that. Perhaps you can also inform them of various places that are accepting digitized book content "for the ages" (incuding MoHPC) so they see this is not just a one-of-a-kind effort.

Re: Tips on Getting Publishing Permission

*Message #3 Posted by **Howard Owen** on 16 July 2005, 3:03 p.m.,*
in response to message #2 by John L. Shelton

I'd be submitting my request on paper, so I can't include the PDF. I can offer to include any disclaimer or rights statement they might wish to add, however.

I guess your second point would fit pretty neatly in between the third and fourth bullets above.

Re: Tips on Getting Publishing Permission

*Message #4 Posted by **Eric Smith** on 16 July 2005, 5:03 p.m.,*
in response to message #2 by John L. Shelton

> Quote:
>
> Naturally, you will want to give them a copy of your PDF.

Um, no, you don't want to provide them with evidence that a copyright they hold has already been infringed. Converting a book to PDF, even just for your own use, is not clearly within the bounds of "fair use". Better to present a hypothetical question.

> Quote:
>
> Perhaps you can also inform them of various places that are accepting digitized book content "for the ages"

Been there, done that. Doesn't impress them, at least not in a positive way.

Eric

Re: Tips on Getting Publishing Permission

*Message #5 Posted by **Eric Smith** on 16 July 2005, 5:00 p.m.,*
in response to message #1 by Howard Owen

Your best bet is if the rights reverted to the author (Kane, IIRC). If not, you face an uphill battle.

I've been through this before. Publishers in general, and McGraw-Hill in particular, are not very willing to grant permission for reproduction of a complete work, even if it's something out of print and not generating any revenue. They are accustomed to granting permission for small excerpts or a chapter or two.

If I were doing this, my first question to them before even broaching the subject of permissions would simply be to ask if they have retained the copyright, or if it has reverted.

Eric

Re: Tips on Getting Publishing Permission

*Message #6 Posted by **Massimo Gnerucci (Italy)** on 16 July 2005, 5:38 p.m.,*
in response to message #1 by Howard Owen

Hi Howard,
if I am not wrong I think that it is already available on **TOS** or, at least, it was.

I have this book too and made a PDF scan for my own use a couple of years back.

Greetings,
Massimo

Re: Tips on Getting Publishing Permission

*Message #7 Posted by **Dave Hicks** on 16 July 2005, 5:50 p.m.,*
in response to message #1 by Howard Owen

For what it's worth, I tried and failed to get permission for that book from the publisher last year.

Re: Tips on Getting Publishing Permission

*Message #8 Posted by **Howard Owen** on 16 July 2005, 7:49 p.m.,*
in response to message #7 by Dave Hicks

Now **that's** interesting. What sort of approach did you try? Did you write to the address given at http://www.mhhe.com/catalogs/cust_serv/permissions.mhtml ? What was the response if any?

Thanks for any insight you can offer. It could save me time on the one hand, or make my pitch more effective on the other. 8)

Re: Tips on Getting Publishing Permission

*Message #9 Posted by **Dave Hicks** on 16 July 2005, 8:11 p.m.,*
in response to message #8 by Howard Owen

Yes I wrote to that address. There were two letters from them and two from me over several months but I'm not sure where I filed them. I'll look around some more. As I recall it was a fairly vague bureaucratic non-affirmative kind of semi-answer.

Re: Tips on Getting Publishing Permission

*Message #10 Posted by **Howard Owen** on 16 July 2005, 10:32 p.m.,*
in response to message #9 by Dave Hicks

Ah, yes. A FVBNAKOSA. It's the kind of thing you get when you ask a corporate lawyer anything of substance. 8)

May I suggest...(was: Tips on Getting Publishing Permission

*Message #11 Posted by **Vieira, Luiz C. (Brazil)** on 16 July 2005, 9:50 p.m.,*
in response to message #1 by Howard Owen

Hi Howard, guys;

Howard wrote:

> Quote:
>
> HP has made most of the source documents referred to free to redistribute

As the codes from HP are free for redistribution, I'd volunteer myself to take the scanned images where the original HP codes are shown, cut them, úse an OCR to generate an ASCII equivalent text and send it back to you so you could release the codes in an original PDF file with the necessary comments of what can be done with the programs or the keystrokes, if applicable, without using the original text from the book. We have many known contributors that are experts on dealing with HPIL that could also add some original remarks, making this suggested original PDF even better. I guess you could also refer to both HP and the book as the sources, plus the names of all contributors who added something to the final text and McGraw Hill publishers will not be able to complaint for that (hope they are not reading this...)

I am trying to finish some repairs in some HP calculators with me (one CX mainboard that belongs to M.B., one HP29C that belongs to R.T. and two HP41 plus three HP25 that belong to J.E.), and I believe I'm having

time to generate these listings when taking a time to think of what to do next (I also have a few other HP calculator related activity, but they are not repair activities). If you actually can do that - use an OCR and generate typed text or simply key the programs in and save the final listings somehow - and you are willing to go ahead, wow! We will all be grateful. Otherwise, have you found yourself needing some help, let us know.

Best regards.

Luiz (Brazil)

Re: May I suggest...(was: Tips on Getting Publishing Permission

*Message #12 Posted by **Howard Owen** on 16 July 2005, 10:42 p.m.,*
in response to message #11 by Vieira, Luiz C. (Brazil)

Thanks for the offer, Luiz.

Unfortunately, it's not that kind of a book. It's a very detailed and technical description of HP-IL, but there isn't a single byte of actual code or a program listing anywhere. All of the information covered is in the other docs, such as the chip description, the spec and the technical notes. But the book's value is in organizing this information in a concise and readable form. Unfortunately, that's exactly the stuff that is covered by copyright.

I'm going to try to pick up where Dave left off in getting permission for publication. Eric's suggestion of asking whether M-H still retains the copyright is a good one. (But did Dave ask this question?) Otherwise, I think I will try to slip the request in to the company through the general legal department. The education legal department is set up to say "yes" to requests from educators for limited copying. I suspect they would say "no" to a request like this as a matter of reflex.

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HP 42S Programming

*Message #1 Posted by **Bob Demers** on 16 July 2005, 7:58 a.m.*

Hi all,

I just came across a quadratic formula program that that I do not know how to enter. One of the lines is STO: ST Z and another line is simply :

Can anyone help.

Thanks,

Bob Demers

Re: HP 42S Programming (corrected)

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 16 July 2005, 9:23 a.m.,*
in response to message #1 by Bob Demers

Hi, Bob;

the HP42S, as the HP41, allows the contents of the X-register to be directly sotred in any of the stack registers (as you probably know).

When you press [STO][.] in the HP41, you can add any of the following: [X], [Y], [Z], [T] or [L] (no need to press [ALPHA]. In the HP42S, you should press [STO][.] (wrongly posted as [shift], orange key) and locate the equivalent register is the softkeys: [ST X] for X-register, [ST Y] for Y-register and so.

If you want to use a valid register as for an index (IND) with [STO], in the HP41 you´d use [STO][shift] (golden key)and select a numbered register, or [STO][shift][.] and any stack-related key, as mentioned above. In the HP42S, the sequence should be [STO][.] and the softkey [IND] plus any valid register. If you choose either a numbered or a named register, simply idnetify it after the [IND] softkey. For a stack register identificator, you should press [STO][.][IND] and [.] again to invoke the stack-related softkeys again. I have no calculators in hands right now, so please, forgive me if I'm adding a senseless sequence.

> Quote:
>
> One of the lines is STO: ST Z and another line is simply :

I don´t recall having the ':' as a separated operation; could it be an ALPHA sequence, like

```
02 ":"
```

I don't know where did you take the listings from, but could you add the complete listing here for us? Is it in the HP42S manual?

Hope you succeed.

Luiz (Brazil)

Edited: 16 July 2005, 1:40 p.m. after one or more responses were posted

Re: HP 42S Programming

*Message #3 Posted by **Bob Demers** on 16 July 2005, 9:32 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Luiz,

Wow, that was fast. The program was taken from this site and I have included the link below.

Thanks for your very fast response.

Bob Demers

http://www.hpmuseum.org/software/42squad.htm

Re: HP 42S Programming (corrected)

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 16 July 2005, 10:50 a.m.,*
in response to message #3 by Bob Demers

Hi, Bob;

it seems to me that the ':' is, in fact, a division symbol (÷). In this case, the STO÷ ST Z is keyed in with:

```
[STO][÷][.][ST Z]
```

The other occurrences of ':' in the program (step #05 and step #08) should also be keyed in accordingly, with [÷].

Hope this is correct (I'm not home yet to test the program).

Best regards.

Luiz (Brazil)

Edited: 16 July 2005, 1:41 p.m. after one or more responses were posted

Re: HP 42S Programming

*Message #5 Posted by **Bob Demers** on 16 July 2005, 11:19 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

That's it!!

Thanks,

Bob Demers

Re: HP 42S Programming

*Message #6 Posted by **Chas** on 16 July 2005, 12:16 p.m.,*
in response to message #5 by Bob Demers

Thanks Bob and Luis, I've choked on that dang *:* for months ! !

Re: HP 42S Programming

*Message #7 Posted by **Bob Demers** on 16 July 2005, 12:24 p.m.,*
in response to message #6 by Chas

I'm glad that I'm not the only one!!

Bob

MAIN CORRECTIONS in my answers (was: HP 42S Programming)

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 16 July 2005, 1:44 p.m.,*
in response to message #7 by Bob Demers

Hi, all;

I`m home now and I see that I wrongly used [STO][shift] for the HP42S all of the times where [STO][.] is the correct keystroke sequence. Please, read again my posts above, in this thread, if you did not get to the correct sequence:

My first answer (post)
My second answer (post)

Thank you all and, please, forgive me.

Luiz (Brazil)

Edited: 16 July 2005, 1:52 p.m.

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Look !!! HP42S = or > $500 !!!

*Message #1 Posted by **Gileno** on 16 July 2005, 7:33 a.m.*

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=5788434465&category=58039&rd=1

Re: Look !!! HP42S = or > $500 !!!

*Message #2 Posted by **Namir** on 16 July 2005, 9:30 a.m.,*
in response to message #1 by Gileno

Both seller and current high bidder have a zero feedback. Makes me wonder!!!

Namir

MUST be dreaming...

*Message #3 Posted by **Johnny Bjoern Rasmussen** on 16 July 2005, 2:35 p.m.,*
in response to message #1 by Gileno

Amazing!!! Well - if one can get $500,- for a HP-42S, I really have a true fortune displayed in my collector rack. I will not be surprised to dream something like the below tonight, thinking about that ebay-auction.

"Well - now it may be just the right time to put my fingerprints on ebay. They must be at least $300 worth, having held my hp-01, hp-10c, hp-12c, hp-..... Zzzzzzzzz.... Oh - my old desktop drawer, have contained about 12-15 different HP-calculators... Oh oh oh - my old school bag have held four different hp-calculators... AND my eyes have seen many many many HP-calculators... I might consider to donate them to a HP calculator collector, who just happens to have a couple of hundred thousand bucks laying around..."

Sleep tight!

Re: Look !!! HP42S = or > $500 !!!

*Message #4 Posted by **Howard Owen** on 16 July 2005, 2:59 p.m.,*
in response to message #1 by Gileno

That is indeed outrageous.

But I have noticed that the 42S goes for a fair premium on eBay compared to some other calculators. From playing with simulators and reading about the device, it seems like a nice machine. But why is it so pricey in general? It doesn't seem to be particularly rare, judging by the number of auctions.

Re: Look !!! HP42S = or > $500 !!!

*Message #5 Posted by **Johnny Bjoern Rasmussen** on 16 July 2005, 3:10 p.m.,*
in response to message #4 by Howard Owen

No - not rare here in Denmark. In my four-five years collecting HP's I have bought say 5 or 6 42S' for

trading. The most expensive I paid DKR 300,- for. That is about $ 20,- or so. I was given one of them, as it had a small dark spot in the display, and others I had for DKR 150,- (about $10,-), wich is the amount I always tell people with hp calcs laying around, that I want to pay for it. I always tell them that it might be more worth on say Ebay, but they allways say something like; "Well - I know that my old calc will get a good home at your place, or at least at somebody else if you trade it away..."

In Denmark you can ask almost any electronics engeneer graduated in the early nineties - 7 out of 10 have a HP-42S laying about some where...

Cheers!

Johnny

Edited: 16 July 2005, 3:12 p.m.

Please use real links

*Message #6 Posted by **John L. Shelton** on 16 July 2005, 4:30 p.m.,*
in response to message #1 by Gileno

As a courtesy to the hundreds of us who read messages and try to follow links, please enter web links using the linking protocol, so we can just click, instead of having to copy/paste. A few extra steps by those who post will save hundreds of steps for the rest of us.

Rather than: http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=5788434465&category=58039&rd=1

you could do: [url:http://cgi.ebay.com/ws/eBayISAPI.dll?
ViewItem&item=5788434465&category=58039&rd=1]

With Dave Hick's new software, placing a link in your message is easier than ever.

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Is There a Third-Party Case for 12C Platinum?

*Message #1 Posted by **Jeff** on 15 July 2005, 4:32 p.m.*

I'm sure they are out there. Any suggesions? Thanks.

Re: Is There a Third-Party Case for 12C Platinum?

*Message #2 Posted by **Gene** on 15 July 2005, 7:27 p.m.,*
in response to message #1 by Jeff

I use the case for the 17bII+. Fits well and has a snap.

Gene

Re: Is There a Third-Party Case for 12C Platinum?

*Message #3 Posted by **Richard Garner** on 15 July 2005, 5:42 p.m.,*
in response to message #1 by Jeff

Check calcpro.com they have several that fit the 12C or 10 series Voyager calculators.

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Program for construction loan apr calculation

*Message #1 Posted by **Rich Herner** on 15 July 2005, 12:06 p.m.*

I have a 12c from the 80's & I had a 80-90 step program in it that would calculate construction loans APR's. An FDIC examiner gave me the program steps years ago, but I allowed another person to use the calculator & they wiped the program out. I can't locate the paperwork anymore with the program & nobody at the FDIC uses the calculator anymore, all done by computer now. Would anybody have any ideas where I could find a program like that anymore? Thanks.

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Error in PPC ROM (FI) Finance routine !!!

*Message #1 Posted by **Gileno** on 15 July 2005, 11:18 a.m.*

Error in PPC ROM (FI) Finance routine

GTO FI

e

6 N

1 I

-90000 PV

FV

95565.29 (Error) ???

95536.81 (Correct) !!!!

Dif 28.48

Edited: 15 July 2005, 11:19 a.m.

Re: Error in PPC ROM (FI) Finance routine !!!

*Message #2 Posted by **Don Phillips** on 15 July 2005, 2:01 p.m.,*
in response to message #1 by Gileno

This is not really an error. The answer is correct if you assume continuous compounding. Try evaluating 90000*EXP(6*.01) which equals 95565.2891891.

Re: Error in PPC ROM (FI) Finance routine !!!

*Message #3 Posted by **Gene** on 15 July 2005, 3:39 p.m.,*
in response to message #1 by Gileno

Yes, we need to know what the display showed when you pressed "e" to initialize it.

There are several settings:

DE DB CE CB

as well as settings for compounding periods and payment periods that may affect it.

I really, really doubt there is any new bug in the FI routine after all these years.

Error in PPC ROM (FI) Finance routine !!!

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Setting time on 48GX vs 48SX

*Message #1 Posted by **unspellable** on 15 July 2005, 9:57 a.m.*

On my 48SX it's a simple matter to add or subtract a second from the display time. On my 48GX the pull down menu makes this klutzy and difficult to set closely. (On the whole, I do not care for the pull down menu approach to soft key commands on the 48GX. It seems klutzy and like a step backwards from the 48SX's displaying soft key commands at the bottom of the display.)

On my 48SX I can also advance the clock by entering "n CLOCKADJ" where n equals 8192 ticks per second. Does "CLOCKADJ" do the same on the 48GX, and if so, what is the tick rate? Is it still 8192 or is it faster?

On my 48SX I have a simple program 'KORR' << n CLOCKADJ >> which is executed by the alarm function at 2 AM each day. By judicious choice of n I can correct for the clock running slightly slow. (Left to its own devices, it loses about a half second per day.)

(Wife says I'm nuts for trying to keep all the clocks and watches set so closely, but it compensates for my otherwise disorganized life.)

Re: Setting time on 48GX vs 48SX

*Message #2 Posted by **Jeff O.** on 15 July 2005, 12:54 p.m.,*
in response to message #1 by unspellable

I'm about as far from an HP48GX expert as you can get, but I'll have a go at your questions. If I get anything wrong, I'm sure others will correct me.
Regarding pull-down menus vs. soft keys, I was under the impression that in general, if you press left-shift instead of right-shift to access a menu, you get soft keys instead of the drop-down menu. For example, pressing left-shift 4 brings up the soft-keys DATE, ->DATE, TIME, etc. I don't know if this exactly mimics the SX behavior, but I think it is close.
Regarding "CLOCKADJ", on the 48GX it is "CLKADJ", and it behaves the same as you describe for the SX. "CLKADJ" is on the third "page" of soft keys that pressing left-shift 4 brings up. One second is 8192 ticks. I think your "KORR" program (using the "CLKADJ" command) will work just fine.
Regarding keeping all your watches and clocks set so closely, presumably synchronized with the correct time, well, I see nothing wrong with that. Come to think of it, my life is pretty disorganized, and my wife thinks I'm nuts (about that and many other things), so perhaps there is a connection....

Re: Setting time on 48GX vs 48SX

*Message #3 Posted by **unspellable** on 15 July 2005, 2:11 p.m.,*
in response to message #2 by Jeff O.

Well, it's a case of "when all else fails, read the instructions."

I have my trusty old HP48SX at home and do most of my messing around on it. My HP48GX sits in my desk drawer at work and is little used. "ClOCKADJ" was from memory, it's probably "CLKADJ" on both versions.

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How many stack levels?

*Message #1 Posted by **Klaus** on 15 July 2005, 8:15 a.m.*

Has anyone ever calculated the stack levels needed to solve any problem? Since there are some projects to build custom rpn devices (like openrpn), I wondered if they just use 4 (like most HPs), or a infinite number, or if they did some serious calculations? It would be amusing defining the number of stacklevels to solve any problem - one could start with a problem that uses many stacklevels and then add a factor/therm/expression to see if the number of stacklevels grows. I it doesn't grow the stack, then we have the maximum number of stacklevels needed to solve any problem. Writing a compiler I got the impression that you don't need a infinite number of stacklevels, and I wonder if it is true?

Have a nice weekend!

Re: How many stack levels?

*Message #2 Posted by **Namir** on 15 July 2005, 8:54 a.m.,*
in response to message #1 by Klaus

Klaus,

I think that a dynamic stack level works well (with commands that can operate on a specific number of levels). My guess is the folks at HP asked themselves the same question. They came up with the dynamic stack that appeared with the HP-28C.

If you stick with a fixed stack, then I'd say a four-level or five-level stack is good. Use memory registers to store additional info and then pull them into the stack later.

Namir

Re: How many stack levels?

*Message #3 Posted by **John Limpert** on 15 July 2005, 9:02 a.m.,*
in response to message #1 by Klaus

Assuming you have storage registers, or some other type of memory, the problem can be restructured to use no more than N stack levels, where N is the maximum number of arguments for an operation. Otherwise, problems can be constructed that use an arbitrarily large number of stack levels.

Re: How many stack levels?

*Message #4 Posted by **Valentin Albillo** on 15 July 2005, 10:09 a.m.,*
in response to message #1 by Klaus

Hi, Klaus:

Klaus posted:

"Has anyone ever calculated the stack levels needed to solve any problem?"

To solve *any* problem you need an infinite stack. It's easy to concoct a problem which has any desired number of pending operations and operands.

That said, *most* problems can be solved with a fairly low number of stack (i.e., pending operands and operators) registers. Vintage SHARP handhelds had something like 8 stack registers for operands and 16 stack registers for operators, and never at all have I experienced a single "Stack full" or equivalent message.

In my RPN experience, 4 levels + LASTX are adequate for most problems, and perhaps a very convoluted one would require 5 or 6, but that's all, and very infrequently, so I'm happy with a 4-level + LASTX stack and never have felt the need for more. If a 5th number is *ever* needed, which happens once in a blue moon, I'd rather simply STOre it somewhere than have to deal with a 5-level stack at *all* times, whether I need it or not.

4 levels is optimum: you'll solve the vast majority of problems with them, and you can easily and effortlessly hold a mental picture of the stack's contents, what's in each register, and how to roll down, roll up, or exchange them to get what you need where you need it when you need it.

Add more stacks levels, or even an indefinite number of them (i.e., RPL-like) and you lose that.

I'd rather not.

Best regards from V.

Re: How many stack levels?

*Message #5 Posted by **Namir** on 15 July 2005, 12:04 p.m.,*
in response to message #1 by Klaus

I guess how you use the stack also matters. I am talking about the ratio of (values input)/(operations). An efficient way keeps this ratio at 1. An inefficient way would make the ratio higher than 1.

On the topics of memory registers. My question is where is your data coming from? A real time data acquisition process or a block of memory registers to begin with? In case of the latter, you can certainly store intermediate results in memory registers. My own guess is that a four-level stack and a handfull of memory registers (2, 3?) can do the job of evaluating expressions.

I have written several versions of math expression parsers that convert an algebraic expression into a an RPN expression. The RPN expression can then be evaluated as many times as needed. I typically use a limit stack and never had problems in the evaluation.

Namir

Re: How many stack levels?

*Message #6 Posted by **Guillermo** on 15 July 2005, 12:05 p.m.,*
in response to message #1 by Klaus

Until now, I believed that four stack levels was enough for any problem.

But I found a problem that can´t be solved with 4 levels.

My belief of years were destroyed ...

Re: How many stack levels?

*Message #7 Posted by **Klaus** on 15 July 2005, 12:58 p.m.,*
in response to message #6 by Guillermo

Yes, I tried to do a stack algorithm with rules of precedence, but similar to the flwochart in the HP-45 manual. It seems you really need infinite stacklevels:

a+b*c^(e+f*g^(h+i*j^(...))))

My question was just of theoretical nature, no practical use...

Thanks for the answers&inspiration!

Klaus

Re: How many stack levels?

*Message #8 Posted by **Guillermo C** on 15 July 2005, 2:17 p.m.,*
in response to message #7 by Klaus

I was talking about theoretical nature also. Your problem (with finite number of repetitions) can be solved with two levels. I mean if you want to solve it from left to right then you will need infinite number of levels, but if you begin from innermost parenthesis then you need only 2 levels. The problem I found need at least 5 levels no matter where you begin to solve:

((1+1)*(1+2))^3/((1+3)*(1+4))^2+((2+1)*(2+2))^3/((2+3)*(2+4))^2

Re: How many stack levels?

*Message #9 Posted by **Namir** on 15 July 2005, 3:13 p.m.,*
in response to message #8 by Guillermo C

I mentioned in an earlier message that using a few registers can help. The expression:

((1+1)*(1+2))^3/((1+3)*(1+4))^2+((2+1)*(2+2))^3/((2+3)*(2+4))^2

Can use a memory register to store the result of:

((1+1)*(1+2))^3/((1+3)*(1+4))^2+

And then evaluate in the stack:

((2+1)*(2+2))^3/((2+3)*(2+4))^2

which is then added to the contents of the memory register, or the value of the memory register is recalled for a final addition.

Using this approach I can solve an expression like:

((1+1)*(1+2))^3/((1+3)*(1+4))^2 + ((2+1)*(2+2))^3/((2+3)*(2+4))^2 +
((2+7)*(2+5))^3/((2+3)*(3+4))^2 + ((3+1)*(6+2))^3/((7+3)*(2+4))^2 + ...

Re: How many stack levels?

*Message #10 Posted by **Klaus** on 15 July 2005, 4:09 p.m.,*
in response to message #8 by Guillermo C

Yes, I came to exactly the same thoughts after posting my message, and wrote the following text offline, so forgive me repeating some of your ideas:

My equation above takes infinite stacklevels when parsing from left to right. Parsing from right to left needs only a limited number of stacklevels. Parsing from the innermost (correct word?) parenthesis (like the rpn-user does it) will also result in a fixed number of stacklevels for this equation. Perhaps I can solve it like this:

Let A be an equation that needs n stacklevels to be evaluated. Then A+b,A-b,A*b,A/b,A^b , b is a number, can be evaluated by evaluating A (and needing n levels), storing A in the top of Stack, putting b on top of A (needing 2 levels) and executing the operation.

The question is how this will behave with b being another expression.

Re: How many stack levels?

*Message #11 Posted by **htom** on 15 July 2005, 6:22 p.m.,*
in response to message #10 by Klaus

Let A take n levels, and A' be A with different values.

Then A+A' will take n+1 levels; call this expression B.

B+B' will take (n+1)+1 = n + 2 levels.

Eventually you need an infinite stack, or storage external to the stack.

Re: How many stack levels?

*Message #12 Posted by **Guillermo C** on 18 July 2005, 8:47 a.m.,*
in response to message #11 by htom

I not so sure.

Please, could you show me an example needing 10 stack levels? Could you show me an example needing 6 levels?

If they exists I would like to see them!

I am always suposing you only have the stack, no other registers. Also I supose you begin to solve in a smart order, not simply left to right.

Guillermo

Re: How many stack levels?

*Message #13 Posted by **Klaus** on 18 July 2005, 3:04 p.m.,*
in response to message #12 by Guillermo C

Thank you htom for your solution! I will try to show an example:

(1+2) uses 2 levels (1+2)+(3+4) uses 3 levels ((1+2)+(3+4))+((5+6)+(7+8) uses 4 levels
(((1+2)+(3+4))+((5+6)+(7+8)))+(((9+10)+(11+12))+((13+14)+(15+16))) uses 5 levels
((((1+2)+...+(15+16))))+((((17+18)+...+(a+b)))) takes 6 levels
(((((1+2)+...+(a+b))))))+(((((c+d)+...+(y+z)))))) takes 7 levels

By expanding the therm, you can overflow any limited stack.

Re: How many stack levels?

*Message #14 Posted by **Guillermo C** on 19 July 2005, 10:44 a.m.,*
in response to message #13 by Klaus

((1+2)+(3+4))+((5+6)+(7+8))

is equivalent to

1+2+3+4+5+6+7+8

so you only need two stack levels!

The same for the rest of the examples!

What I think interesting to find is the maximum stack levels necessary to solve any problem, if you solve the problem in the smartest way (minimizing stack levels)

(1+2)+(3+4) only needs 2 levels. (1+2)*(3+4) needs 3 levels

Considering this, until now I never found a problem needing more than 5 stack levels...

Re: How many stack levels?

*Message #15 Posted by **htom** on 19 July 2005, 2:50 p.m.,*
in response to message #14 by Guillermo C

That some expressions can be so collapsed does not mean that all of them can be.

```
In the following, the formation

A  B , term  term , factor  factor , or expression  expression
 op        op             op                       op

means (left op right) so that I don't have to type hundreds of ().

a b c d e f g h i j k l m n o p q r s t u v w x y z A B C D E F
 +   +   +   +   +   +   +   +   +   +   +   +   +   +   +   +
   *       *       *       *       *       *       *       *
       -               -                   -               -
               /                   ^               /
```

This evaluation calls for 6 layers of stack. If you substitute it for each of the letters, each letter will call for six layers (that is, it will take six layers to evaluate a, b, c ...), and combining them will call for another five////, for a total of 11// layers.

edit -- opps. will call for another six, total of 12 layers (forgot to evaluate b in counting)

Edited: 20 July 2005, 12:23 a.m.

Re: How many stack levels?

*Message #16 Posted by **Guillermo C** on 20 July 2005, 8:36 a.m.,*
in response to message #15 by htom

I thought that a limited stack could solve any problem, but your explanation shows that I was wrong! Now I see clearly. Thanks!

I had the solution at hand but I didn´t realize. My 5 level problem have the same "binary tree" structure that your explanation shows.

Your way to put the problem helps to show the relation between number of stack levels and number of operators:

2 stak levels can solve any problem up to 3 operands.

3 stak levels can solve any problem up to 7 operands.

4 stak levels can solve any problem up to 15 operands.

5 stak levels can solve any problem up to 31 operands.

n stak levels can solve any problem up to (2^n)-1 operands.

Of course if a problem has more operands but with a different structure could need less stack levels.

Re: How many stack levels?

*Message #17 Posted by **bill** on 18 July 2005, 4:32 p.m.,*
in response to message #6 by Guillermo

Hi Guillermo,

I have run into this problem many times even early on, but it never hurt my belief in RPN....

Regards,

Bill

Re: How many stack levels?

*Message #18 Posted by **Tony** on 15 July 2005, 3:38 p.m.,*
in response to message #1 by Klaus

One situation where I find unlimited stack useful is for book-keeping jobs where lists of amounts need to be added and reconciled against a total. I put all the amounts onto the stack, then use my "STOT" program to get a sub-total. If that looks wrong, I can go back over the stack and edit it, then take another subtotal. Then finally use "TOTAL" to wipe the stack and return the total.

Which fixed-depth RPN calc has the most levels?

*Message #19 Posted by **Katie Wasserman** on 16 July 2005, 12:51 a.m.,*
in response to message #1 by Klaus

The subject states my question.

Not counting LASTx all the HP's except the 9100 and 9810 have 4 levels (I think). The Heathkit OC-1401 has 5 levels, are there others with 5 or more?

Re: Which fixed-depth RPN calc has the most levels?

*Message #20 Posted by **John Limpert** on 16 July 2005, 5:50 a.m.,*
in response to message #19 by Katie Wasserman

It isn't a calculator, but the Intel 8087 math coprocessor has an 8 level stack. It operates in a manner similar to RPN calculators.

Re: How many stack levels?

*Message #21 Posted by **Hugh Evans** on 17 July 2005, 3:11 a.m.,*
in response to message #1 by Klaus

We've never done any calculations on this for OpenRPN, just going with an infinite stack. This is an interesting thread. Rather than focusing on the hypothetical number of stack levels needed for any calculation, what would really be interesting is the number of levels needed for practical (yet extreme) use. My guess it that such an estimate will be suprisingly small number.

Best Regards, HDE

RPN stack levels: My recommendation

*Message #22 Posted by **Karl Schneider** on 17 July 2005, 4:53 p.m.,*
in response to message #21 by Hugh Evans

Hugh --

I would recommend for OpenRPN that an RPN calculator should have a user-settable fixed stack depth, with 2 as the minimum and 9 to 19 as the maximum, and 4 as the default. Commands for changing the stack depth should be short, simple, and programmable, such as:

```
f STACK 9  (9 levels)
f STACK .9 (19 levels)
```

Classical RPN stack functions Exchange, Roll Up, and Roll Down should be provided, along with direct access to stack elements that the 41/42-series models provide. (New identifiers for elements beyond "t" would need to be provided, such as "L5" through "L19").

I agree with Valentin that 4 levels is almost always adequate, but there are situations in which some forethought is necessary to avoid pushing data off the top.

Having up to 19 levels available would allow working with a large set of numbers -- which the dynamically-sized stack of the RPL-based 28/48/49 models allow -- without the numerous and complicated RPL stack operations.

-- KS

Re: RPN stack levels: My recommendation

*Message #23 Posted by **Jonathan Purvis (New Zealand)** on 17 July 2005, 7:45 p.m.,*
in response to message #22 by Karl Schneider

One thing that has always confused me about RPN is why anyone would want **less** than the maximum

stack depth? With a dynamically sized stack, you can have as many items on the stack as you can fit in your head. Also, you don't have to worry about how many stack levels a subroutine uses, since it can't overwrite any of your values.

Re: RPN stack levels: My recommendation

*Message #24 Posted by **db (martinez, ca.)** on 18 July 2005, 2:00 a.m.,*
in response to message #23 by Jonathan Purvis (New Zealand)

It's useful to have a finite stack and a replicating "T" register if you sometimes do repetitive arithmetic. An example would be a surveyor checking cut sheets. Any HP, Corvus, Omron, or APF rpn and a couple of Novus/Nat Semi units as well as Katie's fabled Heathkit will operate like that.

Why a limited stack depth?

*Message #25 Posted by **Karl Schneider** on 18 July 2005, 3:37 a.m.,*
in response to message #23 by Jonathan Purvis (New Zealand)

> Quote:
>
> One thing that has always confused me about RPN is why anyone would want less than the maximum stack depth? With a dynamically sized stack, you can have as many items on the stack as you can fit in your head.

It becomes difficult for most people (including myself) to keep track of more than a few values on the stack, and their changing positions as computations are performed.

Four stack elements is adequate for almost any equation, if the user takes a true "pencil and paper"-style approach, working from the inside out, and checking every intermediate result. Having only three stack elements (as did National Semiconductor RPN calc's of the 1970's) can be constraining.

Four elements also gives easy access to every element using only x<>y, Rdown and Rup, even without the direct access that the 41/42 models did. (Compare that with the confusing plethora of stack-mainipulation commands offered by the dynamic-stack 28/48/49 models.)

> Quote:
>
> Also, you don't have to worry about how many stack levels a subroutine uses, since it can't overwrite any of your values.

True, but one way around that is to have all routines take input arguments from memory registers and named variables as much as possible, instead of expecting the arguments to be in certain positions on the stack. This is good programming practice.

-- KS

Re: Why a limited stack depth?

*Message #26 Posted by **.** on 18 July 2005, 4:08 a.m.,*
in response to message #25 by Karl Schneider

> Quote:
>
> > Quote:

> > Also, you don't have to worry about how many stack levels a subroutine uses, since it can't overwrite any of your values.
>
> True, but one way around that is to have all routines take input arguments from memory registers and named variables as much as possible, instead of expecting the arguments to be in certain positions on the stack. This is good programming practice.

How so? It seems to me to be very poor practice in general. Using named registers is like using global variables - something to be discouraged. Such functions are neither recursive nor reentrant.

Personally I only use RPN systems where I can see several stack levels on the screen. I find classic 4-level RPN too much work compared with modern algebraic calculators.

Re: Why a limited stack depth?

*Message #27 Posted by **Eric Smith** on 18 July 2005, 2:14 p.m.,*
in response to message #26 by .

> Quote:
>
> > Quote:
> >
> > one way around that is to have all routines take input arguments from memory registers and named variables as much as possible
>
> It seems to me to be very poor practice in general. Using named registers is like using global variables - something to be discouraged.

That's why RPL has local variables. The arguments to a function are still passed on the stack, but get moved into local variables so that they may be referenced by name. That way you don't have to track how far up the stack they are at any given time during the execution of the function.

The drawback is that they are less efficient than direct stack access. For a Saturn running at a relatively slow clock rate, that can be a problem. For a hypothetical new calculator that runs much faster, it would matter less.

Local variables also make it much easier to understand and modify an RPL function.

Re: Why a limited stack depth?

*Message #28 Posted by **Karl Schneider** on 18 July 2005, 10:12 p.m.,*
in response to message #26 by .

"." --

OK, I'll admit that my statement wasn't very precise, and will clarify it here. Again, I'm referring to RPN programming, not RPL, and especially not recursion-supporting high-level languages (e.g., C++).

The fixed stack, numbered registers, and named variables (HP-42S only) are all global on RPN calculators. There's nothing unsound about placing input arguments to an RPN subroutine on the stack. The risk of error occurs when a program is carrying arguments on the stack that are needed *upon return from* XEQ/GSB, INPUT, or VIEW.

- In the case of XEQ/GSB, the subroutine (or chain of subroutines) must be designed to leave the stack in the expected state upon return to the calling program.
- In the case of INPUT or VIEW, the user might ruin the stack while doing calculations before returning with R/S.

To avoid these problems, it's better for the program to copy the needed arguments to a numbered register or named variable prior to XEQ/GSB, INPUT, or VIEW, then recall them as needed rather than expect them to be there after the "interruption."

-- KS

Re: RPN stack levels: My recommendation

*Message #29 Posted by **Vassilis Prevelakis** on 18 July 2005, 5:36 a.m.,*
in response to message #22 by Karl Schneider

Quote:

Hugh --

I would recommend for OpenRPN that an RPN calculator should have a user-settable fixed stack depth, with 2 as the minimum and 9 to 19 as the maximum, and 4 as the default.

Having a stack size different from the default (4) would break programs that assume that the stack is 4 deep (e.g. assuming that T replicates its value as the stack drops, that 4 ROLL-UPs or 4 ROLL-DOWNs would bring the stack to its original state, etc)

If you need more stack space (e.g. args, or temporary values) then you may be better off with a sliding register window, whereby you can position your 4 register stack anywhere within a register array, or, perhaps have a stack of stacks (i.e. being able to "push" the 4+1 register stack in a larger stack).

In this way, when you want a fresh stack to perform some calculations or to call a routine without destroying the cointents of the existing stack, you just push it, call your function and then pop it.

**vp

Re: RPN stack levels: My recommendation

*Message #30 Posted by **Karl Schneider** on 18 July 2005, 9:46 p.m.,*
in response to message #29 by Vassilis Prevelakis

Vasssilis posted,

Quote:

Having a stack size different from the default (4) would break programs that assume that the stack is 4 deep (e.g. assuming that T replicates its value as the stack drops, that 4 ROLL-UPs or 4 ROLL-DOWNs would bring the stack to its original state, etc)

Absolutely right. That's why I said that the "set stack depth" function should be programmable, so that a "STACK 4" instruction would guarantee compatibility of older RPN programs.

> Quote:
>
> If you need more stack space (e.g. args, or temporary values) then you may be better off with a sliding register window, whereby you can position your 4 register stack anywhere within a register array, or, perhaps have a stack of stacks (i.e. being able to "push" the 4+1 register stack in a larger stack).
>
> In this way, when you want a fresh stack to perform some calculations or to call a routine without destroying the cointents of the existing stack, you just push it, call your function and then pop it.

That's rather complicated, in my estimation. Sounds more like RPL philosophy than RPN. Also, with ample RAM available for low cost, why overwite register space when plenty of free space is probably available?

-- KS

Edited: 18 July 2005, 10:45 p.m.

Re: RPN stack levels: My recommendation

*Message #31 Posted by **John L. Shelton** on 19 July 2005, 1:40 a.m.,*
in response to message #29 by Vassilis Prevelakis

It seems important to differentiate between the issues of why the original RPN calculators had 3, 4, or 5 level stacks from the more modern "what's the right thing to do now." It's almost certain that the decision to have small, limited stacks was a compromise due to engineering cost, rather than a decision that 3, 4, or 5 are the "best" sizes of stack. A desktop calculator with a display of arbitrary size would have been much more expensive.

Once one makes a decision to have a small, fixed size stack, then one can decide whether the top stack variable replicates on stack drop. Was the original goal to have stack drop replication, and let that drive the decision to have a small, fixed-size stack? Probably not. It was probably a consequence, not a driver.

So, for nostalgic reasons, one might design a modern calculator with a fixed size stack. Particularly if compatibility with very old programs is important. But as we have found in many, many areas of computer programming, a fixed limit size to nearly anything winds up being a big headache later. (remember DOS 640kbytes? We could probably fill a screen with thread-headers on just that topic alone.)

In summary: For nostalgia: fixed size. For modern design: unlimited stacks.

Re: RPN stack levels

*Message #32 Posted by **Karl Schneider** on 20 July 2005, 2:14 a.m.,*
in response to message #31 by John L. Shelton

John Shelton posted:

> Quote:

> It's almost certain that the decision to have small, limited stacks was a compromise due to engineering cost, rather than a decision that 3, 4, or 5 are the "best" sizes of stack. A desktop calculator with a display of arbitrary size would have been much more expensive.

True, the 4-element stack of the HP-35 was probably a compromise of what was minimally sufficient and what could be done with limited resources in 1972. 4 is still enough for most every practical application, which is one reason why the stack on RPN HP's RPN never got larger (though the 42S should have had a larger stack due to complex-number operations). The 42S, BTW, is the first RPN HP handheld calc with a two-line display, after 14 years of production.

> Quote:
>
> Once one makes a decision to have a small, fixed size stack, then one can decide whether the top stack variable replicates on stack drop. Was the original goal to have stack drop replication, and let that drive the decision to have a small, fixed-size stack? Probably not. It was probably a consequence, not a driver.

Well, with a fixed stack, the choices were to zero out the "popped" elements or to replicate the top element. Replication gives the user an endless supply of repeatedly-used values -- useful for constant arithmetic.

> Quote:
>
> But as we have found in many, many areas of computer programming, a fixed limit size to nearly anything winds up being a big headache later. (remember DOS 640kbytes? ...

Your analogy is imperfect, I would say. The 640-kB memory "partition" was a serious encumbrance because there really is no limit to what one might wish a PC to do. However, I think there is a limit to what the vast majority of users would reasonably expect a true handheld calculator to do. Beyond that limit, a PC or even a PDA would be a better-sized tool for the task. One could argue that the HP-48/49 and TI-89 are overkill, but there was no practical alternative at the time they were designed.

If the task remains the same, the tool needn't get more elaborate. Has the shovel been fundamentally "modernized"? How many of us actually use an electric toothbrush?

> Quote:
>
> In summary: For nostalgia: fixed size. For modern design: unlimited stacks

"Nostalgia"? If modernity means replacing

x<>y, Rdn, Rup

with

DUP, SWAP, DROP, OVER, ROT, UNROT, ROLL, ROLLD, PICK, UNPICK, PICK3, DEPTH, DUP2, DUPN, DROP2, DROPN, DUPDUP, NIP, NDUPN

and the infamous (beep!) "DROP Error: Too few arguments",

then take me down "memory lane" every time!

-- Best regards from KS

Re: RPN stack levels

*Message #33 Posted by **Valentin Albillo** on 20 July 2005, 4:31 a.m.,*
in response to message #32 by Karl Schneider

Karl posted:

""Nostalgia"? If modernity means replacing x<>y, Rdn, Rup with DUP, SWAP, DROP, OVER, ROT, UNROT, ROLL, ROLLD, PICK, UNPICK, PICK3, DEPTH, DUP2, DUPN, DROP2, DROPN, DUPDUP, NIP, NDUPN and the infamous (beep!) "DROP Error: Too few arguments",

then take me down "memory lane" every time!"

Amen ! I couldn't agree more. And it isn't just the overwhelming plethora of dismayingly redundant stack operators, it's also that while any RPN user worth his/her salt can easily keep in mind the contents of a 4-level stack without resorting to pencil and paper, fully aware of what is where, the task becomes sort of a "Mission: Impossible" case when dealing with a significantly larger stack, not to mention an "arbitrary length" one.

That's one of the main reasons why it's fairly easy and even *fun* to write a program for an HP-15C, HP-41C, or HP-42S, while doing the same in RPL demands much more effort on the user's part and easily becomes an exercice in frustration.

Best regards from V.

Re: RPN stack levels

*Message #34 Posted by **htom** on 21 July 2005, 4:38 p.m.,*
in response to message #33 by Valentin Albillo

After a period where I used Forth, I began to desire a command that would take strings like ztxly and deliver those values to the LXYZT registers. The expanded version allowed the digits 0-9 as recall locations for values as well, and then the extended version a preceeding "." as an indirect operator. Someone remembered the old CDC "indirect on negative address" thing then, and that's when I came to my senses.

As someone else pointed out, the major problem with pushing an entire stack is arranging the return value(s). It's relatively simple to design the syntax of the command, but very expensive in time, codespace, or hardware.

(Designate initial values as LXYZT, stack values on return execution as lxyzt, and add a five character field that holds the locations of the five values to be returned. And the status of the enter flag.)

Re: RPN stack levels: My recommendation

*Message #35 Posted by **Hugh Evans** on 21 July 2005, 3:33 p.m.,*
in response to message #22 by Karl Schneider

Since OpenRPN allows free access to our source code end users can modify, compile, and distribute ROMs freely. Therefore changing the depth of the stack is entirely possible. *fix, the programming language of OpenRPN, uses an RPL style stack. For the sake of nostaglia a variety of emulators and simulators could be written or ported and used.

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12C

*Message #1 Posted by **Charlie O.** on 15 July 2005, 12:40 a.m.*

can someone tell what's special about this 12c?

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=5787905173&category=50575&rd=1

Re: 12C

*Message #2 Posted by **John Limpert** on 15 July 2005, 1:25 a.m.,*
in response to message #1 by Charlie O.

My guess is that it's an early example of the 12C, before production was moved offshore and product quality was subjected to the death of a thousand cuts.

Re: 12C

*Message #3 Posted by **Karl Schneider** on 15 July 2005, 1:25 a.m.,*
in response to message #1 by Charlie O.

> Quote:
>
> can someone tell what's special about this 12c?

As the listing indicates, US-made in the 1980's (not the lower-quality Indonesian and Chinese ones from the mid-1990's onward). Also appears to be in good cosmetic shape, athough the digital photo has mediocre resolution.

The price still seems a bit steep, but maybe the market is appreciating.

-- KS

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HP-41 Program Listings & Barcode via PC

*Message #1 Posted by **G.R. Harvey** on 14 July 2005, 10:31 p.m.*

MAKING HP-41 PROGRAM BARCODE &/or PROGRAM LISTINGS VIA a PC & PRINTER

The following programs/files are used in this process:

V41 - A virtual HP-41 that runs on the PC - Program files can be read or written in RAW format

HP41UC.Exe Win41UC.Exe - Format conversion program which uses as a subroutine, HP41UC.EXE

41_Lista.XLS - Prints Program Listings and Barcode

PROCEEDURE: 1) Using V41 on the PC, manually key in the program steps 2) Save the program as a RAW formatted file using the PUT function 3) Using Win41UC.Exe, convert the RAW file into BIN format 4) Now using 41_Lista.XLS, print a program Listing &/or the barcode usable by the HP Wand.

Program Sources and Credits: V41 Author: Warren Furlow and Frank Bauernoeppel

HP41UC.Exe Ver 1.22 Author: Leo Duran Available from: hpmuseum.org

Win41UC.Exe Author: Ulisse Quadri Available from: hpmuseum.org

41_Lista.XLS Author: Dam McDonald Available from: hpmuseum.org

Re: HP-41 Program Listings & Barcode via PC

*Message #2 Posted by **Tony Duell** on 15 July 2005, 3:47 p.m.,*
in response to message #1 by G.R. Harvey

Alternatively, if you want to avoid proprietary, non-open-source software :

Download the LIF Utilities for Linux from the HPCC web site.

Compile them (they're GPLed C source code)

Use lifget to read an HP41 program from a real HP41 floppy disk, or download a .raw file from somewhere, or... (if you have an HPIL module, 82164 HPIL-RS232 interface and an extended I/O module, you can use the OUTP command on a real 41 to transfer a program to the PC).

If you want a listing, run the raw file through prog41. Use the -x option to load XROM definition files so that commands from plug-in ROMs have sensible names (if you don't load an XROM file, such commands have names like XROM 01,14). Use the pr program (standard unix/linux utility) to format the output if you wish.

If you want barcode, run the raw file through prog41bar. Run the output of that through barps to make a printable postscript file of the barcode. Feel free to write other output drivers if you so wish (the format of all the necessary files is in the distribution). If you want to download the program direct to your HP41, there's a

description of a small modification you can make to the wand module, and an add-on circuit that goes between that an a PC parallel port. Then just send the output of prog41bar to that parallel port and the program will be downloaded to your 41 as if you'd scanned the appropriate barcode.

Note that all the programs read their input from STDIN, send their output to STDOUT. You can put them all together in a pipe if you want to.

Enjoy....

Re: HP-41 Program Listings & Barcode via PC

*Message #3 Posted by **Howard Owen** on 28 July 2005, 1:13 p.m.,*
in response to message #2 by Tony Duell

The wand hack is *cool.*

Barcode Blinker

*Message #4 Posted by **Tony Duell** on 29 July 2005, 6:56 a.m.,*
in response to message #3 by Howard Owen

Have you built one?

Re: Barcode Blinker

*Message #5 Posted by **Howard Owen** on 29 July 2005, 12:45 p.m.,*
in response to message #4 by Tony Duell

No. I just think it's a neat hack. I'm tempted to do it, but I think I'll wait until I have a second wand. (That's a reflection on my soldering skills, not your design. 8)

Re: Barcode Blinker (wand hack)

*Message #6 Posted by **Vassilis Prevelakis** on 30 July 2005, 12:07 a.m.,*
in response to message #4 by Tony Duell

Way back in the 80s I had the same problem (namely that I could get data out of my HP41, but I could not get them back in).

Given that I only had an HP wand (no money for HP-IL), I used blue tack to attach my wand over the caps-lock LED on the keyboard of my BBC micro. I then wrote a BASIC (IMHO) program that blinked the LED in such a way as to convince the Wand that it was seeing the reflection of of its own LED on the paper. (I also had to make sure the Wand button was held down by a rubber band).

In this way I could xfer programs and data (what I was really looking for in the 1st place) to my 41. I considered this "hack" very neat as the LED/WAND combination was effectively an opto-isolator protecting my 41 from being zapped (my HP-41 was one of the first batches to come out of the US production line and was thought to be more sensitive to static than later units).

Later on I was told that I was lucky to get away with this procedure as the external LED could have overloaded the wand sensor. I am not sure whether this is true though.

**vp

Re: HP-41 Program Listings & Barcode via PC

*Message #7 Posted by **deny** on 28 July 2005, 12:43 p.m.,*
in response to message #1 by G.R. Harvey

Quote:

MAKING HP-41 PROGRAM BARCODE &/or PROGRAM LISTINGS VIA a PC & PRINTER

The following programs/files are used in this process:

V41 - A virtual HP-41 that runs on the PC - Program files can be read or written in RAW format

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41_Lista.XLS Author: Dam McDonald Available from: hpmuseum.org

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Hitachi (Renesas) H8 chip in HP 10BII?

*Message #1 Posted by **Eric Smith** on 13 July 2005, 4:30 p.m.*

Does anyone happen to know which specific Hitachi (now Renesas) H8 series microcontroller is used in the HP 10BII? And is it a packaged chip, or chip-on-board?

Thanks,
Eric

Re: Hitachi (Renesas) H8 chip in HP 10BII?

*Message #2 Posted by **Nelson M. Sicuro (Brazil)** on 13 July 2005, 7:10 p.m.,*
in response to message #1 by Eric Smith

I don't know what chip is, but is a chip-on-board one for shure. I opened mine once, but I didn't have pictures :(... now my beloved Minolta X20 is blind :((((

BTW, the 10BII have the second best numeric LCD HP display ever, second only to the Voyagers'... 8-)

Best regards,

Nelson

Re: Hitachi (Renesas) H8 chip in HP 10BII?

*Message #3 Posted by **Bill Wiese** on 13 July 2005, 7:22 p.m.,*
in response to message #1 by Eric Smith

Hi Eric...

Damn, an H8 in a common calc? Wonder if it's flash(able) ;)

Too bad I gave my 10BII to an exGF when she was buying a new house otherwise it'd be fun to 'sacrifice'.

I really loved this calc's formfactor, keys, etc. Wish the LCD were brighter but it's still better than the new 33s'.

Bill Wiese
San Jose

[BTW Eric do you still need to borrow an OBD2 reader for your truck?]

Re: Hitachi (Renesas) H8 chip in HP 10BII?

*Message #4 Posted by **Eric Smith** on 14 July 2005, 1:54 a.m.,*
in response to message #3 by Bill Wiese

Quote:

> an H8 in a common calc? Wonder if it's flash(able)

Doubtful. It's almost certainly a masked-ROM part. They would only have used flash parts during software development, and perhaps for very limited pilot production.

Re: Hitachi (Renesas) H8 chip in HP 10BII?

*Message #5 Posted by **David Johnson** on 14 July 2005, 10:35 a.m.,*
in response to message #4 by Eric Smith

I ahve gone through 2 HP10BII calcs with their displays failing.... Anybody else with these issues. The calc does not get used for a while and when turned on segments fail....

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MLDL2000 Update: PCB's are there!

*Message #1 Posted by **Meindert Kuipers** on 13 July 2005, 3:31 p.m.*

Finally after a long long wait I received today the MLDL2000 units out of production. The project is now really coming to an end. Now units need to be tested and programmed.

http://www.kuipers.to/prod_units.jpg

More new pictures can be found at my website

Meindert

Re: MLDL2000 Update: PCB's are there!

*Message #2 Posted by **Howard Owen** on 13 July 2005, 4:04 p.m.,*
in response to message #1 by Meindert Kuipers

Oh boy oh boy oh boy! 8)

Re: MLDL2000 Update: PCB's are there!

*Message #3 Posted by **Meindert Kuipers** on 13 July 2005, 4:45 p.m.,*
in response to message #2 by Howard Owen

That is exactly what my wife said when she saw the invoice from the assembly house ;)

Re: MLDL2000 Update: PCB's are there!

*Message #4 Posted by **Howard Owen** on 13 July 2005, 6:03 p.m.,*
in response to message #3 by Meindert Kuipers

Well, perhaps you should have lined up all the orders next to the PCBs. 8)

Still, it's a lot of money to lay out in advance. I don't mind paying and waiting for my device, by the way.

Re: MLDL2000 Update: PCB's are there!

*Message #5 Posted by **Christoph Klug** on 14 July 2005, 6:01 a.m.,*
in response to message #4 by Howard Owen

Dear Meindert,

gratulation - your really great photo collection shows the nice hardwareparts - we want to get next time :-)) Also this is the biggest collection of cardreader shells I ever sawn....

Regards - Christoph Klug

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HP-12C program

*Message #1 Posted by **Mike (Stgt)** on 13 July 2005, 9:36 a.m.*

Just for fun

Ciao.....Mike

...and my list of emulators...

*Message #2 Posted by **Mike (Stgt)** on 13 July 2005, 2:50 p.m.,*
in response to message #1 by Mike (Stgt)

here

Ciao.....Mike

(NT) list of emulators modified on request

*Message #3 Posted by **Mike (Stgt)** on 16 July 2005, 7:55 a.m.,*
in response to message #2 by Mike (Stgt)

NT = No Text

Re: HP-12C program (eidted)

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 13 July 2005, 2:51 p.m.,*
in response to message #1 by Mike (Stgt)

Mi, Mike; (should be Hi, Mike...)

thanks for mentioning the TTF files.

Interesting program... Runs fast in the HP12Cp.

Cheers.

Luiz (Brazil)

Edited: 16 July 2005, 9:28 a.m. after one or more responses were posted

Re: HP-12C program

*Message #5 Posted by **Mike (Stgt)** on 16 July 2005, 7:58 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

Well, there is not too much from me on my site, it's a collection what others did better than me...

Ciao.....Mike

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common ROM code in Spice calculators

*Message #1 Posted by **Eric Smith** on 12 July 2005, 8:33 p.m.*

There were some ROMs shared beteen the 67 and 97, and between the 19C and 29C, which is not surprising because those were pairs of printing and non-printing machines that were otherwise nearly identical.

And there are certainly many code similarities between various models.

But I was surprised to discover that the Spice series has some large blocks of identical code shared between different models.

The 32E, 34C, and 38C all share the same ROM code for the first "quad", which is octal 0000-1777 (1 Kword). This contains the basic arithmetic, logarithmic, and exponential routines, and probably more that I haven't yet identified. There are several jump tables of entry points to the various routines; this is the first time that jump tables were used to provide stable entry point addresses in HP handheld calculators. The routines are quite similar to those of the 41C (File cn6b of the HP-41C mainframe VASM linstings), and somewhat different than those of the Woodstock calculators. It appears that this first quad was intended to be a general-purpose math ROM which could be exhausively tested and then reused as-is in multiple calculators, almost like a "BIOS". This is a departure from their earlier designs, in which even code shared between models, such as the math code, was massaged to fit into each model differently.

Similarly, the 37E and 38E share the same ROM code for the first "quad", but it is significantly different than the first quad of the 32E/34C/38C. In addition, the 37E and 38E share the code from octal 2000-2777, with the exception of eleven words which are different. I suspect that this region contains the core financial calculations, but have not yet attempted to identify the routines.

Interestingly, the 33C first quad does not match either the 32E/34C/38C or the 37E/38E. And it is particularly interesting that the 38E and 38C code does not match. There are probably few actual code differences, but the code organization in the ROM address space appears to be completely different.

I do not yet have ROM dumps of the 31E or 33E for comparison. I expect them both to use the same first quad as the 32E/34C/38C.

The Voyager calculators reverted to each calculator having a completely unique assembly code arrangement; although the math routines are similar if not identical, they are at different addresses in each calculator.

Eric

Re: common ROM code in Spice calculators

*Message #2 Posted by **HrastProgrammer** on 13 July 2005, 1:40 a.m.,*
in response to message #1 by Eric Smith

The Voyager calculators reverted to each calculator having a completely unique assembly code arrangement; although the math routines are similar if not identical, they are at different addresses in each calculator.

True. There is a lot of other (not only math) code which is the same in all Voyagers but at a different

addresses. And, as you already pointed in a document you sent me some time ago, there are a lot of math routines shared between HP-41C and Voyagers (especially HP-11C and 15C).

Best regards.

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9100 display annotation plate backlit?

*Message #1 Posted by **marais** on 12 July 2005, 4:33 p.m.*

I don't own a 9100 (to my most sincere regrets), so I have to find the answer to my curiosity here: In pictures of the 9100, it often seems to me that the plate right to the display with the lettering "x-keyboard, y -accumulator, z-temporary" is backlit. Is this true or just due to the photographs? I have a 9810 with the same lettering, and it's definitely not backlit.

Just for curiosity -

Andreas (and if yes, what about the model B, would be the next question)

Re: 9100 display annotation plate backlit?

*Message #2 Posted by **Rick Bensene** on 13 July 2005, 1:17 a.m.,*
in response to message #1 by marais

The annotations are indeed backlit, on both the 9100A and 9100B.

Rick Bensene The Old Calculator Web Museum http://oldcalculatormuseum.com Beavercreek, Oregon

Re: 9100 display annotation plate backlit?

*Message #3 Posted by **David Smith** on 13 July 2005, 3:59 p.m.,*
in response to message #1 by marais

There are two small 2-pin 15V incandescent bulbs stuck into a plastic housing behind the display panel. These bulbs tend to have the bases break off or the part of the plastic housing that they stick into likes to crack.

Re: 9100 display annotation plate backlit?

*Message #4 Posted by **David Smith** on 13 July 2005, 4:00 p.m.,*
in response to message #3 by David Smith

Also, the silk screened display legend tends to wear and flake off.

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Yellowed plastic case

*Message #1 Posted by **Arnaud Amiel** on 12 July 2005, 5:19 a.m.*

Just got my hands on a nice (Non HP) adding machine however its plastic case is all yellowed. Does anyone know to restaure it to its original colour. Is it even possible. How can I avoid my other calculators turning dirty yellow. Thanks for your suggestions.

Arnaud

Re: Yellowed plastic case

*Message #2 Posted by **Frank Boehm** on 12 July 2005, 8:21 a.m.,*
in response to message #1 by Arnaud Amiel

Assuming it is not dirt, you probably can't do anything about it. It's a non-reversible chemical reaction (UV rays modifying plastics). It might be possible to use H2O2 (try it on a hidden surface) to bright it up, I doubt it though.

The only way to prevent yellowing is to hide the item in a dark, dry, cold place. If you want to create a showroom, there is special glas (UV blocking) available - you do need special lighting as well (UV free).

Re: Yellowed plastic case

*Message #3 Posted by **Chan Tran** on 12 July 2005, 4:27 p.m.,*
in response to message #2 by Frank Boehm

If the calc isn't too valuable I would suggest to try chorine beach.

Re: Yellowed plastic case

*Message #4 Posted by **Gary** on 18 July 2005, 5:30 p.m.,*
in response to message #3 by Chan Tran

Some restoration may be possible by using using jewelers rouge to polish away a thin layer of plastic. If the yellowing is deep, this won't work. An alternative is vinyl dye or the new plastic bonding spray paint(assuming you can find a suitable color.).

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MoHPC *The Museum of HP Calculators*

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Procedure to adjust card reader speed in HP65/67/97

*Message #1 Posted by **Bernhard** on 11 July 2005, 2:13 p.m.*

Dear fellow HP aficionados:

Some people owning old HP65/67/97 have reported difficulty with card reader speed adjustment, especially after mounting a new friction wheel. As my previous post on the topic did not yield any useful information on how to do it, I worked out a procedure that does not need a priori knowledge of any factory adjustment parameters:

The proposition is that HP orginal cards were written with in-spec bit density and did not change over the ~30 years. Just as you would expect from a top-quality manufacturer. (Hopefully so !)

So if we have a means to compare bit density on an original card with its copy written on a HP65/67/97, then the motor speed of the latter can be adjusted to yield the same bit density as was on the original HP card.

As a means to compare bit density we use another HP65/67/97 (not the one to be adjusted) with good card drive (not worn) but the speed of this one does not matter (may be a bit off) as long as it does not change much between reads, which can be verified by applying simple statistics on the measurements.

Bernies' procedure: put a digital sampling oscilloscope or a 30ms retriggerable monoflop followed by a digital timer / counter (I used a HP 5327A, has nice Nixie Tubes) on one of the two read lines coming from the card reader amplifier chip of the HP65/67/97 to be used as a measurement tool.

Set up to measure the total time interval from the first read pulse to the last read pulse. Run original HP card through for a few times (i.e. 20 times). Note the time intervals. Use a HP calculator to get mean and standard deviation. In my case, I got mean = 1110,6 milliseconds with a standard deviation sd = 4.4 ms. Beware: other cards / calculators may give different results.

3 * sd / mean is a indication of the accuracy you can achieve with this improvised measurement setup - in this case, about 1.2% accuracy with nearly full confidence, enough for the purpose.

The mean is the value you want to get from a card written on the HP to be adjusted. Then you have identical bit density on the original HP card and its copy.

Now the repeat loop for speed check / adjustment:

Copy the original HP card on the HP to be adjusted. Run the copy through the measurement HP. Compare the time interval of the copy with the mean "reference" time interval taken from the original HP card.

If the copy gives higher readings, bit density is too low, speed must be increased, and vice versa. After each speed adjustment, make a new copy to get the new bit density and repeat the measurement.

Replacing the original speed setting resistor of the HP to be adjusted with a trimpot / resistor combination is helpful, but only needed if speed needs be corrected, so don't solder before you have the first result. Some well - known tricks as marking the previous settings on the pot or measuring and noting the resistance before and during adjustment will help to quickly zero in to the final setting, on which both cards (original and copy) will yield the same time interval, and hence, will have the same bit density.

The beauty of this scheme is that no reference other than the original HP card (standard pac) is needed. The measurement HP can be adjusted afterwards by interchangig roles. One final hint: checking the measurement HP with the original card now and then will give confidence during the adjustment procedure. If the "reference" time interval starts to deviate, the motor speed of the measurement HP is not very stable (weak battery?) but the adjustment procedure can continue with targeting the new "reference" time interval. Always do the statistics to be sure to have reliable results.

I have tested the above on three HP67s, and all now work fine. One of them has a trimpot already installed (original HP ?) and someone had played with it. This unknown guy has forced me to think out the above procedure.

Comments / success stories invited !

Regards, Bernhard

Re: Procedure to adjust card reader speed in HP65/67/97

*Message #2 Posted by **Albert** on 12 July 2005, 12:03 a.m.,*
in response to message #1 by Bernhard

Wonderful! But, What is the value of the speed-resistor and the trimpot? (more or less)

Re: Procedure to adjust card reader speed in HP65/67/97

*Message #3 Posted by **Tony Duell** on 12 July 2005, 6:29 a.m.,*
in response to message #1 by Bernhard

I seem to remember that the HP97 service manual (on the MoHPC CD-ROMs) contains a procedure for setting the motor speed. You record a card, then coat it with 'magnasee' (a coloidal suspension of iron oxide, used to show the magnetic pattern). Measure the total length of the recorded bit. If it's too long (the lengths are given in the manual), you slow the motor down, if it's too short, you speed it up.

The manual also gives the possible resistor values to use.

Since the 67 uses essentially the same card reader circuit, I think the procedure would work for that machine too.

Re: Procedure to adjust card reader speed in HP65/67/97

*Message #4 Posted by **Katie Wasserman** on 12 July 2005, 10:52 a.m.,*
in response to message #3 by Tony Duell

The 97 service manual has a simple procedure for adjusting the eccentric cam -- the little white screw-like piece that determines the pressure of the card against the roller. It tells you to turn this cam to get a specific current draw (180ma +/- 20ma) from the motor. It seems to me that this adjustment has a big impact on motor speed, perhaps it's the primary determinant.

I've repaired many card readers and find that the current draw is an excellent way to get the cam pressure correct and a good test to see if the card reader will work before you've got it fully reassembled. But I've also found that the reader can work well even if the current draw is off by a larger amount (in the range of 130ma - 220ma).

I've never had to resort to looking at bit patterns to get the motor speed right -- the cam adjustment has always worked. I'm I just lucky? I don't think so, rather there must be a huge tolerance for bit pattern length built into the firmware because my luck isn't that good :)

-Katie

Re: Procedure to adjust card reader speed in HP65/67/97

*Message #5 Posted by **David Smith** on 12 July 2005, 11:52 a.m.,*
in response to message #4 by Katie Wasserman

Basically, the card reader will work just fine at just about any reasonable speed while reading. The same is true for writing as long as the card is not moving so fast that you run out of card before you get to the end of the bits.

The silicone rubber fuel line seems to be soft enough that setting the cam tension has very little effect on the card reader. I do go through the motions of trying to set the cam about the middle of its pressure range. I seldom bother measuring motor current any more.

Re: Procedure to adjust card reader speed in HP65/67/97

*Message #6 Posted by **Bernhard** on 12 July 2005, 1:20 p.m.,*
in response to message #4 by Katie Wasserman

Torque of a small DC motor is roughly proportional to motor current. Speed of a small DC motor is roughly proportional to motor voltage minus motor current * armature resistance.

Bit density is influenced by many factors (including clock speed), so my desire was not to resort to second order effects but to measure bit density as directly and precisely as reasonably possible.

It's also a matter of philosophy - if you invest some of your valuable lifetime into restoring the best calculators ever built by mankind, why settle for less than the best possible precision.

Same thing if you choose a mechanic for restoring the engine of your vintage italian sportscar. The parts do cost the same. The labor is about the same. But hell, you better want to have the work done by a true master who is proud to deliver an absolute masterpiece, an engine that is better than the original from the factory.

This way of thinking is the only one (for me). All those who want to settle for less do just waste their money, ressources and lifetime.

Regards, Bernhard

Re: Procedure to adjust card reader speed in HP65/67/97

*Message #7 Posted by **marais** on 12 July 2005, 2:32 p.m.,*
in response to message #4 by Katie Wasserman

I've repaired many, but I don't recall a white screw-like bit of plastic. Could you be more precise, or provide a photo? Geez, this might be a good time to order the museum CD, if they contain the service manual.

Andreas

Re: Procedure to adjust card reader speed in HP65/67/97

*Message #8 Posted by **Eric Smith** on 12 July 2005, 8:46 p.m.,*
in response to message #7 by marais

The MoHPC DVD or CD set does include the 97 service manual. Unfortunately, no service

manuals have turned up for the 67, the other Topcats, nor any other handhelds prior to the 41C.

Re: Procedure to adjust card reader speed in HP65/67/97

*Message #9 Posted by **Katie** on 13 July 2005, 2:40 a.m.,*
in response to message #7 by marais

The eccentric cam is simply the shaft that the pressure roller rotates on. If you look at it closely you'll see that it's not symmetric it's "eccentric". The slot in the end of this shaft allows you to use a screwdriver to rotate it and by doing so you'll move the pressure roller very slightly closer to or further from the R/W head.

Re: Procedure to adjust card reader speed in HP65/67/97

*Message #10 Posted by **marais** on 13 July 2005, 3:47 a.m.,*
in response to message #9 by Katie

KAtie, I did not realize it is slightly excentric. It IS! I never paid attention to this detail. But I suppose the power rates indicated in the service manual are for the original gummy wheel, and do not necessarily apply to our O-rings or fuel tube repairs. Or do they?

Andreas

Re: Procedure to adjust card reader speed in HP65/67/97

*Message #11 Posted by **Bernhard** on 13 July 2005, 4:43 a.m.,*
in response to message #10 by marais

Torque of a small DC motor is roughly proportional to motor current (see message #6). So if you adjust current, then you adjust torque, not bit density, but you are sure the motor and drive gears are not overloaded.

Using different materials for the friction roller may influence the torque needed to pull a card through. IMHO, the following procedure I use seems to make sense:

1. Adjust friction roller pressure such that you can gently push a card in and pull it out again, such that you can feel the friction roller just grips the card (calculator power off).

2. Then increase pressure by 1/8 turn. Now it should be impossible to gently push a card in while power off, but with power on the card should run through smoothly.

3. Measure motor current to make sure it does not exceed the spec given in the manual, just to be on the safe side.

4. Apply the bit density adjustment procedure (message #1). If adjustment is needed, use a resistor-trimpot series connection that allows adjustment to a resistance +/- 20% of the measured original value. This range should be sufficient in most cases. When the required value is found, replace by a series or parallel connection of temperature stable metal film resistors rated 250 mW and of course measure bit density again just to be sure.

5. Test the card reader with reading / copying a few cards from the standard pac.

I think that besides thoroughly cleaning the whole card reader and carefully greasing the gears (the teeth only, very very sparingly with a fine brush under a magnifying lens !!!) with silicone based grease this is all you could do to restore the card reader to the best possible

condition (mineral oil based grease may destroy plastics).

One final note to those who think that the card reader always works even without proper adjustment I'd recommend you first read the papers on the card reader design from the HP Journal available at this Museum. They also give some numbers on the required precision. These are quite demanding, and with my procedure you can get the bit density just right near these requirements, but not much better.

It all boils down to bit error rate. A card reader out of adjustment may appear to work, but with all the various factors thrown in, such as magnetic flux shift (over time), head alignment, head wearout, card flutter, drive train jitter, speed deviations, battery voltage fluctuations, etc., it is unlikely it will deliver reliable service especially if cards are to be interchanged between different machines. So it is advisable to have the best possible adjustment.

Regards, Bernhard

Re: Procedure to adjust card reader speed in HP65/67/97

*Message #12 Posted by **Bernhard** on 12 July 2005, 1:07 p.m.,*
in response to message #3 by Tony Duell

Oh yes, Magnasee magic potion. Makes a mess all around. Contaminates all the workbench and all calcs that come even near the contaminated spots.

And then the imprecision of measuring length with a ruler.

I tried all that and I wanted a clean procedure using just common clean electronics lab equipment.

Bernhard

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41CV emulator card (HP82210A)

*Message #1 Posted by **Gonzalo Fernandez (Spain)** on 11 July 2005, 10:01 a.m.*

Hello:

I would like to know if someone can send me a scanned 1:1 image of the template emulator card that is put over the HP48SX. I can cut it with scissors, then I plastify the card and then I have an usable template for my HP48SX.

thanks

Re: 41CV emulator card (HP82210A)

*Message #2 Posted by **Raymond Del Tondo** on 11 July 2005, 11:20 a.m.,*
in response to message #1 by Gonzalo Fernandez (Spain)

Hi,

did you take a look at TOS ?

Raymond

Re: 41CV emulator card (HP82210A)

*Message #3 Posted by **Gonzalo Fernandez (Spain)** on 11 July 2005, 3:07 p.m.,*
in response to message #2 by Raymond Del Tondo

Yes, it is not there. The manual is available in this site (pdf file), with a template image, but it is in a lower scale, more smaller.

Re: 41CV emulator card (HP82210A)

*Message #4 Posted by **Chan Tran** on 12 July 2005, 9:00 a.m.,*
in response to message #3 by Gonzalo Fernandez (Spain)

Please email me! I think I can scan the thing. I am thinking of 300dpi. Do you need higher resolution?

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A National Energy/Recycling Plan (Long)

*Message #1 Posted by **Frank Travis** on 8 July 2005, 1:28 p.m.*

Perhaps the U.S. could help its energy problems by having a National Energy/Recycling plan as other countries do. For example, I like cars, but the supply of oil and gas is not limitless. Toyota and other Japanese companies are marketting hybrid cars. Japan is even more dependent on overseas oil (not to mention other raw materials) than the U.S. It was Japan's feeling of being strangled/pressured by the U.S. that led them to start World War II in the Pacific. Recycling started decades before in Japan and Europe than in the U.S. because they have very limited landfill space. Recycling an Aluminum can takes about 5% of the energy as it does to produce a brand new Aluminum can from raw Bauxite ore. I remember watching an episode of the old "To Tell The Truth Show" about 1976 when the topic was about a company that made a house from mostly recycled material valued at $60,000 (that's 1976 dollars). When I used to go to Michigan International Speedway and Indianapolis Motor Speeday in the 1980's and 1990's I was surprised at how many bottles and cans were thrown on the infield areas. Where I work we have paper recycling bins that are emptied into larger paper recycling dumpsters. I know such a plan will take time, but what could be done to speed up such a process?

Re: A National Energy/Recycling Plan (Long)

*Message #2 Posted by **Forrest Switzer** on 8 July 2005, 3:35 p.m.,*
in response to message #1 by Frank Travis

Sorry, but I dont get the connection with obsolete HP calculators.

Re: A National Energy/Recycling Plan (Long)

*Message #3 Posted by **Thomas Radtke** on 8 July 2005, 3:43 p.m.,*
in response to message #2 by Forrest Switzer

HP calculators are never obsolete! The are timeless by design;)

Thomas

Re: A National Energy/Recycling Plan (Long)

*Message #4 Posted by **Forrest** on 8 July 2005, 8:34 p.m.,*
in response to message #3 by Thomas Radtke

Thomas,

When I buy one it is obsolete electronics. If I want to sell one, which I don't do very often, then it is an historic combination of art and technology created and implemented with near perfect bio-metrics. - maybe bio-metrics is not the proper word.

Re: A National Energy/Recycling Plan (Long)

*Message #5 Posted by **Tony** on 8 July 2005, 3:40 p.m.,*
in response to message #1 by Frank Travis

How about the Kyoto Treaty, which was rejected by the world's biggest polluter, the USA, because it would "damage their economy"?

Re: A National Energy/Recycling Plan (Long)

*Message #6 Posted by **Gene Wright** on 9 July 2005, 4:48 p.m.,*
in response to message #5 by Tony

IMO, Kyoto is a fraud.

Even if all the countries signed onto it, projections call for a 0.5 degree reduction from what the temperature would be in 100 years ANYWAY.

All that for $150 billion a year for 100 years. Wow. That's a lot of money.

How about $$ to get rid of malaria? How about $$ to get rid of AIDS?

My point is really this: Is spending $150 billion x 100 the best use of that money over the next 100 years?

The USA decided no.

Europe, who by and large signed up for Kyoto is nowhere near meeting the targets either.

And, it might do well to read this book:

http://www.amazon.com/exec/obidos/tg/detail/-/0521010683/qid=1120941976

The Skeptical Environmentalist by Bjorn Lomborg

Quote: "This is one of the most valuable books on public policy - not merely on environmental policy - to have been written for the intelligent general reader in the past ten years. The Skeptical Environmentalist is a triumph." The Economist "...a superbly documented and readable book." Wall Street Journal "...it is a surprise to meet someone who calls himself an environmentalist but who asserts that things are getting better....Strange to say, the author of this happy thesis is not a steely-eyed economist at a conservative Washington think tank but a vegetarian, backpack-toting academic who was a member of Greenpeace for four years....The primary target of the books, a substantial work of analysis with almost 3.000 footnotes, are statements made by environemtal organizations like the Worldwatch Institute, the World Wildlife Fund and Greenpeace. He refers to the persistently gloomy fate from these groups as the Litany, a collection of statements that he argues are exaggerations or outright myths." Science of the Times/New York Times "The Skeptical Environmentalist should be read by every environmentalist, so that the appalling errors of fact the environmental movement has made in the past are not repeated. A brilliant and powerful book." Matt Ridley, Author of Genome "Lomborg pulls off the remarkable feat of welding the techno-optimism of the Internet age with a lefty's concern for the fate of the planet." Rolling Stone "Bjørn Lomborg is an outstanding representative of the "new breed" of political scientists--mathematically-skilled and computer-adept. In this book he shows himself also to be a hardheaded, empirically oriented analyst. Surveying a vast amount of data and taking account of a wide range of more and less informed opinion about environmental threats facing the planet, he comes to a balanced assessment of which ones are real and which are over-hyped. In vigorous and what needs not to be done about those turning out to be pseudo-problems." Professor Jack Hirshleifer, Department of Economics, UCLA "The Skeptical Environmentalist should be read by every environmentalist, so that the appalling errors of fact the environmental movement has made in the past are not repeated. A brilliant and powerful book." Matt Ridley, Author of Genome "When Lomborg concludes that '...the loss of the world's rainforests, of fertile agricultural land, the ozone layer and of the climate balance are terrible...' I agree. But we also need debate, and this book provides us with that in generous amounts, incl 2428 footnotes. If you, like I do, belong to the people who dare to think

the world is making some progress, but always with mistakes to be corrected, this book makes important reading." Professor Lars Kristoferson, Secretary General, WWF Sweden "Lomborg's book sheds needed light on the real state of the world. I recommend it to anyone interested in our global environment...the book is a credible attempt at refuting many of the more outrageous environmentalist claims--a point of view that is seldom heard. The Skeptical Environmentalist is the most valuable book available in many years on public policy in general, not only environmental policy in particular. It should be required reading for all legislators, government bureaucrats and corporate executives who preside over the ever-increasing array of environmental regulations and policies." Geotimes "Lomborg is right on his points, that his critique of much green activism and its reporting in the media is just, and, above all, that where there is room for disagreement, Mr Lomborg invites and facilitates discussion, rather than seeking to silence it." The Economist Feb 2002"

All for now. Gene

Re: A National Energy/Recycling Plan (Long)

*Message #7 Posted by **Howard Owen** on 8 July 2005, 4:48 p.m.,*
in response to message #1 by Frank Travis

If you can parallelize the problem, write it onto 40 million sets of HP82104A cards. Then find 40 million 41C owners, perhaps through an auction on eBay, and mail them each a set of cards. Have them run the problem and mail (e or snail) you back the results. Use an HP-48GX to integrate the final answer, and publish it here. You'll be a hero! 8)

Just to be clear, I don't think environmental matters are intriniscly funny. I do think an off-topic post like that deserves some sort of response. 8)

Re: A National Energy/Recycling Plan (Long)

*Message #8 Posted by **Vassilis Prevelakis** on 8 July 2005, 5:48 p.m.,*
in response to message #1 by Frank Travis

```
Frank Travis write:
> It was Japan's feeling of being strangled/pressured by
> the U.S. that led them to start World War II
```

Please do not quote Japanese propaganda in this forum. During WWII Japan had imperialist ambitions, which is why it took over most of the far east. The United States was in their way, so they launched a pre-emptive strike to get rid of the US Pacific fleet before even declaring war.

**vp

Re: A National Energy/Recycling Plan (Long)

*Message #9 Posted by **Howard Owen** on 8 July 2005, 10:19 p.m.,*
in response to message #8 by Vassilis Prevelakis

So, have the Japanese given up imperial ambition in favor of obsolete calculator collecting? Good thing! We can add their collections to the master calculator beowulf cluster (MCBC) and save the world one slow computation (massively in parallel) at a time! 8)

Just to be clear, I don't think 20th century wars in which my father fought are intrinsicly funny. But I do think that off-topic posts like that one call for some sort of response. 8)

Edited: 8 July 2005, 10:24 p.m.

Thank you, Vassilis... (WWII and Japan)

*Message #10 Posted by **Karl Schneider** on 8 July 2005, 10:37 p.m.,*
in response to message #8 by Vassilis Prevelakis

If you hadn't set that straight, I would have. "Japan's feeling of being strangled/pressured" and "The United States was in their way", of course, refer to the US blockade of Japan in response to imperialistic aggression in the Far East.

-- KS

WWII Revisited

*Message #11 Posted by **visitor** on 9 July 2005, 1:00 p.m.,*
in response to message #10 by Karl Schneider

Way, way OT. This is not the history they teach in our American schools:

http://www.lewrockwell.com/raico/churchill-full.html

Re: WWII Revisited

*Message #12 Posted by **Karl Schneider** on 9 July 2005, 4:29 p.m.,*
in response to message #11 by visitor

"visitor" (I'd bet, actually, a "regular") --

I'm not sure if you're taking issue with my post in particular or the general direction of the thread, which is indeed "way, way OT". It's just that Vassilis correctly challenged a -- shall we say -- "imprecise" statement.

If you have a specific point to make by linking us to the anti-Churchill screed at the blog site, maybe you should reveal your name and make it yourself.

-- KS

Re: WWII Revisited

*Message #13 Posted by **visitor** on 10 July 2005, 10:52 a.m.,*
in response to message #12 by Karl Schneider

Karl, No issue with you. No point other than mock the mainstream which seems bent on repeating errors.

Re: School content ...

*Message #14 Posted by **Andrés C. Rodríguez (Argentina)** on 9 July 2005, 5:11 p.m.,*
in response to message #11 by visitor

> Quote:
>
> This is not ... teach in our American schools:

Well, usually things are more complex than school content. Such content usually tends to be somewhat shallow and biased; because the mission of the school is not to make everyone an, er, *scholar* on a particular matter; **but** to integrate people in a shared, more-or-less useable body of

basic knowledge, making them a part of a society. If the result is a *working* part, better yet.

Alas, RPN is not taught at schools these days, as far as I know,

Please note: I have not accesed the controversial site mentioned above, so have no positive nor negative opinion about it and, by the way, about all the historic-political debate in previous messages.

Edited: 9 July 2005, 8:04 p.m.

Re: WWII Revisited

*Message #15 Posted by **Howard Owen** on 9 July 2005, 6:54 p.m.,*
in response to message #11 by visitor

I had no idea Churchill was a calculator enthusisast! It would have had to involve the mechanical variety up until 1941 or so. Did he know about Babbage? That *certainly* has never been taught in any classroom *anywhere!* But then, there's Bletchley Park and Alan Turing, which Churchill knew all about, of course. Are you suggesting that Turing went through all the trouble of theorizing the abstract idea of the stored program computer just to get his hands on a pocket calculator?? Sensational! I think we should put the problem of what Churchill knew and when did he know it on the MCBC and give it a spin. Who knows what fascinating things that have never shown themselves inside a classroom might be revealed?

To be clear, I don't think that character assassination in the guise of revisionist history is intrinsicly funny.. well, maybe I do..

Re: WWII Revisited

*Message #16 Posted by **Vassilis Prevelakis** on 9 July 2005, 9:19 p.m.,*
in response to message #15 by Howard Owen

Don't forget Vannevar Bush (no relation to George W.), the author of the trully prophetic As We May Think (1945) article describing an environment that resembles the one we are using today, exactly 50 years later.

The astonishing thing is that the article was not science fiction, but described an environment extrapolated from that was technologically feasible at the time.

**vp

Re: WWII Revisited

*Message #17 Posted by **Howard Owen** on 10 July 2005, 12:06 p.m.,*
in response to message #16 by Vassilis Prevelakis

Yes, a true visionary. Then there's Douglas Englebert, who invented the Macintosh. 8)

But I had no idea that Vannevar Bush invented the pocket electronic calculator! 8)

And both these gentlemen *were alive at the same time as Churchill!*

Let's get back on topic > RPN

*Message #18 Posted by **db (martinez, ca.)** on 9 July 2005, 10:35 p.m.,*
in response to message #15 by Howard Owen

Mr Owen's tongue-in-cheek post has raised an interesting question in my mind. Who in history (or fiction) would or wouldn't use rpn?
If i may, i'd like to make a few conjectures: Newton, yes - Velikovski, no. Mr. Spock, yes - Dr. Spock, no. Baha'u'llah, yes - Mohammed, no. Dave Hicks, yes - David Lee Roth, no. Harry Browne, probably a 12c - any other politician i can think of, no. Dr. Dean, yes - Dr. Laura , no, Mickey Hart, yes - Karen Carpenter, no. My ex brother in law, yes - my ex wife, no. Jung, yes - Freud, no. Ursula Leguin, yes - L Ron Hubbard, no.
Any ideas on this?

Re: Let's get back on topic > RPN

*Message #19 Posted by **Namir** on 10 July 2005, 1:32 a.m.,*
in response to message #18 by db (martinez, ca.)

I agree with your list .. espcially Jung and Freud. However, on a second thought I'd say Freud would use **Polish Notation** since it is based on the way we say an expression (e.g. add 1 and 2). This is inline with the **speak therapy** that Freud made popular. Jung might come out with something that is neither RPN nor algebraic. Maybe Jung would declare all operators are special archetypal functions and regard the intermediate stack as the unconscious part of evaluating an expression--the final result being projected by the ego.

Re: Let's get back on topic > RPN

*Message #20 Posted by **Karl Schneider** on 10 July 2005, 3:09 a.m.,*
in response to message #18 by db (martinez, ca.)

db --

Fairly witty list about conjectured "users of RPN":

> Quote:
>
> Mickey Hart, yes - Karen Carpenter, no.

Hmm, Mickey is the drummer for the "cultish" Grateful Dead; the late Ms. Carpenter (who died of Anorexia Nervosa) performed rather mainstream, conventional songs.

I assume that's the intended analogy, and that (ahem) "counting calories" accurately was not the reference ...

-- KS

Re: Let's get back on topic > RPN

*Message #21 Posted by **Howard Owen** on 10 July 2005, 12:22 p.m.,*
in response to message #18 by db (martinez, ca.)

Erich Von Daniken, author of "Algebraic Pocket Calculators of the Gods" - no.

Thor Heyerdahl, author of "Tiki [ENTER] Kon +" - yes.

Re: Let's get back on topic > RPN - 3 responses

*Message #22 Posted by **db (martinez, ca.)** on 12 July 2005, 12:22 a.m.,*

in response to message #18 by db (martinez, ca.)

Namir; There is more to you than kludgy programs. We should have talked more at hhc '04.
Karl; I chose Mickey Hart because he writes songs in strange timeing, like "Playing in the band" (10), The Eleven" (11), the 7 beat one that i can't think of right now, and all that polyrythimic stuff. To keep track of that; he's obviously a candidate for RPN if he doesn't already use it. Karen Carpenter got thrown in there because i couldn't think of another pop drummer's name.
Mr. Owen; I have been out off-the-wall'd. I will remember in the future that i am playing with the big kids when you are around.
Thanks for your feedback.

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HHC 2005

*Message #1 Posted by **Tim Wessman** on 8 July 2005, 12:11 p.m.*

Can't find the website to sign up. Who should I send a message to about John Evers and I coming to this year's conference, bringing some survey equipment to do a presentation and free overlays for all attendees? =)

TW

Re: HHC 2005

*Message #2 Posted by **Arnaud Amiel** on 8 July 2005, 12:37 p.m.,*
in response to message #1 by Tim Wessman

Are you selling the overlays yet? Not that I really need them yet but just out of curiosity.

Arnaud

Re: HHC 2005

*Message #3 Posted by **Tim Wessman** on 8 July 2005, 3:28 p.m.,*
in response to message #2 by Arnaud Amiel

They are ready to go, but as of yet we haven't gotten our papers filed to become a company. . . there is just so much to do! =(

TW

Re: HHC 2005

*Message #4 Posted by **Jake Schwartz** on 8 July 2005, 12:55 p.m.,*
in response to message #1 by Tim Wessman

Here is the URL:

http://holyjoe.net/hhc2005/

It should have everything you need. Looking forward to this year's conference, as always....

Jake Schwartz

Re: HHC 2005

*Message #5 Posted by **Gene** on 8 July 2005, 3:13 p.m.,*
in response to message #4 by Jake Schwartz

Should be a good conference. I know that Wlodek and I plan to talk about the conferences we went to on HP's behalf.

Another talk possibility is "TI > HP", which would be a look at areas where HP could learn from TI.

Gene

Re: HHC 2005

*Message #6 Posted by **Namir** on 11 July 2005, 12:11 a.m.,*
in response to message #5 by Gene

Gene,

In my SOLVER talk for HHC 2005 I am also including tests for the TI-200. I found that it uses better algorithms for functions that have roots AND maxima/minima. When the initial guess is near the max/min point, the TI is able to find the root while the HP SOLVER for various models gets stuck!

Namir

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Ultimate Alarm Clock - update

*Message #1 Posted by **Geir Isene** on 8 July 2005, 12:04 p.m.*

The HP-41 Ultimate Alarm Clock now has its own project site (http://sourceforge.net/projects/hp41uac) and its own homepage (http://www.isene.com/artweb.cgi?article=009-hp41alm.txt).

It is currently in production stable release v0.5. This release fixes some bugs and adds a couple of features beyond that originally released in the HP Museums HP-41 software archive. The project team is busy working on v0.51 that will add one small but important feature to its already impressing feature list.

Soon you will be able to order HP-41 UAC mercandise such as T-shirts with the logo on front and the program listing on the back as well as coffee mugs, teddy bears, underwear and more.

It seems the HP-41 UAC is the first HP-41 project ever hosted at Sourceforge.net.

Any contributions such as bug reports, feature requests etc. is highly appreciated by the project's large and busy development community. We are working day and night here now to bring you the best alarm clock that man has ever made.

Kind regards,

Geir Isene
Lead developer
HP-41 UAC

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Chips other than ACT and RAMs going bad?

*Message #1 Posted by **Eric Smith** on 7 July 2005, 8:08 p.m.*

How common is it for HP calculator chips other than the ACT and RAMs to go bad?

In Woodstocks, the most common cause of bad chips is the use of the AC adapter without a battery pack, with a bad battery pack, or with the pack not making good contact. Due to uncharacteristically poor design, this allows the voltages to exceed the limits of the chips.

Similarly, the card reader sense amplifier of the HP-65 (and maybe the HP-67) may be damaged by use without a battery pack.

But have those of you that repair older HPs noticed many cases of other chips going bad?

I'm considering offering tiny modules that can replace the ACT of the Woodstock, Topcat, 67, and 19C calculators. The module would effectively replace the ROM and RAM chip as well, though the anode driver portion of the ROM/anode driver chip would still be required for the display to work.

But I'm wondering whether it's common for other chips in these calculators, or in the Classic or Spice calculators, to go bad. In particular, whether the CRC and PIK chips, or the series-30 CPU or ROM/RAM chips fail often.

Eric

Re: Chips other than ACT and RAMs going bad?

*Message #2 Posted by **Katie Wasserman** on 8 July 2005, 1:42 a.m.,*
in response to message #1 by Eric Smith

Eric,

It would GREAT if you could produce replacement chips/modules for some of dead circuits in these calculators.

In my experience by far the most problematic of all components in HP LED calculators are the chips in the HP-27. They are, of course, the NMOS chips and are only used in that model. I'll bet that there are more dead NMOS chips in the 27's than there are dead PMOS chips in all other Woodstocks calculators combined.

IIRC the anode driver chip in the 27 is NMOS too, so that might be an issue -- as I think that's one of the frequently failing chips.

-Katie

Re: Chips other than ACT and RAMs going bad?

*Message #3 Posted by **Eric Smith** on 8 July 2005, 4:07 a.m.,*
in response to message #2 by Katie Wasserman

I'll start with the PMOS ACT/ROM/RAM replacement, since I have more PMOS calculator models to test it in. I could probably do an NMOS-compatible version later.

I don't yet know what the cost of the replacement will be, but it may be high enough that it's not worthwhile for use in the more common models (e.g., 21, 25, 25C).

Replacing an anode driver chip is harder due to the smaller physical size constraint. The electronics isn't that hard to design.

If only the ROM part of a ROM/Anode driver chip fails, my replacement ACT will be sufficient, since it completely ignores the external ROMs and RAMs.

Eric

Re: Chips other than ACT and RAMs going bad?

*Message #4 Posted by **Nelson M. Sicuro (Brazil)** on 8 July 2005, 10:23 p.m.,*
in response to message #3 by Eric Smith

What chip will you use to replace those old chips? I plan to replace all electronic of my HP-21 with MSP430 plus some drivers for the LEDs and a switched power supply (all from TI, ironic...)

Best regards!

Nelson

Re: Chips other than ACT and RAMs going bad?

*Message #5 Posted by **Eric Smith** on 8 July 2005, 10:49 p.m.,*
in response to message #4 by Nelson M. Sicuro (Brazil)

A PIC18F microcontroller and a bunch of other stuff to interface to the PMOS signal levels. Packaging it in a module not too much larger than a 22 pin DIP will be somewhat challenging.

I've considered developing a board to replace the entire logic board of the Woodstock series. But that doesn't help any with the 67, 19C, and Topcat series, and I haven't found a source for the style of contact pins HP uses for the connections to the keyboard and display.

Re: Chips other than ACT and RAMs going bad?

*Message #6 Posted by **Bernhard** on 9 July 2005, 4:00 p.m.,*
in response to message #5 by Eric Smith

In most of the dead Woodstocks I had on my lab table, the 16 pin ROM chip not connected to the LED display was dead. As it is the same chip type as the ROM/anode driver, it might be that the LEDs act as a overvoltage clamp. This could also explain the burnt out LEDs on some Woodstocks. I never had one where the ROM/anode driver was really dead, except for one (HP29C, sigh). The next common loser is the ACT. So if you build a replacement module that sits in the ACT socket and does not use any ROM, I think you have a solution to fix most dead Woodstocks.

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Redistributing HP manuals

*Message #1 Posted by **Thomas Okken** on 6 July 2005, 10:43 a.m.*

I would like to create an HTML version of the HP-42S manual, to distribute with Free42. Does anyone know what HP's position would be on something like that? I gather HP has no problem with Dave Hicks selling copies of their manuals on CD, but to use their documentation with what could be viewed as a competing product might be a different matter. Who could I contact within HP to request permission?

Any insights would be welcome!

- Thomas

A suggestion (was: Redistributing HP manuals)

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 7 July 2005, 12:26 a.m.,*
in response to message #1 by Thomas Okken

Hi, Thomas;

if you accept my suggestion and if you are willing to go ahead with it, consider a quick reference guide or a brief guide, based on the original manual, where you explain each possible function in brief with som examples. There is no problem writing books about HP calculators, and I see no problem writing an on-line brief guide as well, just avoid copying the original text. There is already an index with references to all available operations/functions in the HP42S manual. You could start there, groupping commands/functions on areas, for example.

Success!

Luiz (Brazil)

Re: A suggestion (was: Redistributing HP manuals)

*Message #3 Posted by **Thomas Okken** on 8 July 2005, 8:39 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Hmm, yes, maybe I should just write a complete manual from scratch... I could even sell it to all those people who bought an expensive HP-42S with no manual on eBay. :-D

Re: A suggestion (was: Redistributing HP manuals)

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 8 July 2005, 11:06 a.m.,*
in response to message #3 by Thomas Okken

Ssshhh... Not so loud... Others may hear you and go ahead selling photocopies for $(x100)

Re: A suggestion (was: Redistributing HP manuals)

*Message #5 Posted by **Namir** on 8 July 2005, 5:33 p.m.,*
in response to message #3 by Thomas Okken

Tom,

As a technical writer (and also programming book author) maybe I can help. We can do this in several ways. I can do the editing, write examples, writer a certain part. I love the 42s AND your software.

Namir

Re: A suggestion (was: Redistributing HP manuals)

*Message #6 Posted by **Thomas Okken** on 12 July 2005, 6:56 p.m.,*
in response to message #5 by Namir

Thanks for the offer, Namir! I'll have to think about this a bit.

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Startup script for 49G+

*Message #1 Posted by **Tony** on 6 July 2005, 9:52 a.m.*

I want to have a particular User RPL program run automatically every time the calc is turned on. Can anybody tell me what I need to do?

Thanks.

Tony.

Re: Startup script for 49G+

*Message #2 Posted by **Raymond Del Tondo** on 6 July 2005, 10:44 a.m.,*
in response to message #1 by Tony

Hi,

store either the RPL program or better it's name into the variable STARTUP.

More info: comp.sys.hp48

Also try to RTFM;-)

Raymond

Re: Startup script for 49G+

*Message #3 Posted by **Arnaud Amiel** on 6 July 2005, 10:54 a.m.,*
in response to message #2 by Raymond Del Tondo

The question is not at Startup (RTFQ) but when turned on. To do this, you need to start your program like this << OFF ... >> and assign it to the OFF key

```
2: << OFF ... >>
1: 101.3
ASN
```

Then you need to get your calculator in user mode so it uses the new definition of the [OFF] key: -62 SF of [LS][ALPHA] until USR displays in the header. Also try asking questions on comp.sys.hp48 where people are more interested in the new hp calculators. Good luck

Arnaud

Re: Startup script for 49G+

*Message #4 Posted by **Tony** on 6 July 2005, 12:00 p.m.,*
in response to message #3 by Arnaud Amiel

Arnaud: Thanks, that seems to work.

Raymond: I did RTFM and TFUG, but couldn't find anything there about this. Maybe you could tell me where I could find it, for future reference.

All: I get the hint; this is a museum. I'll try comp.sys.hp48 in future.

Thanks a lot.

Tony.

Re: Startup script for 49G+

*Message #5 Posted by **Ron Ross** on 6 July 2005, 12:52 p.m.,*
in response to message #4 by Tony

Raymond is not being rude. He often answers questions in comp.sys.hp48 and you will see this when you visit there. It is just that experts here are more familiar with the older units (some are also very familiar with the newer ones too!). As such, you are best served by asking your questions there.

Another suggestion, visit hpcalc.org and download both the HP48G user's guide and more importantly, the Advanced User's Guide for the Hp48G series. This is a must have for any 48/49G owner.

Re: Startup script for 49G+

*Message #6 Posted by **Raymond Del Tondo** on 6 July 2005, 1:35 p.m.,*
in response to message #3 by Arnaud Amiel

Hi Arnaud,

your program only works if the user explicitely
turns off the calc by pushing buttons.
If the calc turns off automatically then
the program won't be executed.

I'm not too deep in the 49g+, I have to admit;-)
My favourite machines are the HP-41 and HP-48.
But I thought the Startup var of the 4g series would be evaluated
every time the calc is turned on, not only after a warmststart.

If it's the latter case, then the Startup var seems to be of limited use.

Recently there was a thread (either here or in c.s.hp48)
related to this topic, where I suggested to use kinda
startup library, which can perform various tasks.
At least that's what I use on my HP-48;-)

Raymond

Re: Startup script for 49G+

*Message #7 Posted by **Arnaud Amiel** on 6 July 2005, 2:30 p.m.,*
in response to message #6 by Raymond Del Tondo

> Quote:

> But I thought the Startup var of the 4g series would be evaluated
> every time the calc is turned on, not only after a warmststart.
>
> If it's the latter case, then the Startup var seems to be of limited use.
>
> Recently there was a thread (either here or in c.s.hp48)
> related to this topic, where I suggested to use kinda
> startup library, which can perform various tasks.
> At least that's what I use on my HP-48;-)

Yes, the STARTUP var only works after a warmstart so it would be equivalent to your libary solution for the 48. My startup on sets up the flags and few parameters I want to run with.

Arnaud

Re: Startup script for 49G+

*Message #8 Posted by **Tony** on 6 July 2005, 2:37 p.m.,*
in response to message #6 by Raymond Del Tondo

I haven't been able to get the STARTUP variable (in the home directory) to have /any/ effect. Maybe I'm missing something.

Arnaud's solution is fine for my purposes; it's just a maintenance routine to clear out junk from the directories before I start work.

Tony.

Re: Startup script for 49G+

*Message #9 Posted by **Arnaud Amiel** on 6 July 2005, 3:16 p.m.,*
in response to message #8 by Tony

Just store << "It is working" 'Test' STO >> in 'STARTUP' in your HOME directory. Restart your calculator with [ON][C] and you should see the effect.

Arnaud

Re: Startup script for 49G+

*Message #10 Posted by **Tony** on 6 July 2005, 3:26 p.m.,*
in response to message #9 by Arnaud Amiel

Ah yes, that works alright. Thanks.

Tony.

Re: Startup script for 49G+

*Message #11 Posted by **James M. Prange (Michigan)** on 6 July 2005, 3:38 p.m.,*
in response to message #8 by Tony

STARTUP runs only after a "warmstart"; for examples, the hold down [ON] while pressing [C] combination, a "paper clip reset", or the ON.REBOOT operation from the [ON] and [F]

combination; basically the same situations that configure libraries on a 49 series.

STARTUP is a good place to ATTACH libraries that aren't attached automatically by their $CONFIG routines, and also a good place to DETACH libraries that attach automatically if you don't want them routinely attached, as well as running any other commands that you want run at every warmstart.

Holding down the backspace key while warmstarting prevents both running STARTUP and configuring libraries. This is good for when you have a bad library or a STARTUP variable that cripples your calculator.

Note that the library configuration isn't done at every ON on the 49 series, as it is on the 48 series, and the 48 series doesn't recognize STARTUP as a reserved variable or the special action of backspace while warmstarting.

For information on STARTUP and other "reserved names" on the 49 series, see http://www.hpcalc.org/search.php?query=Reserved+names.

Regards,
James

Re: Startup script for 49G+

*Message #12 Posted by **Tony** on 6 July 2005, 5:08 p.m.,*
in response to message #11 by James M. Prange (Michigan)

That's a useful link. Thanks.

Tony.

Something all 49g+ owners should have in STARTUP

*Message #13 Posted by **Gene** on 7 July 2005, 10:28 a.m.,*
in response to message #12 by Tony

From Joe Horn:

"49g+ owners should set ->NDISP to 12, since the default is 9 which wastes some of the 49g+'s taller screen when the font is FONT7, FONT6, or the MINIFONT. Also, note that the ->NDISP setting is reset to 9 at every warmstart. Including << 12 ->NDISP >> in 'STARTUP' eliminates this problem."

9 works for the 48gII and the older 48G series. 12 is what the 49g+ should be set to.

Gene

Re: Something all 49g+ owners should have in STARTUP

*Message #14 Posted by **Arnaud Amiel** on 7 July 2005, 11:07 a.m.,*
in response to message #13 by Gene

Thanks for the tip but mine is set to 3 so I can still see the stack when I have big objects on it.

Arnaud

Re: Startup script for 49G+

*Message #15 Posted by **James M. Prange (Michigan)** on 6 July 2005, 5:34 p.m.,*
in response to message #6 by Raymond Del Tondo

Edited for corrections. STARTOFF (if found in the path) is what the calculator executes when it reaches the inactivity timeout. It doesn't include turning off the calculator, so you have to explicitely include the OFF command in the program if you want it to do that.

> Quote:
>
> But I thought the Startup var of the 4g series would be evaluated
> every time the calc is turned on, not only after a warmststart.
>
> If it's the latter case, then the Startup var seems to be of limited use.

Indeed it's the latter, but there's a work-around. There's also a reserved variable STARTOFF, that's executed only when the 49 turns off automatically, either after the default 300 seconds or the ticks value stored in the TOFF reserved variable. STARTOFF is not evaluated when you press the OFF key.

So store a program to be executed at every turn-on in a variable named, say 'AUTOEXEC'.

Store the program

```
\<< OFF AUTOEXEC \>>
```

in STARTOFF.

Asssign

```
\<< STARTOFF \>>
```

to the OFF key, and turn on USER mode. This way the program will be executed regardless of which way the calculator turns off, as long as USER mode is active.

If you also want it to be executed when warmstarting, then include AUTOEXEC in the STARTUP program

Caution; not tested, but the above makes sense to me.

> Quote:
>
> Recently there was a thread (either here or in c.s.hp48)
> related to this topic, where I suggested to use kinda
> startup library, which can perform various tasks.
> At least that's what I use on my HP-48;-)

Will that also work on the 49 series, where libraries aren't configured just by turning the calculator on?

Regards,
James

Edited: 6 July 2005, 7:44 p.m.

Re: Startup script for 49G+

*Message #16 Posted by **Tony** on 8 July 2005, 6:21 a.m.,*
in response to message #15 by James M. Prange (Michigan)

That not only makes sense, but works very well!

Thanks.

Tony.

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Current TAM for specialized higher priced calculators

*Message #1 Posted by **tildeleb** on 5 July 2005, 7:17 p.m.*

Does anyone have any idea of what the Total Available Market (TAM) is for HP like calculators in either units for dollars? Perhaps there are some ex HP folks out there from the marketing side of the business that know these numbers? I am interested to know if the total units per year is over 100K, 250K, or 1M. Educated guess would also be appreciated. Specifically does anyone know how many units/yr of the following models are sold per year?

1. HP-12C

2. HP-19BII+

3. HP-48/HP-49

Don't read too much into these questions.

Best,

leb

Re: Current TAM for specialized higher priced calculators

*Message #2 Posted by **Eric Smith** on 5 July 2005, 11:12 p.m.,*
in response to message #1 by tildeleb

Ex-HP employees would still be bound by confidentiality agreements (and ethics), and thus would not be able to divulge such information to you.

I doubt that there is any reliable source from which you can get such information without spending a lot of money to get it.

Re: Current TAM for specialized higher priced calculators

*Message #3 Posted by **tildeleb** on 6 July 2005, 12:18 a.m.,*
in response to message #2 by Eric Smith

> Quote:
>
> Ex-HP employees would still be bound by confidentiality agreements (and ethics), and thus would not be able to divulge such information to you.

Confidentiality agreements sign that you when joining a company, NDAs, and "release" documents that you sign when leaving a company are not perpetual. Check the law.

Ethics are another matter. I find it kind of bizarre that my inquiry has generated an ethics question from someone who has created a microcode simulator of HP calculators from HP patents. While it's legal and HP didn't copyright older ROMs aren't there serious ethical issues with that? Your homepage has a link to

emu48 another HP calculator simulator that does use HP ROMs that DO HAVE HP copyrights and a number of these ROMS are available as a packaged file on SourceForge.

`http://prdownloads.sourceforge.net/emu48mac/Emu48files.sit?download`

I believe you also have participated in the creation of "skins" that mimic the look of HP calculators.

`http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/forum.cgi?read=75815#75815`

Aren't you trading on HP's brand? Is that ethical? Of course even if I am right, and you are not acting ethically, that would not justify poor ethical behavior on my part.

To make my case. I am not really convinced that asking for older data about the size of the market based on memories is unethical. If I meet an ex-HP sales person at a trade show and I ask him/her, "How many calculators did you move back in '94?" I don't see that as an ethical problem. Having said that I certainly expect that those people who feel that it is an ethical issue would not answer anyway.

If this is going to turn into an ethical thread, I withdraw my post.

> Quote:
>
> I doubt that there is any reliable source from which you can get such information without spending a lot of money to get it.

Get real. In Silicon Valley if you can find the right person you can probably get it for the cost of dinner or a drink.

Re: Current TAM for specialized higher priced calculators

*Message #4 Posted by **Eric Smith** on 6 July 2005, 2:05 a.m.,*
in response to message #3 by tildeleb

> Quote:
>
> I find it kind of bizarre that my inquiry has generated an ethics question from someone who has created a microcode simulator of HP calculators from HP patents.

I completely fail to see the relevance. I used publicly available, public-domain source material. I'm not divulging any HP proprietary information to third parties. The information I do provide does not in any way affect HP's business interests.

That seems *completely* different to me than if I was an ex-employee of HP and agreed to give someone confidential sales information (even though it is possible that an employee confidentiality agreement might have expired).

> Quote:
>
> Your homepage has a link to emu48

That seems even less relevant. You're suggesting guilt by association?

> Quote:
>
> that does use HP ROMs that DO HAVE HP copyrights and a number of these ROMS are available as a packaged file on SourceForge.

As I understand it, HP granted permission for HP-48 and HP-49 ROM images to be distributed for use with simulators.

> Quote:
>
> I believe you also have participated in the creation of "skins" that mimic the look of HP calculators.

Yes. How is that a problem?

> Quote:
>
> Aren't you trading on HP's brand?

I don't think so. I'm not trying to sell anything, nor am I trying to convince anyone to use my software instead of buying an HP calculator. I don't expect that anyone would want to do that. I'm not trying to confuse anyone into thinking that Nonpareil is an HP product, and in fact I explicitly state that it is not on the web page.

I don't think my references to specific HP calculator models in any way serve to confuse consumers nor to dilute the HP brand name. Therefore I don't understand your apparent objection.

> Quote:
>
> Is that ethical?

Is it unethical?

> Quote:
>
> If I meet an ex-HP sales person at a trade show and I ask him/her, "How many calculators did you move back in '94?" I don't see that as an ethical problem.

I don't see asking the question as an ethical problem. I never intended to suggest that you have done anything unethical. But if I was an ex-HP employee, I certainly would not provide such information. I can only conjecture as to what reaction you're likely to get from actual ex-HP employees. (Actually, that's not quite true. I know several ex-HP employees who would have the precise figures you're looking for, and theoretically I could ask them whether they'd be willing to divulge the information, but I don't particularly feel comfortable asking that.)

> Quote:
>
> If this is going to turn into an ethical thread, I withdraw my post.

If you didn't want this to turn into an ethical thread, you shouldn't have impugned my ethics. I was only commenting on ethical behavior of a hypothetical ex-HP employee.

> Quote:
>
> In Silicon Valley if you can find the right person you can probably get it for the cost of dinner or a drink.

Finding the "right person" would be quite a challenge, especially in Silicon Valley. Most of the people who have those numbers live in the Pacific Northwest and Singapore.

I'm sure you can get someone to give you some numbers in that manner. but having any confidence in the numbers is another matter entirely.

Eric

Re: Current TAM for specialized higher priced calculators

*Message #5 Posted by **tildeleb** on 6 July 2005, 4:36 a.m.,*
in response to message #4 by Eric Smith

> Quote:
>
> I don't see asking the question as an ethical problem. I never intended to suggest that you have done anything unethical. But if I was an ex-HP employee, I certainly would not provide such information. I can only conjecture as to what reaction you're likely to get from actual ex-HP employees. (Actually, that's not quite true. I know several ex-HP employees who would have the precise figures you're looking for, and theoretically I could ask them whether they'd be willing to divulge the information, but I don't particularly feel comfortable asking that.)
>
> Quote: If this is going to turn into an ethical thread, I withdraw my post.
>
> If you didn't want this to turn into an ethical thread, you shouldn't have impugned my ethics. I was only commenting on ethical behavior of a hypothetical ex-HP employee.

It seemed to me your were questioning the ethics of me asking the question.

For the record, I did not [mean to] impugn your ethics, I just questioned them. If you or others took it the wrong way, I apologize. Peace.

Look. I have an idea for a new kind of "calculator". I have a hardware and software platform in development that would be perfect for this. It's would not be based on any HP technology although RPN, SOLVE, and supporting many of the HP functions is an important goal. The rate of progress with calculators has certainly slowed over the years but hardware, software, and development technology has advanced a great deal. The concepts, the software, and the UI has not really been rethought since HP designed it. It's all been incremental. The combination of much better hardware and much better software development tools allows the bar to raised substainly. The question for me is; "Is there a large enough market for this kind of product?". To be honest I have no idea.

Fancy calculators aren't as important as they once were. I know many people at various labs, schools, and businesses that used to have and use HP calculators every day and no longer use them or even bring them to work. Laptops can do a lot. Excel is great and I use it all the time. My HP 19BII auto leasing program is better in Excel than it is on the HP-19BII, although the HP is faster because of the dedicated variable and numeric keys.

To get reasonable pricing on things like LCDs and ASICs you need to have a run rate of at least 100K units/yr. Since it's very unrealistic to think a new company could capture 100% of the TAM, the TAM probably needs to be at least 500K units/year and you hope you can capture 20% and get a foothold. To be honest I don't think the market is that big, but maybe it is. It would be nice to know which of the 2 big markets is biggest business or scientific/engineering? I assume

scientific/engineering but again I don't really know.

If anyone has any thoughts about this or would be interested in talking with me, I'd be interested in doing that in either in public or private. I do know about Qonos.

Re: Current TAM for specialized higher priced calculators

*Message #6 Posted by **Norris** on 6 July 2005, 12:53 p.m.,*
in response to message #5 by tildeleb

The biggest market for advanced calculators is neither business nor science/engineering. The biggest market, by far, is education.

TI began marketing graphing calculators in 1990, primarily to the education market. TI announced that their 20,000,000th graphing calculators was sold in 2000. According to the book "TI-83 Plus Graphing Calculator for Dummies," which was published in 2003, the TI-83 model alone was selling at a rate of more than 2,500,000 units per year.

The numbers for other markets, and for HP calculators, are not known, but are probably much, much lower. It seems likely, for example, that a significant fraction of all HP-33S calculators are sold to people taking US professional licensing exams in engineering and surveying (the 33S is the only RPN calculator allowed on such exams). But the total number of new examinees is less than 50,000 per year, and the number of 33S sales to such examinees can't be more than 10,000 to 20,000 units per year at best. If the professional exam market is indeed a significant fraction of all 33S sales, then it seems unlikely that total 33S sales are at the 100,000 unit per year level.

Re: Current TAM for specialized higher priced calculators

*Message #7 Posted by **tildeleb** on 6 July 2005, 8:14 p.m.,*
in response to message #6 by Norris

Now that's some useful insight for me at least. Thanks. 2.5M units x $150/unit = $375M for one product isn't too bad, eh? Now the question would is "How elastic is that price?" Could you capture 100K to 500K units @ $300 with a better product? In my experience better doesn't sell too well and price is really the big determiner which is how TI killed HP anyway. Most of my cost is in the LCD.

Education market is tough

*Message #8 Posted by **Norris** on 7 July 2005, 12:47 p.m.,*
in response to message #7 by tildeleb

Note that selling to the education market is *not* like selling to the business or scientific/engineering market.

You would have to convince teachers, professors, and administrators to adopt your calculator, instead of TI's. But education professionals are not simply interested in the capabilities of the calculator. They want to look at the entire educational package.

Can you supply dozens of student activity books and teacher guides so that calculator can be used in different classes and grades? Can you provide PC software that allows teachers to view the screen of any student's calculator? Do you offer teacher training on the use of the calculator? Do you sponsor annual teacher conferences?

TI does all these things. See education.ti.com. That's why TI has more than 95% of the graphing calculator market in the US (statistic is from "TI-89 Graphing Calculator For Dummies").

It isn't just a matter of price. Casio has been trying unsuccessfully to penetrate the US education market with cheap, capable graphing calculators for years (granted, they have been more successful overseas). HP isn't even a player.

Re: Education market is tough

*Message #9 Posted by **Namir** on 7 July 2005, 4:24 p.m.,*
in response to message #8 by Norris

Norris,

You are very right. The educational markey needs to vendor to **romance** the buyers (teachers and students in this case). TI has done a very good job, but it did not happen overnight. My wife sells calculators at a big college in town. Some professors are attached to specific models and will move to new ones with great difficulty. One case she told me, is a professor that hesitated to use the new TI-84 Plus because he was so used to the TI-83 Plus!!

In the HHC 2004 in San Jose I heard a presentation by Wlodek Mier-Jedrzejowicz about how HP tried to attack the educational market in a teachers' conference in Europe. Wlodek recounts how poor HP's efforts were compared to TI and Casio. I remember Richard Nelson addressing the folks from HP at the conference and commenting that it might be a wise move for HP to come out with an inexpensive HP-45-like non-programmable calculator that can be used to get teachers and students into RPN calculators. Of course if that succeeds (heaven forbids!) there is no law that says TI cannot make RPN calculators!!! That will be the day!!

Namir

Re: Current TAM for specialized higher priced calculators

*Message #10 Posted by **Eric Smith** on 6 July 2005, 10:12 p.m.,*
in response to message #5 by tildeleb

> Quote:
>
> To get reasonable pricing on things like LCDs and ASICs you need to have a run rate of at least 100K units/yr.

To get **dirt cheap** pricing you need that many units. And for an ASIC you might need that many units. But you can get decent LCD pricing and masked-ROM microcontroller pricing at much lower volumes than that. And if you're not trying to compete with low-end calculators, flash-based microcontrollers are probably inexpensive enough. I've seen custom LCDs in $100 appliances that are only made in about 5K/year quantities.

AFAICT, the main entry barrier to calculator manufacturing isn't the electronics at all. It's the tooling for the plastics. If you don't mind rubber keys with silkscreened legends, even that cost can be mostly eliminated. Of course, most of us here **despise** rubber keys with silkscreened legends.

Eric

Good Keyboard is the Key to Calculator Success !

*Message #11 Posted by **Bernhard** on 7 July 2005, 8:23 a.m.,*
in response to message #10 by Eric Smith

IMHO, Eric's points in the previous post are correct, let me emphasize:

1. Use a mask-ROM off-the-shelf microcontroller instead of ASIC. If you choose a manufacturer which has a compatible FLASH part, you can start production with these and lower your risk.

2. There are so many small China based LCD manufacturers looking for business you will find someone who makes your custom LCD at very low cost (if ordered at least by the 1,000s). If you agree to pay all NREs up front it is likely they will even make you a lot of 1000 or even less.

3. Now the keyboard issue (hah !):

Except for HP, no pocket calculator manufacturer EVER has managed to build a good keyboard. The superior HP quality has several factors:

a) double injection molded keys with eternal and virtually indestructible legends that simply won't wear off

b) keys are hinged which gives them a unique feel of precision and quality (and increases operational life of the contact). They don't wobble under the finger. Just compare tactile key feedback of any Classic, Woodstock and Spice HP with a TI of the era (TI keys not hinged)

c) the snap-action contact strips themselves - not too much snap, just right to feel "easy", and not too soft (to feel "mushy"). Casio calculator keys always feel mushy, like poking your fingers in soft s... (you guess what I mean).

d) the gold-plated counter-contacts on the keyboard pcb for reliable contacts

e) the overall mechanical assembly (with calculator shell) so the keyboard does not twist and bend.

f) plastic membrane under keys to protect contacts from contamination.

So far the factors which made HP calculator keyboards absolutely superior.

One historical anecdote: when the TI scientific calculators came out (and were somewhat cheaper than HP) the purchasing department of a major defense contractor tried to talk their engineers into buying TIs instead of HPs. These however already knew the poor reliability of TI keys (often leading to miscalculations) and responded: with a HP, I need to do my calculations just two times, get two identical answers, and can use the result in full confidence, while with TI, I need to do them five times or even more and then, among the different results, pick the numbers which appear more often, as they seem to be the most likely ones, all just due to keyboard bounce or keys not responding. (It was the 1970s when they made very long calculations such as center of gravity of missiles using these pocket calculators, because PC's and CAD software didn't exist). Needless to say they got their HPs.

Bottom line: if you want to make a superior calculator for serious quality work, then you ought to have the best keyboard possible.

Before you find an answer how to manufacture such a keyboard (with the legendary HP look and feel and reliabilty) at affordable costs, your calculator project most likely won't succeed.

-----> Good keyboard is the key to calculator success ! <------

(The only other road is to make cheap throwaway disposables, like other calculator manufacturers do, even today's HP (sigh), but I'd doubt this road leads to sustainable success)

Good luck, Bernhard

Edited: 7 July 2005, 10:57 a.m. after one or more responses were posted

Re: Good Keyboard is the Key to Calculator Success !

*Message #12 Posted by **Arnaud Amiel** on 7 July 2005, 8:39 a.m.,*
in response to message #11 by Bernhard

The 33s and latest 49g+ do have such a keyboard and I have no hesitation in using them. I feel the 41 a bit mushy though so I guess lots of people here won't trust me.

Arnaud

Re: Good Keyboard is the Key to Calculator Success !

*Message #13 Posted by **Howard Owen** on 7 July 2005, 12:50 p.m.,*
in response to message #11 by Bernhard

> Quote:
>
> -----> Good keyboard is the key to calculator success ! <------
>
> (The only other road is to make cheap throwaway disposables, like other calculator manufacturers do, even today's HP (sigh), but I'd doubt this road leads to sustainable success)

The only road to *sustainable* success, I would agree, with hope in my heart. It seems to me as though TI is selling baskets and barrels full of calculators, though I have no hard data to back it up. So for the education market, it may be enough for a machine to last one to four years. And what are students supposed to compare the keyboards on the throwaways to? If they can't touch a vintage HP calculator, they have no chance of judging the current crop fairly.

The "sustainable" qualification comes from the hope that someone will somehow find a way to engineer a production process that will allow keyboard quality comparable to the old HPs, but for a price point that doesn't rule out competing in the main calculator market. If they can do that, and produce a pricey high-end calculator that I would like to own with the profits from the good-quality bread-and-butter models, why I'd be delighted. Perhaps new materials will make this possible? Combine that with up-to-date electronics and brilliant software engineering in the spirit and tradition of Dr. Wickes et

al, and my hopes for old age geekery would be fulfilled. 8)

More general view of the Quality / Sustainability issue.

*Message #14 Posted by **Bernhard** on 7 July 2005, 5:58 p.m.,*
in response to message #13 by Howard Owen

We would expect that quality of merchandise has a distribution function much as people have ... the majority being mediocre, with a minority at each extreme being best or worst. It does not matter which characteristic considered for classification, be it beauty, IQ, muscles, wealth, etc., everywhere we find such a distribution function. Real people are a mix of all this. The unique mix makes people individuals. Each one is equally worthy (see the US Constitution), so don't misunderstand the above as a judgement.

From this, we would expect most products sold to belong to the mediocre variety. Not bad, but not good either. Not expensive, but not cheap either. Just somewhere in the middle. As are most people. A really great fit.

In the "good old times", this was true indeed. But now, we witness some development where people either buy:

a) the cheapest product, or

b) the best product (in most cases, the most expensive)

This even applies to food. Class a) buyers literally will eat s... or Soylent Green or whatever as long as it is cheap, tasty (= artificially flavored) and saturates the stomach.

How come ? I really have no idea why. Fact is, the mediocre ("normal") products are crushed between these two extremes. Just go to your local shopping mall and watch what merchandise is offered and what is really bought by the masses.

Manufacturers opting for a) must have strict cost controlling as profit margins are so thin there is no margin for error... as errors are inevitable (and would kill a small business on the spot) this is for the big international corporations only.

Manufacturers opting for b) must have strict quality control. They must offer the best quality technically possible. Period. Profit margins (without NRE) are high and cost controlling blunders are more easily absorbed. The catch is in the NREs: any underestimation about the selling numbers may be lethal.

In my personal opinion (and vision for the future), the class a) manufacturers will reign as long as energy and ressources are abundant and cheap, and then they will go under. Class b) manufacturers will face hard times (but many will make it) and they will reign the post-industrialized era (I guess > 2025 AD).

Maybe then we will be able to buy brand-new Classic HPs again.

Their technology seems to be sustainable for countless millennia.

They are useful tools that don't eat much energy (vs. a PC), could run on solar power alone, and would last for 30 or 40 years. Then you replace the worn keyboard PCB the first time and continue to use the calculator for the next 30 or 40 years. How

much do you need to pay for such a calculator ? One month of an engineer's salary ? No problem - just look how much time it will save (compared to calculating with pencil and paper) and how many decades it will last. Actually, it's a bargain.

Regards, Bernhard

Re: More general view of the Quality / Sustainability issue.

*Message #15 Posted by **Howard Owen** on 7 July 2005, 6:55 p.m.,*
in response to message #14 by Bernhard

Yes, but I don't want to wait until after the flood, dammit! 8) And of course I'm a cranky, spoiled boomer who helps drive the crazy economy of over abundance of which you speak.

All good points. I'd like to add another factor that I think is driving the throw-away/luxury culture besides overabundance. That's the rate of change that accellerated (2nd derivative of innovation?) during the last quarter of the 20th century. Future shock, and all that is a component. But so is the expectation that some marvelous and new gizmo will emerge next year, running on ever more capable hardware and incorporating more and more clever programming. This obviously discounts today's gizmo, let alone yesterday's. On the flip side, many people of means are willing to throw unheard of piles of cash at anything perceived to have lasting value against a background of unremitting novelty.

A real energy crunch is surely coming, I agree. That will divert the smarty pants of the world into looking for technical fixes for that problem. These may or may not be forthcoming, but the diverted effort will absolutely mean less glitzy new stuff. This will not only be because of the depletion of natural resources, but also because of the diversion of brain power to more urgent problems. But one beneficial side effect will clearly be a saner yardstick of value and quality, as you lay it out. Perhaps it won't be merely a side effect, come to think.

It's both fortunate and unfortunate for me, but I see the crunch happening later than you do. Fortunate, because I get to continue to ride the shockwave of change for the rest of my professional life, at least. I have grown up welcoming and adapting to change. It would be a change for me not to change, so to speak. Unfortunately, I will have to continue to cope with the skewed values engendered by the profligacy and genius of my age. Lack of a decent new calculator is nowhere near the worst of the consequences of that excess, but it's emblematic.

Edited: 7 July 2005, 7:02 p.m.

Good Keyboard is the Key -- so build to a proven keyboard

*Message #16 Posted by **Paul Brogger** on 7 July 2005, 4:29 p.m.,*
in response to message #11 by Bernhard

To satisfy the fanatic/hobbyist market, design to a proven keyboard component -- say, the HP-41 keyboard. They're generally available, still durable, and should be easily incorporated in an otherwise brand-new kit-type product.

And if the product takes off and the price of used HP-41s goes even FURTHER through the roof, making a new keyboard substitute will suddenly become economically viable.

Re: Current TAM for specialized higher priced calculators

*Message #17 Posted by **Hugh Evans** on 7 July 2005, 12:02 p.m.,*
in response to message #5 by tildeleb

If you wouldn't mind elaborating on your ideas I'm sure everyone here would be interested. Please send me an e-mail, I may be able to lend some insight and/or assistance.

Best Regards, HDE

Re: Current TAM for specialized higher priced calculators

*Message #18 Posted by **tildeleb** on 11 July 2005, 9:40 p.m.,*
in response to message #17 by Hugh Evans

I'd like to thank everyone for their input. It is all much appreciated.

As far as the keyboard "issue" is concerned I just would like to say that I think understand that issue completely. I've been involved with HP products since 1973, I used to receive the HP Journal, and I have owned a variety of HP calculators starting with the HP-65. I understand double-shot molding, the hinged keys, the metals involved, and so on. I believe I know how to create a quality product with a quality keyboard and I understand the NRE that would be involved in doing so.

> Quote:
>
> If you wouldn't mind elaborating on your ideas I'm sure everyone here would be interested. Please send me an e-mail, I may be able to lend some insight and/or assistance.

I have a hardware platform based on a SOC that I have access to. I have a software substrate platform based on a variety of technologies that I don't want to reveal right now. The hardware platform is probably overkill even for a next generation calculator but it is has superb power management capabilities. I have a number of candidate concepts for deploying the platform and a next generation calculator is one of them.

It would be "nice" for someone to offer a next generation calculator platform. I wanted to explore the issues involved in in doing so. As is often the case it's not the technical aspects that are the gating factor but the business details. Most people are happy with what TI sells. The price is right. They control the education market. HP doesn't sell many units anymore and the current models are just incremental retreads of the previous models. The barriers to entry in this market are large and many.

Having said that, I have no desire to build a huge company. If I could sell 50K units a year and make $5M ($100/unit) I'd be happy. I could even be happy with 10K units the first year, but I need some volume to get good LCD pricing.

As far as what the system would look like I have some ideas on that but I would prefer to keep those to myself.

My email address is available here (remove the spam blocking characters) if someone wants to contact me. Please use the word "calculators" in the subject.

Thanks. -- leb

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What happened to Thomas Osborne after the 9100A?

*Message #1 Posted by **marais** on 5 July 2005, 1:56 p.m.*

Thomas Osborne's contribution to the HP 9100A is well documented, but I seem to be unable to trace back what he did after "the initial journey", as Steve Leibson phrased it on his gorgeous 9825 yet unfinished 9825 site. From what I read, he was a rather independent spirit, never hesitating to leave a company unable to follow his vision, and likewise did not stay with HP for long. Who knows more?

Andreas

Re: What happened to Thomas Osborne after the 9100A?

*Message #2 Posted by **Chas** on 16 July 2005, 9:50 p.m.,*
in response to message #1 by marais

He is mentioned in the '72 article "Made in USA...finally!" by Sheldon on Rick Furr's site.

He went on to greater fame as....

*Message #3 Posted by **Karl Schneider** on 17 July 2005, 3:08 a.m.,*
in response to message #1 by marais

... the long-tenured head football coach from 1972 at the University of Nebraska, and is now a U.S. Representative from Nebraska.

Just kidding! Seriously, it can be annoying when one tries to find info about someone using Google or Yahoo, and there is a famous namesake dominting the "hits".

-- KS

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Strange HP on eBay

*Message #1 Posted by **Marcus von Cube, Germany** on 5 July 2005, 12:45 p.m.*

Can any of you identify this device?

http://www.mvcsys.de/temp/CALC1.jpg

It is from eBay auction #5787103394.

Re: Strange HP on eBay

*Message #2 Posted by **Martin** on 5 July 2005, 12:49 p.m.,*
in response to message #1 by Marcus von Cube, Germany

I used to work for HP and remember these things, They are basically a security device to prevent anyone walking off with your calculator.

Re: Strange HP on eBay

*Message #3 Posted by **Marcus von Cube, Germany** on 5 July 2005, 12:53 p.m.,*
in response to message #2 by Martin

So it is a (then) standard calc, just secured inside a special cradle?

What type of calculator is it?

Strange HP on Ebay

*Message #4 Posted by **Bernhard** on 5 July 2005, 1:02 p.m.,*
in response to message #3 by Marcus von Cube, Germany

IMHO, it looks like a HP-21 in a theft protection device. I remember these had a thick steel cable. No problem for a bolt cutter, though. Vendor should offer the key, too, otherwise you can't get out the HP-21 undamaged except if paying a locksmith (who might cost you more than the HP-21 is worth).

Re: Strange HP on Ebay

*Message #5 Posted by **Dave Hicks** on 5 July 2005, 1:07 p.m.,*
in response to message #4 by Bernhard

Here's an old picture I took that I never got around to adding to the museum.

Re: Strange HP on Ebay

*Message #6 Posted by **Bob** on 5 July 2005, 1:13 p.m.,*
in response to message #4 by Bernhard

Yup, we used to have these contraptions bolted to the lab bench top in physics class years ago in college. They were purchased by a far-thinking professor who wanted the best tools possible for the class. However, the calcs were always dead because it was such a hassle to find the key and change the batteries.

Sadly, the TI's that were commonly available at the time I took the class were far cheaper and equal in function compared to the HP's in the security case by the time I got there.

To their credit, they were durable though.

Calcs in general were unique and much more valuable then.

Re: Strange HP on Ebay

*Message #7 Posted by **Dave Hicks** on 5 July 2005, 1:22 p.m.,*
in response to message #6 by Bob

When I was in high school, our chemistry lab had TI SR-10s bolted down like this. There was a "calculating station" with four of them - at standing height so you didn't get too comfortable and waste time with a precious resource. (The resource being essentially a 6 function calculator.)

Of course, an inflation calculator does say that they cost about $660 USD in today's dollars so I guess that was worth protecting.

Re: Strange HP on Ebay

*Message #8 Posted by **Evan (San Jose, California)** on 5 July 2005, 2:38 p.m.,*
in response to message #7 by Dave Hicks

The Woodstock series security cradle also had an additional 'lens' over the display that helped bend the display output. This helped to move the useable viewing angle closer to the keyboard and more suitable for use on the desktop. I'm not sure it was all that effective. The cradle certainly did make a pretty tough calculator nearly indestructible.

Cheers,

Evan (1st time poster, former HP'er (although not in calculators), and PPC member #7042)

Re: Strange HP on Ebay

*Message #9 Posted by **Matthias** on 5 July 2005, 4:28 p.m.,*
in response to message #4 by Bernhard

Hi

On my website you can see all (?) security cradles/cables for different HP calculator models:

http://www.hp-collection.org/security.html

Re: Strange HP on eBay

*Message #10 Posted by **Howard Owen** on 5 July 2005, 5:32 p.m.,*
in response to message #1 by Marcus von Cube, Germany

So, how do you break in to one? (This one is missing the key, according to the auction.)

Re: Strange HP on eBay

*Message #11 Posted by **Etienne Victoria** on 5 July 2005, 7:42 p.m.,*
in response to message #10 by Howard Owen

Hi Howard et al,

Somebody kindly sold me an Hp-29C in a security device without key.

With my Dremel & a 9911 tungsten Carbide tool, I've drilled 5 holes in the lock (domino style) then tool 545 cutting between holes.

It works fine except that the lock is not intact anymore (just *"Near Mint" for Ebay* ;-).

Best regards

Etienne

Re: Strange HP on eBay

*Message #12 Posted by **George** on 15 July 2005, 6:09 p.m.,*
in response to message #10 by Howard Owen

The locks are relatively easy to pick. I obtained one with a cable that was locked with no key, and one without a cable that had two keys. It was easier than I expected to combine the keyed cradle with the cable. The unkeyed one was relegated to storage, as I didn't want rely on my amateur locksmithing skills to get a calculator out of it.

Re: Strange HP on eBay

Message #13 Posted by ***Vieira, Luiz C. (Brazil)*** *on 5 July 2005, 5:56 p.m.,*
in response to message #1 by Marcus von Cube, Germany

Hi;

I saw one of these in the 80's. I'm not sure if it can hold anything but a Woodstock.

At that time, the owner had the cradle and an HP29C, fortunately outside it, but he had no idea of where it was the key to open the security lock (the cradle was locked). The owner asked me for help, and I knew about one of the best 'key makers' (is it correct?) in the town.

I saw the man furiously trying for about half an hour to open the cradle with his tools. Finally, he gave up and told me: 'After more than 30 years, this is the second time I cannot open a custom lock'. The poor man was desolated.

The calculator in your picture is surely an HP21, the only Woodstock with a single shift key injected in blue. The HP21 had no inscriptions in the keyboard faceplate, only in the keys (slanted face).

I hope the buyer succeed opening it without destroying the cradle... or (worst) the calculator 8^(

Best regards.

Luiz (Brazil)

Edited: 5 July 2005, 5:59 p.m.

Re: Strange HP on eBay

*Message #14 Posted by **Howard Owen** on 5 July 2005, 11:28 p.m.,*
in response to message #13 by Vieira, Luiz C. (Brazil)

That is a *great* story! The unbreakable lock fits in with the whole HP calculator ethos perfectly.

Re: Strange HP on eBay

*Message #15 Posted by **Tony Duell** on 6 July 2005, 6:24 a.m.,*
in response to message #13 by Vieira, Luiz C. (Brazil)

In my experience the locks on the HP security cradles are not difficult to pick. They are normal pin-tumbler cylinder locks and there are no spool pins or anything like that.

If the cradle is not fixed to anything, you can insert a finger through the hole in the back to apply torque to the locking mechanism in the 'opening' direction. Then just pick the pins as normal.

Re: Strange HP on eBay

*Message #16 Posted by **Howard Owen** on 6 July 2005, 9:56 a.m.,*
in response to message #15 by Tony Duell

Darn!

And here I thought we'd run across another piece of the HP calculator legend.

On the other hand, if I win the darned auction, there's some hope I can rescue both the cradle and the calculator. 8)

Re: Strange HP on eBay

*Message #17 Posted by **Bob** on 6 July 2005, 1:04 p.m.,*
in response to message #16 by Howard Owen

...and, thus the reason for them ALWAYS having dead batteries in them !

We could never find the keys, so they were like little museums holding one example of an HP.

...I wonder what happened to them. They were still bolted in place 5 years ago when I visited my old college?

Re: Strange HP on eBay

*Message #18 Posted by **Vieira, Luiz C. (Brazil)** on 6 July 2005, 1:25 p.m.,*
in response to message #15 by Tony Duell

Hi, Tony;

I do not recall it precisely (it was probably 1989 or 1990) but I remember that the cradle was empty, no

calculator on it, and I could not even see the locking 'tab', neither how were the top and botton halves kept together. Is it possible that different versions of the security cradle exist and at least one of them does not allow it to be openned without the keys? Just curious about it.

Thanks for the additional info.

Best regards.

Luiz (Brazil)

Re: Strange HP on eBay

*Message #19 Posted by **Etienne Victoria** on 6 July 2005, 4:09 p.m.,*
in response to message #18 by Vieira, Luiz C. (Brazil)

Hi Luiz,

Echoing your post, the Woodstock craddle I got also had a recessed lock.

That's why I resorted to virile brute force to free the calc (see my upper post)!

BTW thanks for your kind mail!

Best regards

Etienne (Fourqueux)

Re: Strange HP on eBay

*Message #20 Posted by **Jacques** on 7 July 2005, 11:39 p.m.,*
in response to message #19 by Etienne Victoria

I heard a case, at a university back in the 70s where a whole table top was removed from a table in order to steal a calculator in one of these cradles.

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new skins 4 Nonpareil 0.77

*Message #1 Posted by **Mike (Stgt)** on 5 July 2005, 10:59 a.m.*

As I am sick at home w/o further ado: http://ourworld.compuserve.com/homepages/nutem/npw.htm

There I describe how to change the decimal separator.

Ciao.....Mike

Re: new skins 4 Nonpareil 0.77

*Message #2 Posted by **Eric Smith** on 5 July 2005, 11:31 p.m.,*
in response to message #1 by Mike (Stgt)

I'd like to claim that I was being really clever in allowing the KML to map multiple calculator buttons to one host keyboard press, but in actuality I'm rather surprised that it works.

I think I'll add support for KML files to add a "Special" menu with whatever items the KML author likes, in order to more conveniently handle this kind of stuff.

Nice job, Mike!

Eric

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HP42s spilled coffee

*Message #1 Posted by **Kobus Burger** on 5 July 2005, 5:42 a.m.*

I own a HP42s and spilled coffee onto it, how do I open it to clean & dry it out? Currently the screen is blank, please help, this is (was?) my trusted companion for the past 10years. I have dried it out in the sun, currently it gives me the message "Memeory clear" but it seems dead as it does not allow any keystrokes. Please help.

Re: HP42s spilled coffee

*Message #2 Posted by **Arnaud Amiel** on 5 July 2005, 7:47 a.m.,*
in response to message #1 by Kobus Burger

This should be useful:

http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/archv015.cgi?read=73519#73519

Good Luck

Arnaud

Edited: 5 July 2005, 7:48 a.m.

Re: HP42s spilled coffee

*Message #3 Posted by **Kobus Burger** on 5 July 2005, 8:50 a.m.,*
in response to message #2 by Arnaud Amiel

Thanks Arnaud for the reference, I have opted for the water submerge option and now had put it in the sun to dry out. Luckily I am in South Africa in even in our winter blessed with warm sunny days.

Re: HP42s spilled coffee

*Message #4 Posted by **David Smith** on 5 July 2005, 11:44 a.m.,*
in response to message #1 by Kobus Burger

If you have access to an ultrasonic cleaner, run it through three cycles. Reove the machine, shake it as dry as possible, and use fresh distilled water each time. Then let it dry very well. A hot car makes a nice oven for drying it out... but keep it out of direct sun.

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More information on the Albillo Matrices

*Message #1 Posted by **Palmer O. Hanson, Jr.** on 4 July 2005, 11:34 p.m.*

In his April 26 submission "More Matrix Results on HP and TI Machines" Valentin Albillo proposed a seventh order matrix to be known as "Matrix No. 1" as a better test of computation capability than a seventh order Hilbert. In another April 26 submssion "There you are" Valentin proposed two more seventh order matrices, "Matrix No. 2" and "Matrix No. 3". In an April 27 submission "(LONG) Commented Results for HP-71B (and HP-15C)" he published the exact inverse for his No. 1 matrix. Exact inverses for matrices No. 2 and No. 3 have not been published to date. The exact inverses for those matrices as calculated using the exact mode on the HP-49 are:

```
Exact Inverse for Albillo's Matrix No. 2 :


 193969587   693099  -1665228    3111895  -14779418   67861431   -194191637
      7798       28       -67        125       -594       2728        -7807
    -64638     -231       555      -1037       4925     -22614        64712
    504013     1801     -4327       8086     -38403     176332      -504590
  -4282933   -15304     36769     -68712     326336   -1498410     4287836
  25738861    91971   -220968     412934   -1961160    9004896   -25768326
-193970402  -693102   1665235   -3111908   14779480  -67861716    194192453


Exact Inverse for Albillo's Matrix No. 3:


 294228951   702720  -1942323    4764003  -21337482   76325631  -294398186
     12108       29       -80        196       -878       3141      -12115
    -90417     -216       597      -1464       6557     -23455       90469
    512920     1225     -3386       8305     -37197     133056     -513215
  -4325606   -10331     28555     -70038     313693   -1122101     4328094
  36887482    88100   -243509     597263   -2675080    9568944   -36908699
-294230620  -702724   1942334   -4764030   21337603  -76326064   294399856
```

I had previously noticed that the first and last elements for every row and every column of the inverse of Matrix No.1 were approximately equal and larger than any other element in the row or column. I was surprised to see the same characteristic in the inverses of Matrix No. 2 and Matrix No. 3. When I looked more closely at the inverses I saw patterns in the individual inverses and among the inverses. The following table shows the results when I divide each element of the seventh row of Matrix No. 1 by the corresponding element of the sixth row, and do the same for the seventh and sixth column.

Element	row 7 / row 6	col 7 / col 6
1	-7.32762314181	-3.19606552693
2	-7.32758186686	-3.19586894587
3	-7.32762522837	-3.19606732481
4	-7.32762448362	-3.19606423358
5	-7.32762198907	-3.19606453553
6	-7.32762262334	-3.19606533695
7	-7.32762303367	-3.19606551596

I found similar consistencies in every set of ratios that I tried. If I do the row 7 divided by row 6 calculations for the inverses of Matrices No. 2 and No. 3 I get ratios of -7.53609... and -7.97643... If I do the column 7 divided by column 6 calculations for the inverses of Matrices No. 2 and No. 3 I get ratios of -2.861... and -3.857... .

When I worked with problems like the one near the end of Kahan's "Mathematics Written in Sand" , namely an 8x8

modified Hilbert where A(i,j) = 360360/(i + j - 1) I recognized that the test matrix was symmetric and expected that the exact inverse would also be symmetric, which it was. I could also see evidence of approximate symmetry in the non-exact inverses as delivered from my HP-28S and TI-59. So, I was surprised to find that I could see patterns in the inverses of the Albillo matrices while I could not see patterns in the original matrices that Valentin had described as random. .

In the thread that introduced the Albillo matrices Werner asked twice for information on how the matrices were formed. I, too, would like to have more information on how these matrices were formed.

Re: More information on the Albillo Matrices

*Message #2 Posted by **Marcus von Cube, Germany** on 5 July 2005, 3:13 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

> Quote:
>
> So, I was surprised to find that I could see patterns in the inverses of the Albillo matrices while I could not see patterns in the original matrices that Valentin had described as random.

I guess they just *look* random. I think Valentin has taylored the matrices in a way that computing the inverse yields to many differences of non integer numbers with very close values. In each such a subtraction a nonexact computer/calculator looses much of its accuracy.

Since the algorithms normally include pivoting (swapping rows or columns to avoid such situations) he must have done serious detective (or engineering) work!

Re: More information on the Albillo Matrices

*Message #3 Posted by **Valentin Albillo** on 27 July 2005, 6:01 a.m.,*
in response to message #1 by Palmer O. Hanson, Jr.

Hi, Palmer:

Sorry for not answering sooner but first I missed your post entirely, then was far too busy to be able to answer.

Thanks for your interest in my AM matrices, you can find a whole article on the subject in the very next August-September issue of Datafile, which not only discusses AM#1, #2, and #3 but introduces the yet unpublished AM#7, which is truly deadly as you'll see in the article.

So much so, indeed, that a **Mathematica(tm)** session is included as well to deal with it, because otherwise all you get is pure, meaningless *garbage* with the results having *no correct digits at all*. Instability problems are discussed and very graphically demonstrated for this AM#7 matrix. As the article discusses, *even using **Mathematica(tm)*** seems rather pointless in some particular AM#7 scenarios.

Hope you'll enjoy it.

Best regards from V.

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Repairing HP 20s?

*Message #1 Posted by **Natasha** on 4 July 2005, 7:26 p.m.*

Hi all,

My beloved HP 20s recently started malfunctioning. Input from the +-*/ keys was ignored, so that the operation: 2 + 2 was treated as the entry of the number 22. I dug out the manual and ran a self test. The result was 20 - FAIL 8.

Working on the assumption that I can't send the calculator in for repair... I thought I'd try it myself. I'm posting in the remote hope that someone out there knows what this error code means, or better yet can point me to a service manual or schematic. Or can just give me any tips, such as about how to open the lid without damaging it.

Thanks much

Natasha

Re: Repairing HP 20s?

*Message #2 Posted by **Katie Wasserman** on 4 July 2005, 10:43 p.m.,*
in response to message #1 by Natasha

Natasha,

If you really want to try repairing your 20S here's what you need to read for starters: http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=5.

I doubt that HP will repair it for you as it must be out of warranty by now, but you can often find new (or nearly new) 20S's on ebay for around $30-$40.

-Katie

Edited: 4 July 2005, 10:43 p.m.

Test

*Message #3 Posted by **Paul Brogger** on 5 July 2005, 5:50 p.m.,*
in response to message #1 by Natasha

Try pinching the calculator firmly, front-to-back just below the display on the right side.

If the keys work while the calc is being squeesed in this manner, you've got a common problem: an atrophied rubber pressure strip that is meant to maintain contact between the keyboard assembly and the main printed circuit board.

It's a relatively easy fix -- though perhaps more than many would care to attempt. If you don't want to try yourself, chase down Randy Sloyer (www.fixthatcalc.com).

Good luck, and let us know how it comes out.

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HP3421A

*Message #1 Posted by **Jeff** on 4 July 2005, 1:18 p.m.*

Have acquired a used HP3421A (to replace an older unit that died), and am having difficulty getting this unit to measure at AC voltages below ~60mV. The prior unit had no problem before it went on us. Generally, once you input a voltage higher than this (give or take), it begins to read more accurately (it needs cal. as its a bit off, but ok for now). Any thoughts?

Thanks,

Jeff

Re: HP3421A

*Message #2 Posted by **Christoph Klug** on 5 July 2005, 2:51 a.m.,*
in response to message #1 by Jeff

Dear Jeff,

may be your new HP4321 needs a new calibratio procedure. It would be possible, that the internal lithium battery cell now is failured, and the stored calbiration data are lost....

Best regards - Christoph Klug

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Nonpareil: dot/comma reverse?

*Message #1 Posted by **R Lion** on 4 July 2005, 12:20 p.m.*

Any way for setting the 15C with decimal comma? Thnaks in advance Raul L

Re: Nonpareil: dot/comma reverse?

*Message #2 Posted by **Raymond Del Tondo** on 4 July 2005, 1:49 p.m.,*
in response to message #1 by R Lion

The usual method (also in the FAQ and RTFM;-)
to switch between decimal comma or point is to
hold the point key while the calc is off,
then pressing ON, then releasing the point key.

I guess this also works w/NonPareil somehow.

Raymond

Edited: 4 July 2005, 1:51 p.m.

Re: Nonpareil: dot/comma reverse?

*Message #3 Posted by **Gerson W. Barbosa** on 4 July 2005, 2:13 p.m.,*
in response to message #1 by R Lion

[ON] [.], as on the real calculator. You may have to try twice or three times before you do it right.

Regards.

Re: Nonpareil: dot/comma reverse?

*Message #4 Posted by **R Lion (Spain)** on 4 July 2005, 2:46 p.m.,*
in response to message #3 by Gerson W. Barbosa

Raymond: I am not talking about the real 15C..
Gerson: I've tried **much more** than twice or three times. As much that I thought this was not the way
At last, I got success.
Thanks

Edited: 4 July 2005, 2:54 p.m.

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4th of July (O.T.)

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 3 July 2005, 11:03 p.m.*

Hi, all North-Americans;

although it is not a regular subject, let me mention (remember) some facts, amongst many:

1) the ARPANET began in the North-America;
2) W. Hewlett and D. Packard funded HP in North-America;
3) Ed Roberts created the Altair 8080 in the North-America;
4) IBM engineers designed the PC in the North-America;
5) Dave Hicks created the MoHPC in the North-America...

So, I`d not be keying these words in my IBM-compatible PC, a single-unit personal computer, to post this message in the MoHPC through the www about HP calculators without knowing that all of the ones above came from the USA. Have you all the best celebration in this fourth of July. You deserve it.

Luiz, from the southern America.

Edited: 3 July 2005, 11:14 p.m.

Re: 4th of July (O.T.)

*Message #2 Posted by **Ed Look** on 3 July 2005, 11:37 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Hey thanks!

But do you think point #5 has a chance of making it to children's history books?

;)

Re: 4th of July (O.T.)

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 3 July 2005, 11:59 p.m.,*
in response to message #2 by Ed Look

All of the other four did that, didn't they? Why not the MoHPC and Dave being part of history as well? <8^D

Re: 4th of July (O.T.)

*Message #4 Posted by **Dave Hicks** on 4 July 2005, 12:07 a.m.,*
in response to message #2 by Ed Look

Maybe not the children's *history* books, but there is a word problem about me in an Addison Wesley 6th grade math text book. :-)

It has the URL too so I get questions from students and teachers.

Re: 4th of July (O.T.)

*Message #5 Posted by **GE** on 4 July 2005, 4:07 a.m.,*
in response to message #4 by Dave Hicks

Funny, could you copy here the text of the problem (in the hope we can solve it ... SSMC). Thx

By the way, I have a problem with the new forum : while it is VERY (very) nice to see a complete thread as a whole, the links to individual messages do not change color even if you have read them. So it is quite hard to keep track of what has been read or not.
We'll survive, I guess..

Re: 4th of July (O.T.)

*Message #6 Posted by **Dave Hicks** on 4 July 2005, 11:28 a.m.,*
in response to message #5 by GE

I'll see if I can find the math problem.

Unfortunately I don't see a way around the visited link coloring, except to use the (new) indicators instead of the link colors, or to use the individual message display (search/personalize: Display Messages = Individually.) Alternately, you could consider the "compressed" view for the list messages view and "the grouped into threads" for the message view. This provides one link from the main page per thread and shows the number of new messages.

Because of they way browsers color links, for a threaded list and a grouped into threads display, I can either do it like it is now, where the message you click on is colored as visited, or I can make it such that all the messages in a thread are colored as visited when you click on any - but then posts made after you view the thread would also be colored as visited. (I would do the latter by making the thread page look like a singe page to the browser - whereas now it looks like each message has it's own page - even though the content of each page is the same through-out the thread, when you set Display Messages to Grouped.)

There is nothing in HTTP that I know of that lets me tell a browser to mark some additional links as visited. Browsers manage that themselves.

Re: 4th of July (O.T.)

*Message #7 Posted by **Dave Hicks** on 3 July 2005, 11:44 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Thank you Luiz!

> Quote:
>
> So, I`d not be keying these words in my IBM-compatible PC, a single-unit personal computer

I keep saying this but someday I'm going to write a browser for my Altair so I can respond to that like:

And I'd not be keying these words in my Altair... :-)

Someday...

Kind thoughts and a gift for the 4th of July (OnTopic coz' it's a calc)

*Message #8 Posted by **Etienne Victoria** on 4 July 2005, 3:37 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

Hi all US citizens!

I'd like to add my french congrats to Luiz' for the Independence Day.

...and state the major features/inventions I love from your land (apart from the buggy Hp calcs and in increasing importance) :

- the man on the moon,

- peanut butter,

- my first girlfriend in Milwaukee,

- my caring, eternal american friends in Virginia whom I consider part of my family.

I'll keep those four in my heart but today I extend it to you all!

Have a nice day!

Etienne

PS : Please find hereafter as a gift the first BP (not HP) that started it all (I mean Luiz' list not mine ;-))

http://upload.wikimedia.org/wikipedia/commons/thumb/8/80/Arts_et_Metiers_Pascaline_dsc03869.jpg/800px-Arts_et_Metiers_Pascaline_dsc03869.jpg

Well... Wilhelm Schickard pictured hereafter: http://upload.wikimedia.org/wikipedia/en/a/a6/Gastonpied.gif did preceed it with his stunning achievement:

http://users.hol.gr/~helen/index.files/LE%20BOULIER.files/image010.jpg

123.456 to delete.....*just joking...*

Edited: 4 July 2005, 4:02 a.m.

Re: Kind thoughts and a gift for the 4th of July (OnTopic coz' it's a calc)

*Message #9 Posted by **Gerson W. Barbosa** on 4 July 2005, 2:42 p.m.,*
in response to message #8 by Etienne Victoria

Hi Etienne,

You forgot to include coca-cola (light coke!) in your list. You should have mentioned the Pascaline was

invented by Blaise Pascal (from France, of course), so some people don't think this was Bérnard Parisse's first computing device :-)

I have a theory that might explain why we Brazilians have not made so many inventions: it's Wintertime here and there's a blazing sun out there (24.5°C/76.1°F) - and I live in one of the coldest cities here. Who would be locked in a room inventing anything with such a weather?

I second you and Luiz on the 4th of July congratulations.

(Edited to update the temperature :-)

Edited: 4 July 2005, 3:31 p.m.

Re: Kind thoughts and a gift for the 4th of July (OnTopic coz' it's a calc)

*Message #10 Posted by **Etienne Victoria** on 4 July 2005, 6:03 p.m.,*
in response to message #9 by Gerson W. Barbosa

Hi Gerson,

I understand your point because I was born in a warm country too (Syria)!

However, put me in a street, ask me to sing and dance, watch all the girls fleeing far away and you'll see that Brasil invented much of the musical harmony I love.

...and Brasil also invented Lucio Costa and Oscar Niemeyer!!

Just for this, I'll come and visit!

Friendly regards from the pole: (Fourqueux)

Etienne

Re: Kind thoughts and a gift for the 4th of July (Now completely O. T.)

*Message #11 Posted by **Gerson W. Barbosa** on 5 July 2005, 11:56 a.m.,*
in response to message #10 by Etienne Victoria

> Quote:
>
> Hi Gerson, ...and Brasil also invented Lucio Costa and Oscar Niemeyer!!

Did you know Lúcio Costa was born in Toulon, France? Well, the French weather was good to him as was to Santos-Dumont...

Anyway, thanks for remembering them.

Kind regards,

Gerson.

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Welcome to the new forum software

*Message #1 Posted by **Dave Hicks** on 3 July 2005, 5:29 p.m.*

The new forum software is now running. If you like, you can keep using it more or less as you always have, but there are some new features like, formatting buttons, several different thread display formats and optional user accounts. (Notice the "Login / Accounts]" at the top right.

Account User's Guide

By request, I've kept most of the accounts from the Betas. (All the ones that looked like serious/non-test accounts.) If you created an account for fun, and it's still there and you don't want to use it, please let me know.

Please let me know about bugs.

Coming next: account-holders can ask for guest directories which they can manage themselves. Until then, you can keep sending things to me and I'll put them in your guest directories.

Re: Welcome to the new forum software

*Message #2 Posted by **Bob Wang** on 3 July 2005, 5:52 p.m.,*
in response to message #1 by Dave Hicks

Looking good so far ;-)

Bob

Re: Welcome to the new forum software

*Message #3 Posted by **Mike T.** on 3 July 2005, 7:04 p.m.,*
in response to message #1 by Dave Hicks

I like the new features - particularly the ability to display/scroll through an entire message thread, saves a lot of clicking...

Re: Welcome to the new forum software

*Message #4 Posted by **Etienne Victoria** on 3 July 2005, 7:43 p.m.,*
in response to message #1 by Dave Hicks

Very nice look, Dave!

The sequence of posts is much more readable!

Very comprehensive input form

Dave, do you intend to implement a dynamic filter (as in the archives) ?

For example: Display all messages except those containing "C.....n"

Have a nice day!

Etienne

Re: Welcome to the new forum software

*Message #5 Posted by **Dave Hicks** on 3 July 2005, 11:41 p.m.,*
in response to message #4 by Etienne Victoria

> Quote:
>
> **Dave, do you intend to implement a dynamic filter (as in the archives) ?**
>
> For example: Display all messages except those containing "C.....n"

It took me a while to figure out what "C.....n" meant :-)

That wasn't on my list because this is the first time anyone has asked. I'm not 100% sure you're serious, but if you are, I'll add it to the list of things to think about for the next version.

I've been hoping that the whole "C.....n" thing will taper off on it's own.

Re: Welcome to the new forum software

*Message #6 Posted by **Les Bell** on 3 July 2005, 7:45 p.m.,*
in response to message #1 by Dave Hicks

Very nice, Dave! I like the very clean design - it's a huge contrast to other forums and exceptionally easy to read.

Best,

--- Les
[http://www.lesbell.com.au]

Re: Welcome to the new forum software

*Message #7 Posted by **Gerson W. Barbosa** on 3 July 2005, 8:57 p.m.,*
in response to message #1 by Dave Hicks

Thanks for your efforts in providing a nicer and safer place for us all. I've just created my account!

Best Regards,

Gerson W. Barbosa (formerly GWB)

Re: Welcome to the new forum software

*Message #8 Posted by **Vieira, Luiz C. (Brazil)** on 3 July 2005, 10:53 p.m.,*
in response to message #1 by Dave Hicks

Hi, Dave;

congratulations may sound a bit small close to what you`ve done. In fact, to what you`ve actually been doing.

Again, you are doing what you can to offer us all a better place to discuss some of the subjects we like most. I confess that for me, the existence of the forum itself is already a gift, so rearranging the space and giving it a new 'furniture' is somehow beyond the best. Thanks!

I feel sorry not visiting the Beta Forum as much as I`d like to.

Best regards from Brazil.

Luiz

Re: Welcome to the new forum software

*Message #9 Posted by **db (martinez, ca.)** on 4 July 2005, 2:15 a.m.,*
in response to message #8 by Vieira, Luiz C. (Brazil)

I like it that the entire thread is shown. I never thought about that. I do miss the old red and purple "(new)" highlights. Can that be re-written in the next version?

Re: Welcome to the new forum software

*Message #10 Posted by **Dave Hicks** on 4 July 2005, 3:08 a.m.,*
in response to message #9 by db (martinez, ca.)

You should see (new)s when you come back. A cookie needs to be set which indicates which messages existed the last time you visited. If you don't, please let me know.

There are only red ones now. Let me know if that's not OK. I'm not sure how I would do purple ones in the new system, but I can look at that if it's a problem.

The old (news) were generic to everyone and just indicated the most recent messages posted. The new (news) tell you which ones have been posted since your last "visit" began. (A "visit" is considered over if you haven't browsed in over 30 minutes.)

Re: Welcome to the new forum software

*Message #11 Posted by **db (martinez, ca.)** on 4 July 2005, 1:41 p.m.,*
in response to message #10 by Dave Hicks

Everything functions great. That'a some tight work man.

RE: the purple ones. Any **(new)** in a storm i say.

Re: Welcome to the new forum software

*Message #12 Posted by **Thomas Okken** on 4 July 2005, 11:08 a.m.,*
in response to message #1 by Dave Hicks

Dave, this new forum software looks excellent -- I particularly like the "private e-mail" feature and the use of cookies to keep track of what's been read.

However, I also second GE's comment about it now being much harder to know exactly which articles have been read within a thread. I hate myself for asking more when so much is already given for free, but still, I think it would be a nice option to be able to view threads one article at a time, so that the browser's visited-link highlighting will show you exactly which articles in a thread have been read (in the index/daily view).

Meanwhile I can probably cope by simply reading everything new whenever I log in. :-)

BTW, how have you implemented the forum? Just curious (I've done web applications using JSP in the past but I'm always interested in other ways of getting the job done).

- Thomas

P.S. I love the formatting buttons on the Edit Message page!

Edited: 4 July 2005, 11:35 a.m.

Re: Welcome to the new forum software

*Message #13 Posted by **Dave Hicks** on 4 July 2005, 11:40 a.m.,*
in response to message #12 by Thomas Okken

> Quote:
>
> I hate myself for asking more when so much is already given for free, but still, I think it would be a nice option to be able to view threads one article at a time, so that the browser's visited-link highlighting will show you exactly which articles in a thread have been read (in the index/daily view).

This is possible: search/personalize: Display Messages = Individually.

> Quote:
>
> BTW, how have you implemented the forum? Just curious (I've done web applications using JSP in the past but I'm always interested in other ways of getting the job done).

It's Perl and CGI. That's the only system I've used for web apps so I can't really compare it to anything else. Perl is not the most visually appealing language but it gets a lot of jobs done quite easily. If I were ever going start over, I would spend some time looking at other choices including PHP which seems quite popular now for this sort of thing.

Re: Welcome to the new forum software

*Message #14 Posted by **Giancarlo (Italy)** on 4 July 2005, 4:12 p.m.,*
in response to message #1 by Dave Hicks

```
Dave, I did not expect to get the new "Forum dress" so quickly.....
Congratulations: everything seems to work fine - the new look is clear, functional and
effctive.
Please, let me take the opportunity to say that this forum is the best I've ever read or
participated on the Web. All the people here share the same interests with unique
professionality and fellowship - to me, even being substantially a newcomer into HP world,
it never ever seemed to be considered less than any other contributor, either senior or
junior.
Thank you all and a special mention for Dave Hicks!
Cheers.
Giancarlo (Italy)
```

Giancarlo's Formatting

*Message #15 Posted by **Marcus von Cube, Germany** on 5 July 2005, 2:58 a.m.,*
in response to message #14 by Giancarlo (Italy)

Hi Giancarlo,

I don't know what you are excactly doing, but to me all your posts appear as a single (sometimes extremely long) line per paragraph in a non proportional font. This makes reading extremly difficult. Are you using the [pre]-Tag for your posts?

Re: Giancarlo's Formatting

*Message #16 Posted by **Giancarlo (Italy)** on 5 July 2005, 5:05 a.m.,*
in response to message #15 by Marcus von Cube, Germany

```
Hi Marcus.
You're right: looking at my previous message, it was not formatted as I expected to
be.
I think I was wrong about the following:
when I write some longer sentences in the posting window, I see
that there is a sort of "automatic" newline when I reach the
border of the window, so I thought it would turn into real
newlines in the final message too.
In the present message, I pressed the "Return" key just before
reaching the window borders, so I expect everything should look
better (I'm gonna check).
Thanks for your point.
Cheers.
Giancarlo (Italy)
```

Re: Giancarlo's Formatting

*Message #17 Posted by **Dave Hicks** on 5 July 2005, 11:23 a.m.,*
in response to message #15 by Marcus von Cube, Germany

Giancarlo's posts have [pre] codes around them, as if he pressed the Preformatted button. Giancarlo, if you didn't put that in yourself, please let me know. Preformatted is meant for code listings rather than normal text and (example)

```
exactly
                                                shows the text


      as you typed it in.       (This block was surrounded by a [pre] and I
intentionally typed it all
over
the place
with spaces and returns in strange places to demonstrate.)
```

On other hand, if you use preformatted for a listing, then it looks nice like:

```
label code
      code
      code
      code
```

Edited: 5 July 2005, 11:29 a.m.

Re: Giancarlo's Formatting

*Message #18 Posted by **Dave Hicks** on 5 July 2005, 11:41 a.m.,*
in response to message #17 by Dave Hicks

Here's Giancarlo's original post with the original [pre] ... [/pre] blocks removed and couple of

double returns entered for paragraph breaks. (I could have done single line breaks by pressing Newline or entering [nl] too.) To do this, I just clicked Edit on the original post and then cut and pasted into this post. (Anyone can click Edit to see anyone else's codes. You just can't save it unless you're the original poster.)

Dave, I did not expect to get the new "Forum dress" so quickly..... Congratulations: everything seems to work fine - the new look is clear, functional and effctive.

Please, let me take the opportunity to say that this forum is the best I've ever read or participated on the Web. All the people here share the same interests with unique professionality and fellowship - to me, even being substantially a newcomer into HP world, it never ever seemed to be considered less than any other contributor, either senior or junior.

Thank you all and a special mention for Dave Hicks! Cheers.

Giancarlo (Italy)

Re: Giancarlo's Formatting

*Message #19 Posted by **Giancarlo (Italy)** on 6 July 2005, 2:28 a.m.,*
in response to message #18 by Dave Hicks

```
Hello Dave.
I used the preformatting tags indeed (as I do in the
present message), but I did not insert any
line break before the border of the message posting window.
A couple of questions:
1) I tried to edit my "one-long-line" message in the thread
about the 15C new bezel, but I did not succeed in saving
the edited message - seems due to a password problem.
I'm not sure I understood what the real reason was....
2) is it there a way to use/show a font different from the one
my browser let me use when writing a message?
Thanks.
Cheers.
Giancarlo (Italy)
```

Re: Giancarlo's Formatting

*Message #20 Posted by **Dave Hicks** on 6 July 2005, 11:50 a.m.,*
in response to message #19 by Giancarlo (Italy)

> Quote:
>
> Hello Dave. I used the preformatting tags indeed (as I do in the present message), but I did not insert any line break before the border of the message posting window.

That explains why it was so wide then. On the other hand, this message appears too narrow because it has so many line breaks and is also inside a preformatted block. Preformatted is meant for code listings where line breaks and white space must be exactly preserved. It's not meant for paragraphs of text.

> Quote:
>
> A couple of questions: 1) I tried to edit my "one-long-line" message in the thread about the 15C new bezel, but I did not succeed in saving the edited message - seems due to a password problem. I'm not sure I understood what the

> real reason was....

I'm not either. When did you do this? Where you logged in or did you type your name and password?

> Quote:
>
> 2) is it there a way to use/show a font different from the one my browser let me use when writing a message?

Depending on your browser, you may or may not have a choice. You probably have at least some control. However, if you are trying to use this to make line breaks in preformatted messages appear in the "right place" then it's hopeless. Other people may have much wider or narrower browser windows and totally different font sizes so if you use preformatted, some people will find your text too narrow and some will find it too wide no matter where you put your line breaks. Without a preformatted block, your text will flow to whatever size the browser allows until you press Enter twice to start a new paragraph or [nl] to enter a line break. Try changing the width of your browser window, and notice how the other messages in this thread reformat themselves to fit different window sizes.

Re: Giancarlo's Formatting

*Message #21 Posted by **Dave Hicks** on 6 July 2005, 12:38 p.m.,*
in response to message #20 by Dave Hicks

> Quote:
>
> I'm not either. When did you do this? Where you logged in or did you type your name and password?

Oh, now I understand. I thought you were referring to the message above in this thread and you should have no trouble editing that one. However, you meant an earlier post that was:

1. posted without a an account... and...
2. posted without a password

These messages are still un-editable in the new software because there's no way to verify whether you are the person who created them.

Edited: 6 July 2005, 12:39 p.m.

Re: Welcome to the new forum software

*Message #22 Posted by **tony** on 6 July 2005, 12:27 a.m.,*
in response to message #1 by Dave Hicks

Dave, it would seem that although individual messages in a thread do have different message numbers (the read=XXXXX at the end of the URL) it is not now possible to actually get individual messages without getting the whole thread. This is not a problem when reading via browser but it confuses my automated download. Cheers, Tony

Re: Welcome to the new forum software

*Message #23 Posted by **Dave Hicks** on 6 July 2005, 1:08 a.m.,*
in response to message #22 by tony

It would probably be better to select the individual display of messages or the compressed listing of threads (Both under Search / Personalize) Either of those should make the number of main page links = to the number of message pages.

Re: Welcome to the new forum software

*Message #24 Posted by **tony (nz)** on 8 July 2005, 2:02 a.m.,*
in response to message #23 by Dave Hicks

Yup it does but an anonymous "get" of a message url now gives the thread. Before it used to give the message only.

Re: Welcome to the new forum software

*Message #25 Posted by **Marcus von Cube, Germany** on 8 July 2005, 3:04 a.m.,*
in response to message #24 by tony (nz)

I guess that's due to the new defaults. In the old software, the single message per get was the (only available) standard; now it is an option that has to be selected with a cookie.

If Dave were to change the defaults to the old behaviour, you'd need no changes on your side. Otherwise, your "get" software needs to provide the cookie in the HTTP header. Dave just needs to tell you what his software expects.

Re: Welcome to the new forum software

*Message #26 Posted by **Dave Hicks** on 8 July 2005, 10:55 p.m.,*
in response to message #24 by tony (nz)

That's true. Please let me know if it works any better for you now.

If not, I will need to know more about your software to make further attempts.

Re: Welcome to the new forum software

*Message #27 Posted by **Marcus von Cube, Germany** on 6 July 2005, 2:11 p.m.,*
in response to message #1 by Dave Hicks

Dave,

I just noticed that the new software isn't too well suited to my own usage pattern:

I have more than one machine but the forum software stores my reading history and preferences in cookies on every machine, not in my profile (I have an account).

For me it would be nicer if my setup were stored in a central place, not separatly on every computer I use to browse the net.

Marcus

Re: Welcome to the new forum software

*Message #28 Posted by **Dave Hicks** on 6 July 2005, 2:36 p.m.,*
in response to message #27 by Marcus von Cube, Germany

I'll put that idea on the wish list. I think it's possible but non-trivial. Hopefully the new software is no worse than the old in this regard. The old software didn't store anything personal so the (news) were pretty "generic".

I've also added "Mark All Read" at the top which wasn't meant for exactly this but might be somewhat useful anyway.

Edited: 6 July 2005, 2:47 p.m.

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SCAM: "HEWLETT PACKARD PROMOTIONAL LOTTERY"

*Message #1 Posted by **Les Bell [Sydney]** on 3 July 2005, 2:52 a.m.*

Watch out for some advance fee fraud spam doing the rounds which appears to come from "HEWLETT PACKARD PROMOTIONAL LOTTERY <hwplotterypromouk@yahoo.co.uk>".

I just received one of these; it starts like this:

```
HEWLETT PACKARD PROMOTIONAL LOTTERY
3b Olympic Way, Sefton Business Park,
Aintree, Liverpool, L30 1RD
FROM: THE DESK OF THE DIRECTOR PROMOTIONS,
INTERNATIONAL PROMOTIONS/PRIZE AWARD DEPARTMENT,
_____
RE: Official Notification of Winning (HWP 2005)
```

and the continues with the usual blurb. HP afficionados will spot the obvious errors - like referring to "HWP" rather than "HP". It's just interesting that the scammers are now using the name of a high-tech company (which obviously has nothing to do with lotteries). I wonder if they've harvested email addresses off this site in order to target their mailing? If so, they would have had to hand-edit mine. . .

Best,

--- Les
[http://www.lesbell.com.au]

Re: SCAM: "HEWLETT PACKARD PROMOTIONAL LOTTERY"

*Message #2 Posted by **dwight todd** on 12 July 2005, 10:23 p.m.,*
in response to message #1 by Les Bell [Sydney]

hi les, thanks for the info. i just got a notification of winning. boy it sure looked inviting, glad you guys were there with info. i'm not dumb enough to send them money to get money but i shudder to think what could have happened if i had even answered their email. i'm pretty much a rookie on a computer anyway.

thanks again,

dwight todd

Re: SCAM: "HEWLETT PACKARD PROMOTIONAL LOTTERY"

*Message #3 Posted by **C.J.** on 19 July 2005, 11:26 p.m.,*
in response to message #1 by Les Bell [Sydney]

I feel like an idiot... i sent them my address and cell number, nothing more,they never asked me for money or any banking info. Thank god...it could have been worse i guess. Do these people have nothing beter to do then screw around with peoples minds? Get a real job and make your own money! Do you guys think I will be okay with the info i gave them?

Re: SCAM: "HEWLETT PACKARD PROMOTIONAL LOTTERY"

*Message #4 Posted by **jessie** on 8 Aug 2005, 2:12 p.m.,*
in response to message #3 by C.J.

I also received the same letter & I also gave them my address, phone #, and dob, i hope nothing happens

Re: SCAM: "HEWLETT PACKARD PROMOTIONAL LOTTERY"

*Message #5 Posted by **clifford junker** on 13 Aug 2005, 12:25 a.m.,*
in response to message #3 by C.J.

WHAT THE HELL? I THOUGHT THIS WAS A REPUTABLE COMPANY, THIS LOTTERY STUFF IS NOT WHAT I EXCPECTED FROM THIS COMPANY, I WILL HAVCE A LAWYER ON THIS ISSUE IN THE MORNING

Re: SCAM: "HEWLETT PACKARD PROMOTIONAL LOTTERY"

*Message #6 Posted by **Namir** on 15 Aug 2005, 8:00 p.m.,*
in response to message #5 by clifford junker

Now seriously ... you really think HP will scam people???? It's probably someone **phishing** for information under the pretext of an HP lottery. You might *help* HP by forwarding that email or link to them and **let THEIR lawyers deal with it.** If you ask me, this approach will be a **a WHOLE LOT CHEAPER** than you mortgaging your house to pay for lawyers.

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33s Must Be EveryWhere

*Message #1 Posted by **I, Claudius** on 3 July 2005, 12:08 a.m.*

Stopped in the brand new Walmart in Socorro, New Mexico the other day. In the calc section was an HP33s. If it's made it to Socorro, it must be everywhere!

Re: 33s Must Be EveryWhere

*Message #2 Posted by **Dave Shaffer** on 3 July 2005, 12:21 a.m.,*
in response to message #1 by I, Claudius

Well, possibly contrary to your first impression, there are a LOT of scientists (and engineers) in Socorro!

First, that is the home of New Mexico Institute of Mining and Technology (with lots of scientists and engineers, and students aspiring to the same).

Second, it is the home of the National Radio Astronomy Observatory (NRAO) Array Operations Center (AOC). As I noted in my comments about scientists at NRAO using HP calculators, NRAO has a long tradition of HP calculators. There are some 30-40 PhD radio astronomers associated with the AOC, most of whom grew up using HP.

I would not be surprised if it turned out that Socorro has one of the highest ratios of PhD scientists and engineers to the general population compared to anywhere in the US. (Perhaps exceeded only by Los Alamos, New Mexico, about 200 miles to the north!)

Re: 33s Must Be EveryWhere

*Message #3 Posted by **Frank** on 3 July 2005, 6:02 a.m.,*
in response to message #2 by Dave Shaffer

I think Huntsville, AL. may have the Ph.D. density honor, but it is all dependent on how it is measured.

Re: 33s Must Be EveryWhere

*Message #4 Posted by **I, Claudius** on 3 July 2005, 8:25 a.m.,*
in response to message #2 by Dave Shaffer

I am very aware of New Mexico Tech, I was there at an orientation on July 1.

Edited: 3 July 2005, 8:38 a.m.

Re: 33s Must Be EveryWhere

*Message #5 Posted by **Gerson W. Barbosa** on 3 July 2005, 2:25 p.m.,*
in response to message #1 by I, Claudius

Ave, Claudius!

The two Walmart stores, here in Curitiba, capital of Paraná State, southern Brazil, don't have them yet. Early this year I complained in their site about this. The next day the manager called me and she promissed they would be available soon... I bought one to my son in an imported items stores, it cost about USD 120.00 :-((The older model with tiny decimal point. Fortunately we use comma as fraction mark here)

Re: 33s Must Be EveryWhere

*Message #6 Posted by **Palmer O. Hanson, Jr.** on 3 July 2005, 3:27 p.m.,*
in response to message #5 by Gerson W. Barbosa

I have seen the 33S in Wal-marts in Largo, Florida and Brevard, NC. I hoped to find one in the SAM's Club at Ashville, NC (and perhaps with the usual SAM's Club price break) but I couldn't find one there. At both the Largo and Brevard stores the decimal points were far too small to be easily read with these 76 year old eyes. I'll have to wait for a solution to that deficiency.

Re: 33s Must Be EveryWhere

*Message #7 Posted by **ECL** on 3 July 2005, 8:20 p.m.,*
in response to message #6 by Palmer O. Hanson, Jr.

California has them. I'm currently at NASA Langley in Viginia, they're here at WMart too. Large decimal pt. ~50.00US

ECL

Re: 33s Must Be EveryWhere

*Message #8 Posted by **Gerson W. Barbosa** on 3 July 2005, 8:43 p.m.,*
in response to message #6 by Palmer O. Hanson, Jr.

> Quote:
>
> At both the Largo and Brevard stores the decimal points were far too small to be easily read with these 76 year old eyes. I'll have to wait for a solution to that deficiency.

Since last year I've been noticing a difficulty to read the numbers in my calculators. I know presbyopia is normal as we age, but I'd expect it to appear a little later (I'm about to get 44). By the pictures of the 33S display posted here some time ago, I would say it was not this time HP solved its deficiency. I just hope they have not ordered too many of these new displays...

Regards

Edited: 3 July 2005, 8:44 p.m.

Re: 33s Must Be EveryWhere

*Message #9 Posted by **Ed Look** on 3 July 2005, 11:40 p.m.,*
in response to message #8 by Gerson W. Barbosa

Not that I vehemently object to the small decimal point of my older 33S, but I wonder if they might accept a trade-in for the newer one with the larger decimal point.

Re: 33s Must Be EveryWhere

*Message #10 Posted by **sjthomas** on 5 July 2005, 2:45 p.m.,*

in response to message #8 by Gerson W. Barbosa

> Quote:
>
> Since last year I've been noticing a difficulty to read the numbers in my calculators. I know presbyopia is normal as we age, but I'd expect it to appear a little later (I'm about to get 44).

Actually, Gerson, 44 is a bit late for the onset of presbyopia (which depends somewhat on your distance refraction and a few other factors). Consider yourself lucky -- I was 39 when I started requiring near correction.

sjthomas (o.d.)

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HP 10

*Message #1 Posted by **Galaxy** on 2 July 2005, 10:05 a.m.*

Does anyone have a cirquit play (layout) of the HP 10 ? I need to repair the DC power section of the HP10, which is defective due to corrosion. Thanks in advance !

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hp 42s

*Message #1 Posted by **Wolfy** on 2 July 2005, 3:53 a.m.*

Could anyone tell me if water is necessarily fatal to a hp42s? my trusty hp42 was left overnight in the rain. Can it be dried out, or are there internal parts that just wont come back to life? What can i do? I feel like I've lost my best freind!

Re: hp 42s

*Message #2 Posted by **Thibaut.be** on 2 July 2005, 5:17 a.m.,*
in response to message #1 by Wolfy

Well... I guess it's bad news for you...

Try to remove the batteries and dry it up with an hair dryer. Insist on the battery compartment and pray for the internals to dry up without too much oxydation.

It is somehow possible to open the calculator but this is not a damageless solution...

I guess you want to browse ebay for a replacement unit...

Re: hp 42s

*Message #3 Posted by **Naim** on 2 July 2005, 6:24 a.m.,*
in response to message #2 by Thibaut.be

If you did not power it up when it was wet you have a chance. Just remove batteries and let it dry out for two 24 hours. Put in new batteries, it should power up. If not contact Randy and www.fixthatcalc.com he would advise you.

I'd also suggest...(was: hp 42s)

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 2 July 2005, 8:21 a.m.,*
in response to message #1 by Wolfy

Hi;

the rain water has chemicals taken in the atmosphere that may be harmfull to the metal surfaces (maybe some decades ago it would be harmless...). I'd suggest washing the HP42S with destiled water (after removing the batteries) to remove the residual chemicals that might react with the metal surfaces after drying the rain water. After that, drying out the calculator might be done without much worries.

Hope you succeed!

Luiz (Brazil)

Re: I'd also suggest...(was: hp 42s)

*Message #5 Posted by **wolfy** on 2 July 2005, 8:54 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

thanks, I removed batteries and battery cover and dried it (without actually opening the case) using a hair drier, then a blow heater for several hours at about 30degC but can't really tell if the insides are completely dry.

re-installed batteries several times but no luck. dried for a bit longer, inserted batteries and it came back to life and seemed to work , however the on/off/exit button does not function. if i remove the batteries and then replace them, there is no response. if i then leave it for an hour without batteries and replace them again, it starts up again but no on/of/exit key

any suggestions?

Re: I'd also suggest...(was: hp 42s)

*Message #6 Posted by **Hugh Evans** on 2 July 2005, 3:01 p.m.,*
in response to message #5 by wolfy

You really should wash it out with DI water. Water itself does not pose much of a threat to electronics until other subtances are dissolved in it, giving it conductive and corrosive properties. Take out the batteries and place it in a container filled just enough to cover it. Move it around a bit, perhaps flip it over, drain it out and repeat with fresh distilled water two more times. Place it in an oven or toaster oven at its' lowest setting for a few hours and remove it to cool down.

Good Luck, HDE

How to revive soaked electronics gear (HPs, too)

*Message #7 Posted by **Bernhard** on 2 July 2005, 4:11 p.m.,*
in response to message #6 by Hugh Evans

Standard procedure for reviving electronics gear which has fallen in sea water: 1) shake out the sea water 2) immediately put in fresh water (prolonged storage possible) 3) shake out fresh water 4) put in distilled / demineralized water - stir well / shake / press buttons 5) shake out distilled water 6) put in 100% alcohol (ethanol) - stir well / shake / press buttons 7) let it dry in sunlight (oven not recommended - may melt the plastic). 8) if alcohol smell is gone, try it with fresh batteries and cross your fingers.

Re: How to revive soaked electronics gear (HPs, too)

*Message #8 Posted by **db (martinez, ca.)** on 2 July 2005, 11:23 p.m.,*
in response to message #7 by Bernhard

I would suggest that you follow Luiz et al's instructions. Alcohol can and will leave the screen of some old calcs such as the 41 milky and ruined. You can use alcohol, just use destilled water afterward. I have read here that someone got good results by drying his calcs in a gas oven with only the pilot light on, the oven was something like 120 degrees and safe for the unit. A 100% solution of Sauza Hornitos tequila, applied internally to the calculator cleaner has worked well for me. PRN.

Re: I'd also suggest...(was: hp 42s)

*Message #9 Posted by **Thomas Radtke** on 3 July 2005, 6:24 a.m.,*

in response to message #6 by Hugh Evans

I've seen a nice experiment lately concerning a TV set and distilled water. You won't try this at home. The usual dust inside devices dissolves apparently quite well in ADest, making is conductive enough to have a fancy lightning show. Your post implied that but I wanted to point it out explicitly. Too bad that CFC is out of discussion (for a good reason)...

Thomas

I'd also suggest...(was: hp32s)

*Message #10 Posted by **Bernhard** on 4 July 2005, 6:40 a.m.,*
in response to message #9 by Thomas Radtke

Obviously the TV was powered up when the destilled water was spilled into it. Known to TV repairmen as the flower pot syndrome (light) or aquarium syndrome (severe). As for the soaked calculator (or any other such equipment) any person able to THINK would immediately remove the batteries before applying cleaning procedures, so it was implied. The ethanol indeed may be dangerous to some displays but does a very good job to dry the equipment. Finally, don't forget all this is a final rescue attempt to revive equipment that otherwise will be dead. Some make it, some don't. So it is worth a try.

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HP - The calculator of choice of scientists and engineers

*Message #1 Posted by **Gerson W. Barbosa** on 1 July 2005, 11:28 p.m.*

I remember having read the subject title in an advertisement folder from HP. Most of us here believe this is true concerning engineers, but what about scientists?

Experimental physicist Richard A. Muller, author of the Nemesis Theory http://www.space.com/scienceastronomy/solarsystem/nemesis_010320-1.html, wrote in his book Nemesis:

> Quote:
>
> The major diameter of an elliptical orbit is the period of the orbit, in this case 26 million years, raised to the 2/3 power, and multiplied by 2. My Hewlett-Packard 11C pocket calculator quickly yielded the answer: 176,000 astronomical units,...

(The World Treasury of Physics, Astronomy and Mathematics - Edited by Timothy Ferris, ISBN 0-316-28129-8, pg 267)

Of course this single ocurrence does not prove HP is the calculator of choice of scientists, but has anyone seen other calculators being mentioned in a scientific work?

Re: HP - The calculator of choice of scientists and engineers

*Message #2 Posted by **Luis** on 2 July 2005, 6:01 p.m.,*
in response to message #1 by Gerson W. Barbosa

The 11C ... no doubt about that!

Re: HP - The calculator of choice of scientists and engineers

*Message #3 Posted by **Dave Shaffer** on 3 July 2005, 12:11 a.m.,*
in response to message #1 by Gerson W. Barbosa

I'd say that the HP line was THE CHOICE of scientists, too.

I am a radio astronomer, my wife is an optical astronomer, both with our PhDs from the early 70s, and we have a dozen or so HPs between us, both historic (I have an early '35, bought as soon as I could afford it) and recent (between us, we have at least 3 32S's, she has 2 and I have one and I have also a '42S and a 48GX). We also both have 11C's that we purchased separately (before we were married). An HP 41CX was a birthday present from my wife some years ago. She knew how important it was!

Whaen I went to the National Radio Astronomy Observatory in 1975 as a staff scientist, they had 20 or 30 HP 35s - one for EVERY staff scientist in his/her office. These were clearly the calculator of choice for scientists in the mid to late 70's.

Re: HP - The calculator of choice of business managers too!

*Message #4 Posted by **Margaret** on 3 July 2005, 10:48 a.m.,*
in response to message #3 by Dave Shaffer

And the choices for business managers are the 12c and the 17bii! Greetings,

Re: HP - The calculator of choice of business managers too!

*Message #5 Posted by **Gerson W. Barbosa** on 3 July 2005, 2:13 p.m.,*
in response to message #4 by Margaret

Sorry, I was just quoting an HP advertisement. But we suspect this is true, given the huge number of 12C sold!

Cheers,

Gerson.

Re: HP - The calculator of choice of scientists and engineers

*Message #6 Posted by **Gerson W. Barbosa** on 3 July 2005, 2:03 p.m.,*
in response to message #3 by Dave Shaffer

These early devices had a personality of their own which modern computers lack. It is unlikely today that someone would write in a scientific article "my notebook brand X quickly yielded the result..."

I can realize what the HP-35 meant back then because as late as '78 we still used table of logarithms at high-school. It wasn't until '81 when I bought my first calculator, a non-programmable scientific model from Sharp. Maybe because of that I recently purchased a very good 35, even the silver trim, where they wear most, is perfect,

Congratulations for your careers in Astronomy. I am not a scientist but I like to read about science, Astronomy being one of my favorite topics.

Back to the topic, I believe you are right when you say the HP line WAS the choice of scientists. We have to admit calculators will never have the same importance they had in those years, when they were the only portable computing resource available.

Edited: 3 July 2005, 2:08 p.m.

Re: HP - The calculator of choice of scientists and engineers

*Message #7 Posted by **Thomas Okken** on 4 July 2005, 11:28 a.m.,*
in response to message #6 by Gerson W. Barbosa

These early devices had a personality of their own which modern computers lack. It is unlikely today that someone would write in a scientific article "my notebook brand X quickly yielded the result..."

Aah, but that's because PCs are standardized devices; it's the *software* that makes the difference there. For example, "Scilab 3.0 quickly yielded the result..." -- nobody cares that I ran said software on a Compaq Armada 7790DMT, for some reason, even though it really is a nice machine. :-)

- Thomas

Edited: 4 July 2005, 11:33 a.m.

Re: HP - The calculator of choice of scientists and engineers

*Message #8 Posted by **Gerson W. Barbosa** on 5 July 2005, 12:11 p.m.,*
in response to message #7 by Thomas Okken

Good point!

(This was intended to be the new subject line, but it appears we cannot post blank postings anymore.)

Re: HP - The calculator of choice of scientists and engineers

*Message #9 Posted by **Garth Wilson** on 6 July 2005, 12:06 a.m.,*
in response to message #7 by Thomas Okken

On page 10 of the the 6/23/05 issue of Electronic Design magazine, one of the electronics industry magazines, they have the results of a poll. The question was, "What is your preferred tool for engineering calculations?" The top 3 answers were as follows. 21% of those responding said it was specialized math software. 26% said a spreadsheet. 36% said it was their old HP RPN calculator.

Re: HP - The calculator of choice of scientists and engineers

*Message #10 Posted by **Rodolfo Canet-Castello** on 4 July 2005, 3:09 a.m.,*
in response to message #1 by Gerson W. Barbosa

Well, I'm an active scientist and, as far as I know, there are only two HP calcs in my whole Institute (90 researchers): mine (48G) and my wife's (33s)

The rest are mainly... Casios!

Re: HP - The calculator of choice of scientists and engineers

*Message #11 Posted by **Palmer O. Hanson, Jr.** on 4 July 2005, 11:00 p.m.,*
in response to message #10 by Rodolfo Canet-Castello

What if I had been asked to do this calculation back in 1946? I would have pulled out my slide rule, set the cursor at 26 in the middle section of the K scale, moved the index of the B scale under the cursor, moved the cursor to 2 on the B scale and read 1755 on the A scale. Then I had to select the position of the decimal point. I wouldn't have felt compelled to tell the reader that the calculation had been done on a K&E N4058W Beginner's Slide Rule.

Re: HP - The calculator of choice of scientists and engineers

*Message #12 Posted by **Gerson W. Barbosa** on 5 July 2005, 11:41 a.m.,*
in response to message #11 by Palmer O. Hanson, Jr.

My Archimedes Darmstadt LOG-LOG yielded the result 1755 too, but not so quickly (I followed the same steps you made). My guess is you would feel even less compelled to tell anyone if the calculation was made with help of a table of logarithms or by means of squaring, extracting a cube root and multiplying by 2.

What I intend to point out it the fact that, for the first time in computing history, scientists, engineers, (ok, financial managers too), had a tool they loved so much they'd eve mention it on their works.

(O.T.: Congratulations for your work with the TI-58. Back in 1982 I had one of them. Too bad it was stolen before I could explore it a little more).

Regards,

Gerson.

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Nonpareil state files

*Message #1 Posted by **Gerson W. Barbosa** on 1 July 2005, 8:39 p.m.*

The release of Nonpareil for Windows opens up a new world of possibilities. One of these is providing state files for classical calculators programs at the Museum's Software Library or at the forums, so users may try them on the simulator before deciding to key them in on the real calculator. As an example, article #487 at the HP Articles Forum now includes a state file for the 12C (Thanks Dave for hosting the file).

Regards,

Gerson.

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HP 9831

*Message #1 Posted by **Gordon Dyer** on 1 July 2005, 6:21 p.m.*

There is only a passing reference to this mdel in the MoHPC. Here are some pics:
http://www.decodesystems.com/hp9831.html

Re: HP 9831

*Message #2 Posted by **Tony Duell** on 2 July 2005, 6:06 a.m.,*
in response to message #1 by Gordon Dyer

What do you want to know about it (I have one)?. The hardware is the same as an early 9825 (with the system ROM module that slides in the right hand side under the keyboard). But those ROMs contain BASIC not HPL. And the keyboard has a few different keytops (it's the same arrangement of switches, same electrical matrix connections).

Re: HP 9831

*Message #3 Posted by **Eric Smith** on 2 July 2005, 1:46 p.m.,*
in response to message #2 by Tony Duell

So will the 9831A system ROM cartridge work in a 9825A, or vice versa?

Re: HP 9831

*Message #4 Posted by **Tony Duell** on 3 July 2005, 6:26 a.m.,*
in response to message #3 by Eric Smith

I believe it will. I've been told that that's what people at HP did -- they had one machine on their desk and slotted in the appropriate system ROMs.

I belive you have the HPCC schematics CD-ROM. If you look at the 9825 keyboard schematics, it lists the (few) keys that were different. It also shows the 9831 (and not 9825) ROM module schematic, as that's what I have...

Re: HP 9831

*Message #5 Posted by **Achim** on 6 July 2005, 11:39 a.m.,*
in response to message #4 by Tony Duell

What about making EPROM copies of the 9831? It would be extremly interesting for all 9825 owners.

Re: HP 9831

*Message #6 Posted by **Tony Duell** on 7 July 2005, 6:18 a.m.,*
in response to message #5 by Achim

Remember the ROM chips in these machines contain the address decoder and address latch circuits (it's a multiplexed address and data bus). You couldn't just replace them with EPROMs, and you can't read out the HP chips in a normal EPROM programmer.

It probably wouldn't be too complicated to make an interface to normal EPROMs, and, indeed, reading out these ROMs is on my to-do list...

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HP-11C Disassembly - link

*Message #1 Posted by **Gordon Dyer** on 1 July 2005, 6:13 p.m.*

I found this site which contains calculator info and an 11C disassembly with a lot of good pictures. Hope you all enjoy it.
http://www.decodesystems.com/calculators.html
http://www.decodesystems.com/hp11c-apart.html

Re: HP-11C Disassembly - link

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 2 July 2005, 8:41 a.m.,*
in response to message #1 by Gordon Dyer

Hi, Gordon; (are you well?)

Thanks for the link. What I noticed in the process is that the worst part is not shown, i.e., dealing with the plastic rivets. Maybe I'm wrong, but it seems to me that part of the process is missing, I mean, at least one photo and one additional step might be added.

When separating top and botton halves of a regular HP11C (or any other voyager), the mainboard remains attached to the top half. The picture that´s refered to as the top and botton separation actually shows the mainboard after being dettached from the top half. The picture sequence does not show the process of separating the mainboard from the upper half case, although it mentions that it must be carefuly done. To those that have done it before, the sequence may be confusing.

All of the rest seem fine.

Best regards.

Luiz (Brazil)

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Charging

*Message #1 Posted by **Juergen/Germany** on 1 July 2005, 5:53 p.m.*

The other day I got hands on a thermal printer HP 82162A. Alas U.S. version, so I cant use the charger with it here in Germany. Fortunately(?), I do have a compatible(?) charger European version (in fact a charger that came with a German HP 82162A). Question: Can I use my European type of charger (220 VAC that is) without doing harm to the (U.S. version) printer/batteries? Thanks a lot for your input.

Best, Juergen

Re: Charging

*Message #2 Posted by **Howard Owen** on 1 July 2005, 8:44 p.m.,*
in response to message #1 by Juergen/Germany

I believe the answer is "yes." I base that on the fact that you see different part numbers for the chargers, but not for the printers. That is, there's only one HP-IL thermal printer, and it has the part number 82162A. Whereas there are a half dozen or so chargers, each with a seperate part number, listed in the printer's manual.

Re: Charging

*Message #3 Posted by **Etienne Victoria** on 2 July 2005, 3:27 a.m.,*
in response to message #1 by Juergen/Germany

Hallo Jürgen,

Any European charger referenced 82066B or 82068B will work with your printer : I use them all.

MfG

Etienne

Re: Charging

*Message #4 Posted by **Tony Duell** on 2 July 2005, 6:10 a.m.,*
in response to message #1 by Juergen/Germany

Yes you can. There are no changes inside the printer -- you can use any printer (or for that matter tape drive, disk drive, interface, calcultor, etc) with any of the appropriate chargers.

At one time it was common for HP-IL enthusiasts in the UK to buy a couple of the UK chargers and then buy all the peripherals from dealers in the States (where they were considerably cheaper). Said peripherals came with 110V chargers of course, but they worked fine with the UK chargers off 240V mains.

Re: Charging

*Message #5 Posted by **Juergen/Germany** on 2 July 2005, 3:25 p.m.,*

in response to message #1 by Juergen/Germany

That's good news :-) Thank you all for your help!

Best wishes, Juergen

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HP 11c

*Message #1 Posted by **Giò** on 1 July 2005, 8:22 a.m.*

I try: HP11C in good conditions with handbook. I would want to have one offered. Hello George (Italy)

Re: HP 11c

*Message #2 Posted by **Massimo (Italy)** on 1 July 2005, 8:40 a.m.,*
in response to message #1 by Giò

Hello Giò,
please try the Classified Ads section.
Massimo

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Thermal Paper

*Message #1 Posted by **John Limpert** on 1 July 2005, 1:59 a.m.*

Can I use any brand of thermal paper on old HP handheld and desktop calculators? Most of the original HP part numbers are now discontinued products.

Re: Thermal Paper

*Message #2 Posted by **Stefan Hauschild** on 1 July 2005, 3:27 a.m.,*
in response to message #1 by John Limpert

I use the thermal paper rolls from the credit card terminal printers. It has the right size but the color is black instead of blue. But that doesn´t matter. The printed card acceptance agreement on the back cannot be seen from the front side even in direct sunlight so this is the perfect and inexpensive solution for me.

-Stefan

Re: Thermal Paper

*Message #3 Posted by **David Smith** on 1 July 2005, 11:41 a.m.,*
in response to message #1 by John Limpert

HP recommends using stndard off the shelf thermal paper. you can get at any office supply store. Most used to carry the NCR brand which had been extensively tested and worked much better than the old HP paper. Now it seems all the stores carry paper with their own brand labels. I know some is still made by NCR, but others seem to be using no-name stuff from who knows where. It should work just fine, but there is still a very slight chance it might hurt the printhead.

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Legal link to hpmuseum ?

*Message #1 Posted by **hpUser** on 1 July 2005, 12:25 a.m.*

Hi all,

I have some questions regarding a legal references to hpMuseum: Can I put a link to hpMuseum in my web site ? Can I refer to some page calculator specification on hpMuseum from my web site? Can I put a link too if I want to sell on a web marchand site? Can I do some cut/paste informations from hpMuseum to my personal web site ?

Of course I'll not forget to mention the site hpMuseum itself, but I want to know before if is it legal or not ....

Thanks.

Why don't you contact the Curator (Dave Hicks)? [NT]

*Message #2 Posted by **Karl Schneider** on 1 July 2005, 1:40 a.m.,*
in response to message #1 by hpUser

(No text)

Re: Why don't you contact the Curator (Dave Hicks)? [NT]

*Message #3 Posted by **hpUser** on 1 July 2005, 3:07 a.m.,*
in response to message #2 by Karl Schneider

Hi Karl,

Thats done. Thx.

Re: Legal link to hpmuseum ?

*Message #4 Posted by **.** on 1 July 2005, 3:34 a.m.,*
in response to message #1 by hpUser

You can link to anything. As long as you don't infringe any laws, who is going to stop you?

.

Re: Legal link to hpmuseum ?

*Message #5 Posted by **Etienne Victoria** on 1 July 2005, 4:50 a.m.,*
in response to message #4 by .

Courtesy.

Re: Legal link to hpmuseum ?

Message #6 Posted by ***.*** *on 1 July 2005, 9:26 a.m.,*
in response to message #5 by Etienne Victoria

How on earth is it rude to link? Links are a vital part of the web.

.

Re: Legal link to hpmuseum ?

Message #7 Posted by ***Etienne Victoria*** *on 1 July 2005, 9:38 a.m.,*
in response to message #6 by .

Hi,

I agree with you that links are a vital part of the web.

By "Courtesy", I meant giving credit to the Museum and David when using/linking information should it be from an Ebay auction or elsewhere.

Etienne

Linking: Courtesy & Honesty

Message #8 Posted by ***John L. Shelton*** *on 1 July 2005, 2:01 p.m.,*
in response to message #7 by Etienne Victoria

I am not a lawyer, and I don't portray one on TV. But I've been around a long time....

Links from Site A to Site B are generally legal provided that they do not constitute fraud or libel. For example, Google links to zillions of web sites don't require the permission of the site owner. Google links are not fraudulent, since they do not pretend that Google owns the content. Google links are not libelous, since they do not associate the link with malicious commentary.

A link from your site to another should always make clear that you are referring to another site. Traditional links, where the user clicks, and gets a new web page with that site's address displayed, are reasonable.

Using links to include other site's content (GIFs, JPGs, etc.) in your web page is *not* clearly referring someone elsewhere; it is a pretense that you own the content, so you are committing fraud.

Publishing content like "This site <link> is run by a &^$#%*&" may be libelous, and may be subject to restriction in your country. It is certainly dis-courteous.

If the purpose of your link is to dramatically increase traffic to the other site, as a courtesy, you owe the other site a notification.

If the purpose of your link is to confuse your visitors, or to cause difficulty to the other site (such as suggesting that MoHPC is a "great" link from an Adult Erotica site), you are being dis-courteous, and perhaps fraudulent.

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Accessing Functions on HP41

*Message #1 Posted by **Mike T.** on 30 June 2005, 8:02 p.m.*

I've tried looking around for an answer to this very simple problem but can't find one - I'm proabably just asleep though.

How do I include the 'FRAC' function in a program on the HP41 ... ?

I thought I'd just take a quick look at the HP41CV in Nonpareil and just to get a feel for it, enter my 'favorite' psudo random number generator routine - but I couldn't work out how to get at the FRAC function, and now it is bugging me!

Thanks

Mike T.

Re: Accessing Functions on HP41

*Message #2 Posted by **Eric Smith** on 30 June 2005, 8:41 p.m.,*
in response to message #1 by Mike T.

Use the key sequence XEQ ALPHA F R C ALPHA.

You can find the function names of built-in functions using CATALOG 3.

If you use a function frequently, you may want to assign it to a key. For instance, if you're not using TAN, you could give the sequence shift ASN ALPHA F R C ALPHA TAN. Now if you put the calculator in user mode, the TAN key will instead act as FRC.

You can see what function a key is assigned by pressing and holding the key. The function name will be shown in the display. If you release the key, it will execute. But if you hold the key for more than a second or so, it will change to NULL, and then when you release it nothing will happen. That way if you're not sure about using a key, you can find out what it is.

Re: Accessing Functions on HP41

*Message #3 Posted by **Mike T.** on 3 July 2005, 5:23 a.m.,*
in response to message #2 by Eric Smith

Thanks - Success, I'd never 'used' and HP41 before - they are a little different from the older models..

Many thanks...

Mike T.

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Specifications of the HP82120A batteries

*Message #1 Posted by **Gonzalo Fernandez** on 30 June 2005, 5:17 p.m.*

Hello:

I would like to know the exact specifications of the small 4 batteries that comprise the HP82120A HP41 battery pack. I know that are NiCD, 1.2V? , but what is the capacity? Can be safely replaced by NiMh?

thanks

Re: Specifications of the HP82120A batteries

*Message #2 Posted by **Chris Woodhouse** on 30 June 2005, 8:31 p.m.,*
in response to message #1 by Gonzalo Fernandez

I can't speak to the specifics of that battery pack, but I can tell you a little about NiCd and NiMH batteries. Both are 1.2 volt nominal cell voltage. Fully charged is 1.45 volts/cell, for a new battery (they may not charge that high after they get old), it will drop off from that after you take it off the charger pretty fast to about 1.35 or so, even if it isn't under a load, 1.1 volts/cell under load is pretty close to dead. NiMH generally have a higher capacity than NiCd for the same size. Any device that works with NiCd's should work fine with NiMH. The only exception is when it is a very high current drain device like an electric model airplane or large camera flash, in that case NiCd's preform better than some NiMH's but that is less true as of late. The problem is in charging. A fast charger for a NiCD won't charge a NiMH right, However a slow charger will charge either battery fine. On slow charging the question becomes how slow is it going to be. The typical slow charge rate is 1/10 of the battery capacity. In other words if it is a 2000mAh battery you should slow charge it at 200mA, and at that rate it should take 14 hours. If you do the math you will see that it takes about 40% more energy to charge a battery than is stored in it. This same ratio works if you charge it at a lower or higher rate but you don't want to go very much above or you enter fast charging range and you need a charger specifically for that. If you go too much slower I don't think it will charge at all. I would guess that a 1/20 rate would still do the job but I don't think if you went a lot lower it would ever get fully charged.

Chris W

Re: Specifications of the HP82120A batteries

*Message #3 Posted by **Gonzalo Fernandez** on 1 July 2005, 4:29 a.m.,*
in response to message #2 by Chris Woodhouse

Thanks for your clear explanation, but I need to replace some dead small batteries from an HP82120A and I need the exact dimensions and capacity of the batteries.

Re: Specifications of the HP82120A batteries

*Message #4 Posted by **Gonzalo Fernandez** on 1 July 2005, 6:48 a.m.,*
in response to message #3 by Gonzalo Fernandez

I have found in http://www.hpmuseum.org/cgi-sys/cgiwrap/hpmuseum/articles.cgi?read=335

thank you very much for your explanation

Re: Specifications of the HP82120A batteries

*Message #5 Posted by **David Smith** on 1 July 2005, 11:45 a.m.,*
in response to message #1 by Gonzalo Fernandez

The cells were 1/2N 70-80 maH NiCad cells. They are no longer being made. There are some 1/2N NiMH cells out there, but you won't be able to find them. Most people use a small NiMH cell and something to shim the space with. The NiMH cells that fit have around a 140-150maH capacity. The 1/3 AA cells are just a smidge too big to fit unless you want to carve up your case.

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Amazon has speeded up Shipping theHP49G+

*Message #1 Posted by **Namir** on 30 June 2005, 10:54 a.m.*

I was looking at Amazon today and I noticed that they are now shipping HP-49G+ calculators (STILL FOR $77.99) within 24 hours. Sounds like they are stocking the 49G+.

I ordered one (when Amazon said it would take 1 to 2 weeks) and it should be arriving any day now,

Namir

49G+ for $77.99 at Amazon.com, ships in 24 hours (NT)

*Message #2 Posted by **Bob Wang** on 30 June 2005, 12:39 p.m.,*
in response to message #1 by Namir

Namir:

Thanks for alerting the group. I received mine a while back, SN CN511xxxxx. Maybe this new crop is even more recent.

Hewlett Packard 49G+ Graphing Calculator

Bob

Re: 49G+ for $77.99 at Amazon.com, ships in 24 hours (NT)

*Message #3 Posted by **Namir** on 30 June 2005, 1:11 p.m.,*
in response to message #2 by Bob Wang

Hi Bob,

Another fellow website member reported that he had received his 49G+ from Amazon with a S/N that is not as recent as your machine's S/N. He did seem satisfied with the calculator he received.

I am keeping my fingers crossed for my Amazon purchase.

Namir

New HP-49G+ SN

*Message #4 Posted by **Namir** on 30 June 2005, 3:17 p.m.,*
in response to message #2 by Bob Wang

Hi Bob,

I just got my HP49G+ from Amazon. The SN is CNA5100xxxx. Cool!!

Namir

Re: New HP-49G+ SN

*Message #5 Posted by **sjthomas** on 30 June 2005, 4:28 p.m.,*
in response to message #4 by Namir

> Quote:
>
> I just got my HP49G+ from Amazon. The SN is CNA5100xxxx

Ditto.

Re: New HP-49G+ SN

*Message #6 Posted by **Frank** on 2 July 2005, 7:13 a.m.,*
in response to message #4 by Namir

I also just got my HP49G+ from Amazon. The SN is CNA5100xxxx. The keys operate and pop like the 70's TI's use to with the metal domes, anyone know if the A's have them yet?

Re: New HP-49G+ SN

*Message #7 Posted by **Frank** on 2 July 2005, 9:00 a.m.,*
in response to message #6 by Frank

This unit is today showing no longer available from AMAZON, ONLY from 3rd Party retailers, and who knows what stock they have, like the A revision.

Re: New HP-49G+ SN

*Message #8 Posted by **Anonymous** on 2 July 2005, 1:26 p.m.,*
in response to message #7 by Frank

And somebody suggested they were stocking up. They have now cleared out their inventory.

Re: New HP-49G+ SN

*Message #9 Posted by **Namir** on 2 July 2005, 10:57 p.m.,*
in response to message #7 by Frank

Frank,

You are right! Well I guess Amazon did have a rather limited supply. I am very surprised at that!!

Namir

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HP-45 keypad problem

*Message #1 Posted by **Mark Crispin** on 29 June 2005, 10:32 p.m.*

I have an HP-45 which is displaying the following symptoms:

The keys on the lowest row are not doing their proper function. In particular:

[divide] acts like +

0 acts like ENTER, and [Last X] acts like DEG

. acts like CHS, and [pi] acts like RAD

[sigma+] acts like EEX, and [sigma-] acts like GRD

I suspect that a signal line is bad, but I don't know how I would go about repairing it. Any suggestions?

Re: HP-45 keypad problem

*Message #2 Posted by **David Smith** on 30 June 2005, 1:27 p.m.,*
in response to message #1 by Mark Crispin

Most likely is some corrosion or (often invisible) grunge on the keyboard or CPU board. Open the machine (remember there are two screws under the upper corners of the rear label and under the two bottom feet) and clean everything with 91%+ isopropyl alcohol.

Never use Isopropanol on HP plastic shells !

*Message #3 Posted by **Bernhard** on 1 July 2005, 7:42 a.m.,*
in response to message #2 by David Smith

Hi Mark,

David is right, you can safely use Isopropanol to clean the electronics or keyboard contacts, but if you have it at hand, you may be tempted to use it to clean other parts (such as the plastic shell or keyboard legends) with it, too - DON'T DO IT ! It's a typical mistake of newcomers to HP restoring. Be warned. These plastics may turn white and the keyboard legends will disappear under the white mess.

Re: Never use Isopropanol on HP plastic shells !

*Message #4 Posted by **David Smith** on 1 July 2005, 11:51 a.m.,*
in response to message #3 by Bernhard

I have found that Armor All will clean up the white residue on the case.

For cleaning the plastic cases of grunge, label residue, and marker ink, I have found that white gas (Coleman camping fuel) works very well. It does not affect the display lens, but keep it off the

keyboard area. Also best to test your solvent on some very inconspicuous place first.

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If you like Nonpareil

*Message #1 Posted by **Eric Smith** on 29 June 2005, 9:51 p.m.*

Two users have already made donations to support further Nonpareil development, and this is much appreciated. I've just added some PayPal donation buttons to the web page to make this more convenient. Credit card donations can be accepted even if you don't have a PayPal account and don't want to sign up for one.

Note that Nonpareil is Free Software, so donations are strictly optional. I originally had planned to sell the Windows version of Nonpariel, but I've decided not to do that. Still, donations help pay for web hosting, and some of the expenses involved in Nonpareil development.

There is a tradition in the amateur (ham) radio community of exchanging QSL cards (postcards) to confirm a radio contact. I'm not a ham (yet), but I think this is a great concept, and it would be cool to apply it to free software development. If you like Nonpareil, I'd appreciate receiving a picture postcard of your area, and in exchange I'd be happy to send you one of the San Francisco Bay area, the Computer History Museum, or something else interesting. The address is on the Nonpareil web page.

Thanks,
Eric

Re: If you like Nonpareil

*Message #2 Posted by **Namir** on 29 June 2005, 10:02 p.m.,*
in response to message #1 by Eric Smith

Eric,

Your donation buttons are in reverse. The one that says $10 takes you to PayPal for a $30 donation. The one that says $30 takes you to PayPal for a $10 donation.

Namir

Re: If you like Nonpareil

*Message #3 Posted by **Eric Smith** on 29 June 2005, 10:12 p.m.,*
in response to message #2 by Namir

Should be fixed now, thanks!

Eric

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Look HP41CX + QUAD MEMORY Module ?

*Message #1 Posted by **gileno** on 29 June 2005, 2:29 p.m.*

Does HP41CX use the quad memory?

http://cgi.ebay.com/ws/eBayISAPI.dll?
ViewItem&category=58039&item=5785738549&rd=1&ssPageName=WDVW

Edited: 29 June 2005, 5:41 p.m. after one or more responses were posted

Re: Look HP41CX + QUAD MEMORY Module ?

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 29 June 2005, 4:59 p.m.,*
in response to message #1 by gileno

Hi, Gileno;

AFAIK, the HP41CX has all 'main memory' available, as it happens with the HP41CV. If you use a quad module, operation may disrrupt, i.e., in some circumstances the calculator may not work properly. All comands that access memory will cause both quad memory contents and main memory contents to answer, and if any of them delays a bit, bus may stuck. Anyway, it may work perfectly fine, though...

Cheers.

Luiz.

Re: Look HP41CX + QUAD MEMORY Module ?

*Message #3 Posted by **Namir** on 29 June 2005, 5:44 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

The 41CX has a Math module ANNNNNNND a Math/Stat module. Talk about redundancy!!!!!!!!!!

Re: Look HP41CX + QUAD MEMORY Module ?

*Message #4 Posted by **Doug Wilder** on 29 June 2005, 5:00 p.m.,*
in response to message #1 by gileno

Odd, i only see XIO, Advantage and HPIL modules. No Quad memory module.

Doug

Re: Look HP41CX + QUAD MEMORY Module ?

*Message #5 Posted by **Gileno** on 29 June 2005, 5:43 p.m.,*
in response to message #1 by gileno

I apologize because I missed the link !!!

http://cgi.ebay.com/ws/eBayISAPI.dll?
ViewItem&category=58039&item=5785738549&rd=1&ssPageName=WDVW

Re: Look HP41CX + QUAD MEMORY Module ?

*Message #6 Posted by **Namir** on 29 June 2005, 5:48 p.m.,*
in response to message #1 by gileno

Maybe if he took the Quad Memory module and either the Math or the Math/Stat module, the price can come down??? :-)

I think this machine is a perfect match for that Cobubah fella to buy it!!! He might sell it above $1,000!!!!

Re: Look HP41CX + QUAD MEMORY Module ?

*Message #7 Posted by **Namir** on 29 June 2005, 6:27 p.m.,*
in response to message #1 by gileno

Maybe if he took the Quad Memory module and either the Math or the Math/Stat module, the price can come down??? :-)

I think this machine is a perfect match for that Cobubah fella to buy it!!! He might sell it above $1,000!!!!

Re: Look HP41CX + QUAD MEMORY Module ?

*Message #8 Posted by **Doug** on 2 July 2005, 6:28 p.m.,*
in response to message #7 by Namir

Ah, guess it's worth 3X value because it has wrong module installed!

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(deleted post)

*Message #1 Posted by **deleted** on 29 June 2005, 11:39 a.m.*

This Message was deleted. This empty message preserves the threading when a post with followup(s) is deleted.

Re: 15C USER mode stuck

*Message #2 Posted by **Thibaut.be** on 29 June 2005, 1:29 p.m.,*
in response to message #1 by deleted

If you don't have any important program stored, try the ON - / sequence, in order to reset the calculator (warning : all data will be lost)

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HP41 MLDL2000 update

*Message #1 Posted by **Meindert Kuipers** on 29 June 2005, 10:33 a.m.*

Just some quick news regarding MLDL2000 progress:

- Production is delayed with some days due to some SRAM devices being damaged in storage

- half of the MLDL2000's will be shipped with the regular amount of SRAM, the other half with double the size due to availability of components. Although I do not know yet if the double size will actually work (it requires an extra wire to connect the additional address line)

- The units with double SRAM storage will be made available (at no extra cost, since it does not cost me extra) to those who have ordered their MLDL2000 first

- The complete batch of MLDL's will be produced this week or beginning next week, meaning that all orders can be fulfilled probably before my vacation, depending on how testing and assembly goes

- After fullfilling all existing orders there will be about 10 units left. It is unlikely that any new PCB's will ever be manufactured so if you still want one let me know

Meindert Kuipers, MLDL2000 website

Re: HP41 MLDL2000 update

*Message #2 Posted by **Stephen Walters** on 29 June 2005, 3:03 p.m.,*
in response to message #1 by Meindert Kuipers

Will you make available all the source code of the project?

Re: HP41 MLDL2000 update

*Message #3 Posted by **Meindert Kuipers** on 29 June 2005, 3:17 p.m.,*
in response to message #2 by Stephen Walters

All source code, schematics, VHDL will be public. The MLDL2000 project is not for profit and units are sold at a price that allows me to cover the cost of creating the hardware. The MLDL2000 would have to sell in thousands in order to pay back the time I spent in making it. We all have our hobbies ;)

Meindert

Re: HP41 MLDL2000 update

*Message #4 Posted by **Howard Owen** on 30 June 2005, 1:14 a.m.,*
in response to message #3 by Meindert Kuipers

Hi, Meindert.

I'm particularly interested in the source for your Windows management application. I'd like to try to port it to Linux, or at least use it as a guide for a reimplementation.

This is starting to get exciting! 8)

Re: HP41 MLDL2000 update

*Message #5 Posted by **Meindert Kuipers** on 30 June 2005, 6:39 a.m.,*
in response to message #4 by Howard Owen

Linux would be really great. You could start with getting the Linux drivers for the FT2232C, and sort out how to interface with the MPSSE from an application program. Note that all my applications are written in Delphi.

Meindert

Re: HP41 MLDL2000 update

*Message #6 Posted by **Howard Owen** on 1 July 2005, 8:37 p.m.,*
in response to message #5 by Meindert Kuipers

I can at least read Delphi. 8)

There is no hope of a direct translation to Linux anyway. I could use the source as a guide to how you implemented a particular feature, though.

I'm currently writing my first-ever Linux driver for Cristoph Klug's HP-IL card. I'm hopeful I can get a first pass of that done over this weekend, a holiday in the US. Once I get my MLDL2000, I'm sure the pain of running the software under Windows XP will motivate me to do something about it. 8)

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Question about storing NiCd batteries

*Message #1 Posted by **Namir** on 29 June 2005, 8:45 a.m.*

Hello,

I am rearranging my colelction of HP calculators. This process includes taking out batteries. In the case of the rechargeable NiCd batteries, would storing them in a freezer or just the regular part of a refreigirator be the best to preserve them? Any other suggestion?

Namir

Re: Question about storing NiCd batteries

*Message #2 Posted by **Frank Boehm** on 29 June 2005, 10:56 a.m.,*
in response to message #1 by Namir

I would suggest to store them dry and cold (room temperature); probably the best way would be to seal them inside a PE-bag, together with some silica gel (often to be found when you purchase electronic components).

Re: Question about storing NiCd batteries

*Message #3 Posted by **Namir** on 29 June 2005, 12:26 p.m.,*
in response to message #2 by Frank Boehm

Thanks Frank!

Re: Question about storing NiCd batteries

*Message #4 Posted by **John L. Shelton** on 29 June 2005, 2:05 p.m.,*
in response to message #3 by Namir

In general, chemical reactions slow at lower temperature. Placing batteries in a refrigerator should slow the eventual decay, somewhat. There are other considerations, however:

- Cool batteries may cause condensation when returned to room environment.
- Freezing may cause any batteries containing water to expand. I've never had that happen with carbon-zinc or alkaline batteries, which I've successfully frozen. But I haven't tried freezing NiCads.

Re: Question about storing NiCd batteries

*Message #5 Posted by **David Smith** on 29 June 2005, 3:16 p.m.,*
in response to message #1 by Namir

Read the manufacturers specs on the batteries. Many will be damaged by freezing. Refigeration might be OK, but the humidity will probably do more harm than the cold will help.

Re: Question about storing NiCd batteries

*Message #6 Posted by **Soueu** on 29 June 2005, 7:13 p.m.,*
in response to message #1 by Namir

Hello Namir;

Don't worry about the NiCds... I can send you brand new ones.... How many do you need ?.

Please note that I have no economic interest in this but we throw away so many cells after non-destructive testing that it's a shame.... (I work for a major japanese manufacturer of NiCd, NiMH and Li-Ion cells, and this may be a good way to help the HP community).

Really, if you need some NiCd or NiMH cells (and are available), let me know... (you pay postage).

BTW... Refrigerator is OK, freezer is not.

Regards;

Soueu

Re: Question about storing NiCd batteries

*Message #7 Posted by **Namir** on 29 June 2005, 9:58 p.m.,*
in response to message #6 by Soueu

The NiMH or Li-IOn batteries seem more attractive.

I studied chemical engineering and had a small lab at home. I used to do non-destructive battery tests too .. just for the fun of it.

Please email me your address. My email is:

n s h a m m m a s AT a o l DOT c o m

Please remove the spaces and replace AT with @ and DOt with the dot character.

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How I Got a New Bezel for a HP15C

*Message #1 Posted by **Giancarlo (Italy)** on 29 June 2005, 8:10 a.m.*

Some weeks ago I bought a 15C at a reasonable price,
mostly due to its missing screen bezel
(as well as the back label...).
The "starting point" was the following:

http://www.hpmuseum.org/guest/mattioni/giancar1.jpg

I thought I could reconstruct the lost bezel, so I took
some dimensions (using a vernier digital slide gauge),
trying to be as accurate as possible (even though it was
not always easy, both because of the plastic material and
the lack of fixed reference points on the chassis).
Anyway I was able to get the technical drawing of the bezel
(anyone interested in it, please drop me an e-mail and I'll
send you a PDF file - about 233 kB).
At this point, as I work in an household appliances company,
I could take advantage of a "special tooling department"
of my company (specially skilled in stainless steel workings)
which could make laser cutting, trimming and bending.
So I got this piece:

http://www.hpmuseum.org/guest/mattioni/giancar2.jpg

The final result that I got is represented in this picture:

http://www.hpmuseum.org/guest/mattioni/giancar3.jpg

Now, only the final step is missing: I still have to decide
the best way to glue the steel bezel on the plastic chassis of the 15C.
I was thinking to use a both sides adhesive tape,
the thinnest that I can get (by 3M, like the VHB Series,
going down to a 0,38 mm thickness - please see
http://www.3m.com/us/mfg_industrial/adhesives/vhb/),
but on this point any suggestion or advise from the Forum
contributors will be more than welcome (I excluded using
cyanoacrylate-basis adhesives, as they would severely spoil
the plastic chassis, and any kind of hot-melt glue).

I hope my two-cent contribution will be interesting or
useful for someone.
Best regards.
Giancarlo (Italy)

Pretty good looking! (was: How I Got a New Bezel for a HP15C)

*Message #2 Posted by **Vieira, Luiz C. (Brazil)** on 29 June 2005, 11:05 a.m.,*
in response to message #1 by Giancarlo (Italy)

Hi, Giancarlo;

congratulations! It looks to me. Although it does not have the lowered, LCD-border frame, it is too far from better than having a fold-marked, scratched frame. About the lowered LCD border, maybe a plastic add-in

would do better. You see, a smaller plastic part, either peinted or already in semigloss silver, would both protect against dust and add finishing. Your solution is excellent, I'm just looking at details.

Best regards and thanks for your valuable contribution. (BTW, would you be as kind as for sending a copy of the PDF to lcviera at quantica dot com dot br ?)

Luiz (Brazil)

Re: Pretty good looking! (was: How I Got a New Bezel for a HP15C)

*Message #3 Posted by **Giancarlo (Italy)** on 29 June 2005, 11:54 a.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

```
Hi Luiz!
Thank you for your kind words!
I just sent you the file, but I got an error message (seems to be "user unknown") - any
mispell in the e-mail address you gave me?
Please let me know.
Thanks & regards.
Giancarlo
```

Re: Pretty good looking! (was: How I Got a New Bezel for a HP15C)

*Message #4 Posted by **Charles E. Oxford** on 29 June 2005, 1:04 p.m.,*
in response to message #3 by Giancarlo (Italy)

I think there is an "i" missing. Shame on Luiz.

You're both right!

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 29 June 2005, 4:51 p.m.,*
in response to message #3 by Giancarlo (Italy)

Hi, Giancarlo;

forgive me... I mispelled my own name ('senior moment'?) Charles is right: it misses an i. Try this, plese:

lcvieira at quantica dot com dot br

It seems to be correct, now (Oll Korrect...)

Thanks, guys.

Luiz (Brazil)

Re: Pretty good looking! (was: How I Got a New Bezel for a HP15C)

*Message #6 Posted by **Margaret** on 29 June 2005, 1:06 p.m.,*
in response to message #2 by Vieira, Luiz C. (Brazil)

Wonderful solution! The only question is ... can you share with the Forum an idea of the approximate cost of the new bezel? And ... could you e-mail (Please remove NOSPAM) me the PDF file at MVelcaNOSPAM@bellsouth.net

Greetings,

Re: Pretty good looking! (was: How I Got a New Bezel for a HP15C)

*Message #7 Posted by **Giancarlo (Italy)** on 29 June 2005, 4:06 p.m.,*
in response to message #6 by Margaret

```
Hello Margaret.
I just e-mailed the PDF file to you.
As far as the cost of the new bezel is concerned, it's quite difficult to make an
estimate.
For me, of course, it was completely free ;)
But its overall cost is the sum of material and processing.
Material: let's say 0,5 EUR
Processing: maybe 1 hour (to be multiplied for the unit labour cost).
Unfortunately, all of this does not take into account the mark-up that a company
would put on the component if it was to produce and to sell it....
Hope this helps a little bit.
Cheers.
Giancarlo
```

Pricing from emachineshop

*Message #8 Posted by **Hugh Evans** on 29 June 2005, 11:57 p.m.,*
in response to message #6 by Margaret

I took a few quick measurements from my 11c and put them into emachineshop's CAD program to get a few quotes. Laser cut 0.024" brushed stainless steel with all necessary bends came out to:

$85.90 (1 unit)=$85.90/part $94.50 (10 units)=$9.45/part $111.05 (25 units)=$4.45/part $137.05 (50 units)=$2.75/part $192.30 (100 units)=$1.93/part

If there's much community interest in buying a few of these I would be happy to organize an ordering pool so everyone can benefit from volume pricing. The CAD model and all specifications would, of course, be refined and reviewed before ordering. Lead time is currently about 3 weeks.

Re: How I Got a New Bezel for a HP15C

*Message #9 Posted by **Hugh Evans** on 29 June 2005, 1:15 p.m.,*
in response to message #1 by Giancarlo (Italy)

Congratulations on your new bezel! You will likely be best off using epoxy to attach it. Scuff up the back of the bezel just before you start gluing and at least clean off the plastic with 90%+ rubbing alcohol. It won't take much to form a good bond. Please post some pictures of the process you choose and the final result.

Since you have access to a tooling department, are you considering a similar treatment for the back label? It wouldn't be all that difficult to first have the shape cut as you did with the bezel, spray/anodized it black, cover it in masking tape, laser-etch labels through the tape, spray on a coat of white, clean off the tape, and put it on the calc. OR if you don't mind a cosmetic change simply etch the pattern into a piece of stainless.

Best of luck, HDE

Re: How I Got a New Bezel for a HP15C

*Message #10 Posted by **Ron** on 29 June 2005, 1:15 p.m.,*
in response to message #1 by Giancarlo (Italy)

Wow! You da man! That looks really good!

I have used some of the 3M 2-sided tapes for various things. I don't remember which ones, but they were thin and supposedly strong. In each case, they were fluid enough that the part could be wiggled around a little, and

the part eventually came off. Maybe I didn't clean the parts well enough.

Re: How I Got a New Bezel for a HP15C

*Message #11 Posted by **David Smith** on 29 June 2005, 3:20 p.m.,*
in response to message #1 by Giancarlo (Italy)

HP used a double sided sticky film (probably 3M). If you can get something like this, I would use it. Otherwise I would use something like 3M Super 77 spray adhesive (available at most hardware stores... except in Kaliphoneya)

Re: How I Got a New Bezel for a HP15C

*Message #12 Posted by **GWB** on 29 June 2005, 6:33 p.m.,*
in response to message #1 by Giancarlo (Italy)

What have you used for the plastic protection of the display, do you still have the original one?

By what I see, you had no original bezel to base yours upon.

(Gliene offrirei uno venuto da una vecchia HP-11C, se ancora lo vuole)

Regards,

Gerson.

Re: How I Got a New Bezel for a HP15C

*Message #13 Posted by **Giancarlo (Italy)** on 29 June 2005, 7:31 p.m.,*
in response to message #12 by GWB

```
Hi Gerson, and congratulations for your perfect Italian!
I didn't use any plastic protection for the LCD display, indeed, as I didn't have the
original one.
How would you suggest to replace / rebuilt that plastic protection as well?
For the 11C original bezel, please mail me some details.
Thank you for your feedback.
Cheers.
Giancarlo (Italy)
```

Re: How I Got a New Bezel for a HP15C

*Message #14 Posted by **GWB** on 29 June 2005, 10:28 p.m.,*
in response to message #13 by Giancarlo (Italy)

> Quote:
>
> ...and congratulations for your perfect Italian!

Grazie! Ho appena finito il quarto livello del corso elementare di lingua italiana per stranieri alla Dante Alighieri qui in Brasile :-) Still a lot to learn...

(Thanks! I've just finished the 4th stage of a basic course of Italian for foreigners, here in Brasil)

As a temporary solution for the plastic protection of the display, you can take a piece of hard plastic from a blister package like those that come with new HP calcs. Only, of course, if your 15C is one of those earlier model, or you won't be able to replace it later.

http://www.hpmuseum.org/10cint.jpg

As a definitive solution, you should take one from a cheap non-working 12C, in case you find one. I could send you the bezel, withouth the HP logo that was missing and the plastic protection because I needed it for my own 15C. It is not so good because the previous owner kept it in a drawer with other calculators, and it appears that some batteries leaked on it. But it might be good as a model. I could send it to you, you'd only send me a post card from Italy in return if you wanted. Just send me an e-mail (remove the obvious NSPM)

Regards,

Gerson.

Re: How I Got a New Bezel for a HP15C

*Message #15 Posted by **Artur - Brazil** on 30 June 2005, 4:25 p.m.,*
in response to message #14 by GWB

Hi,

One more message from Brazil. Well, about the bezel, I believe if you could make it from a thin steel sheet, you could add another piece under it and flue both. So, you could make the recessed frame inside the main hole. For the protective plastic, cut it from a CD case. It is great. Not so scratch resistant, but is what I have used to make HP 10 series restaurations. If desired, I could make a scan from one HP15C for you see the recessed part and get the actual measures.

Best regards from Brazil and congratulations! Artur

Re: How I Got a New Bezel for a HP15C

*Message #16 Posted by **Giancarlo (Italy)** on 1 July 2005, 8:33 a.m.,*
in response to message #15 by Artur - Brazil

```
Hi Artur!
One day I'll try to understand why there seem to be some "geography" for HP
enthusiasts (Brazil, Spain, USA of course, UK, .....).
Now back to the bezel: please, mail me (or, if you think it could be
interesting for the Forum, post on it) the scan of the 15C, because I'd like
to put in place your advise.
Thank you for your feedback.
Cheers.
Giancarlo (Italy)
```

What is your address?

*Message #17 Posted by **Artur - Brasil** on 3 July 2005, 10:38 p.m.,*
in response to message #16 by Giancarlo (Italy)

Hi, I took the pictures and measures. What is your email? (about 400Kb)

Best regards Artur

Re: What is your address?

*Message #18 Posted by **Giancarlo (Italy)** on 4 July 2005, 4:15 p.m.,*
in response to message #17 by Artur - Brasil

Hi Artur. My e-mail address is: giancarloDOTmattioniATindesitcompanyDOTcom

(replace the obvious with the corrects signs...). Thank you in advance for your information. Best regards. Giancarlo (Italy)

Re: How I Got a New Bezel for a HP15C

*Message #19 Posted by **Gordon Dyer** on 30 June 2005, 8:57 p.m.,*
in response to message #1 by Giancarlo (Italy)

It looks like a very professional job, congratulations on bringing your 15C back to life!
Can you email the file to me at:
gordon dot dyer at blueyonder dot co dot uk
Thanks.

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Another beta test please

*Message #1 Posted by **Dave Hicks** on 28 June 2005, 3:35 p.m.*

Hi everyone. I've just installed a new beta version of the forum software. You may recall of beta of this a long time ago. I got sidetracked by the new DVD release and other things but I'm back at work. I've done a few clean ups and added a few features. There's a link to an Account User's guide that doesn't exist yet - but equivalent content is below in this post. Accounts created during the first beta are still there.

Pleas start here (This has links to the other beta forums.)

if you read the following in the first beta - you can skip it - little has changed in the text that follows.

The first things you'll notice are that

1) There are now formatting buttons on the new message posting forms,

2) On Search / Personalize Display page there are options to display an entire thread on one page.

3) Ability to optionally create an account and login (see "login / register" in the upper right corner of each forum),

4) Each forum now displays (new) that is tailored to you personally and the basic personalization settings are now "sticky" ie if you set it to display the last day's worth, that's how it will stay even if you go away and return later. (Note that these features require your browser to be set to accept cookies and the formatting buttons require javascript be enabled. The cookies are used ONLY by the forum software. I can't use them to track you in the museum let alone the rest of the Internet.)

5) Posting to the classified ads, warns you about scammers.

These forums are using a snapshot of the forum messages from some time ago. When the beta ends, these messages will be lost, so have fun in the beta forums but please keep the important HP-related messages here in the "real" forums. Likewise, any account names you create in the beta forums are only temporary.

Here are the details:

Accounts

It is now possible to create an account and to log in to the forum. Having an account gives you several advantages: It prevents other people from using your (exact) name and logging in allows you to enter your name and password just once. Once you are logged in, you can create, edit and delete your posts without reentering a name, password, and email address each time. You can also create an account to reserve your name yet continue to post as before without logging in. In this case, you will need to supply your account password on each post. You can also mix and match - for example, log in on your home computer but post without logging in on a public computer.

Accounts are currently optional and I think you'll find that they make the forum more convenient. However, another reason for creating accounts is that we now occasionally get spammed. A few moderators have been successful in keeping most of you from seeing these spams, but if the spammers get more aggressive, the new software provides several new options such as requiring an account to post or sending anything posted without an account to the

moderators for approval before it appears on the forum. If you use an account, you'll never notice if these features are ever needed.

Email Options / Private email If you create an account, you have several email options. You can provide no forum email or obscure it in any way you like (such as meNO@SPAMdomain.com) or you can enter a valid email address but keep it private. If you use the latter option, someone who wishes to contact you will do so by clicking on your name and filling in a form. The text will be emailed to you, but your address will never be visible. Only forum users who are logged in can send you emails in this way. This should reduce the amount of spam and scam emails received. If you are a heavy user of the classified ads, you will need to decide whether a private email address is worth making it a little more difficult for a potential trader to contact you. Of course, I can't guarantee that scammers won't create accounts to contact you but it raises the bar for them a bit.

When you create an account, your are asked for two email addresses (which may be the same.). Your "Forum email address" is the address you wish other forum members to use (and possibly see). This could be your normal email address, a hotmail account, an obscured address or it could be left blank if you wish no email contact. Your "Activation Email Address" is the address that will be used to activate the account. It will never be displayed to other users. This address must be a valid non-blank non-obscured address and can't be a disposable "freemail" address such as hotmail, yahoo etc. These freemail addresses make it much too easy to a spammers to create accounts to be used only for activation of spam-and-run accounts. (The software checks for known freemail domains. If you manage to use an obscure freemail domain, it may work but your account might be deleted later if you draw attention to yourself by spamming or trolling.)

Accounts and older Posts When a new account is created, the forum treats any existing posts made without an account but with the same name as being possibly owned by this account. For anyone clicking on a name field, the forum will honor the email options of the current account of that name. This means that you can hide the email addresses in your previous posts by creating an account with the same name and setting the private email option. (Old Biographies require one additional step - see " Taking Ownership of your Biography" below.)

In order to edit or delete a post created before your account was created, your account password will need to match the password that was given when the message was saved. (In the case of the Classified ads, it is the forum email address on old ads that must match. This is because the Classified Ads posted without accounts don't have passwords.) This prevents random people from creating accounts that match existing messages and then editing or deleting those messages. Any NEW messages that you create are linked to your account such that you can freely change your account password and still be able to edit them. If you have an account with a new password but need to edit an old message, the easiest thing to do is to logout from your account, edit your old message the old way, and then log back in.

Classified ads posted with an account are protected by casual deletion by people typing in the email address. If you use an account, only you and moderators can delete your ads.

Taking Ownership of your Biography. Unlike the other forums, messages in the Biographies forum are stored under a person's Family Name, Given Name and there's no 100% safe programmatic way to link this format to the way you usually list your name. Therefore simply creating an account named Given Name Family Name, will not immediately cause your biography's email address to become private. To do this, your account must have the same password as your Biography and you must edit your biography. When you exit the edit screen by saving, the Biography will be assigned to your account and options like "Private email" will apply.

Contact Page When you click on a poster's name, you are now taken to a contact page, which may provide an email address, or a contact form if the user has selected private email. This page will also tell you if the person you are contacting is a registered user. (new) in all forums - now personalized The main forum used to print (new) on the last 20 posts. ALL forums now print (new) based on posts made since your last visit. (If you have cookies enabled.)

Report Post If you have an account and are logged in, you will notice that each post has a "Report Post" link. This may be used to notify the moderators of any posts that are offensive, harassing, rude, spam etc. The moderators will then take a look and may delete the post.

Basic personalization preferences are maintained ("sticky") Under "Search / Personalize Display", "List messages", "Display Messages" and "Posted within the last" are now "sticky" if you have cookies enabled. They are set on a per-forum basis and will be remembered even if you stay away for months. (astute readers will note that setting "Posted within the last" to "Two days" makes the daily view redundant and the daily view URL may be phased out over time. "Display Messages Grouped into threads" is new on the "Search / Personalize Display". Setting this causes an entire thread to be displayed with one click. Indentation and information in each message header will guide you on the thread structure. (There is also an option to display the entire thread flush left which is meant for very small displays as on PDAs.)

Formatting buttons The Post Message forms now include a row of buttons for adding links, images etc. These buttons require javascript to work but if you don't run Javascript, you can click on the "more" link to see a page which describes the formatting codes which you can just type in. You can thank Paul Brogger for this idea.

Cookies and Privacy The forum software now sends cookies under these conditions:

Logging in to the forum: Login in is optional but you must have cookies turned on in order to do so. You can an create an account and not log in if you really dislike cookies. This keeps people from using your name and deleting your ads but requires you to enter your password on each post/edit/delete.

Each display of the Index and Posting messages: These are simply set to save your list style and time preferences as well as to save the last message seen in order to update the (new) display. If you block these features then you won't see (new) and you're list style preferences won't stay "stuck" for very long.

If you really dislike cookies, then don't log in and blocking the preferences cookies will cause mostly the loss of minor conveniences. However, please note that these cookies are used ONLY in the HP forums. They are not shared with other sites or used to track you across the Internet or even in other parts of the HP museum. (They aren't even logged anywhere.) Also note that the information contained in the cookies is the information that you normally enter to post messages and set forum options. The just automate providing the information that you have been giving the forum software by hand all along. The museum does NOT send any third party cookies that would allow some third party to track you around the Internet.

Some Browsers such as Internet Explorer allow you to set cookie options on a site-by-site basis. For example, in IE you can go to Tools/Internet Options/Privacy and then click the Edit... button in the Websites panel. Then enter hpmuseum.org (and/or hpmuseum.com if you use that URL) and click Allow. This will allow the new forum features without affecting your cookie policies for other sites. (Likewise, you can go to Security and decide on which sites to allow Javascript. IE calls it "Active Scripting".) Javascript is required only to make the format buttons work.

Re: Another beta test please

*Message #2 Posted by **Thibaut.be** on 30 June 2005, 9:02 a.m.,*
in response to message #1 by Dave Hicks

I registered by never received any mail. Is there something worng ?

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How to clean a big vintage machine?

*Message #1 Posted by **marais** on 28 June 2005, 2:26 a.m.*

I always wonder - the machines on the museum look mint, like the fabulous 9100 or the gorgeous 9825. I suppose the machines were cleaned and failures on the finish repaired, maybe even with a new layer of paint? Even though I disassemble my machines as far as possible, in order to put them in a cleaning bath, I don't get the same results. And there are limits: A keyboard like the one in the 97 cannot be disassembled key by key (or am i wrong?), which means the whole plastic assemble must be washed. Worse on the 9810 - or am i wrong again? Please reveal your secret cleaning tips!

Andreas

Re: How to clean a big vintage machine?

*Message #2 Posted by **Frank Boehm** on 28 June 2005, 3:01 a.m.,*
in response to message #1 by marais

There is a trick involved: the machines *are* mint. The machines have been bought by universities (money didn't matter a lot in the 70s) and quickly been stored away, due to faster, better and cheaper machines being available. They only did serve a couple of hours by then - which means "no wear". Depending on the storage conditions they will stay in this condition for 30 years :)

After all, it doesn't make a lot of sense to "rework" a calculator, as mint ones are available easily (but being HP, not for cheap). When you really want to clean them, try water & soap and a soft sponge. For some dirt, window cleaner works great (this is what I use most of the time); you might want to try alcohol based cleaners as well (the more aggressive, the greater the chance to damage the surface - better try on an invisible part of the machine). For really tough dirt, aceton does a great job - it will most likely damage plastic parts though.

Re: How to clean a big vintage machine?

*Message #3 Posted by **Dave Hicks** on 28 June 2005, 3:46 p.m.,*
in response to message #2 by Frank Boehm

> Quote:
>
> There is a trick involved: the machines *are* mint.

Yes, this is by far the easiest way. Most of my machines have been dusted (brush/compressed air) and some have been gently washed in some areas with a soft cloth and soap and water. I don't dissemble, soak, repaint etc.

Some historians think that even the cleaning that I do is excessive. I think it's OK, but repainting etc. is out of the question in my opinion. Besides the hole historical issue, there's the practical question of whether the new paint will age the way old paint would over the next couple of decades. Be very careful about cleaning keypads. It's easy to put a shine on textured matt plastic.

I had the benefit of acquiring most of my calculators before ebay existed or at least was well-known. Over the years, I've seen some of my local equipment providers raise their prices by a factor of more than one hundred the day after they browsed ebay. But I still get lucky now and then.

Re: How to clean a big vintage machine?

*Message #4 Posted by **Tony Duell** on 28 June 2005, 6:53 a.m.,*
in response to message #1 by marais

I would not recomend dismantling a 97 (or other Topcat) keyboard. The 'hats' don't normally fit so well the second time round.. If you must, then after removing the PCB, contact sheets, etc, press on the bottom of each key stem with something like a screwdriver handle and remove the hat, key and spring. When reassembling, use a hot soldering iron to form over the end of any stem that doesn't hold that well.

To dismantle a 9100 keyboard, take off the baseplate and bezel, then remove the PCB (note where the screws go, some of the holes are used to hold the baseplate on). Remove the toggle switches (2 screws each). Loosen the nut on the decimal selector switch, slip that out of the frame. You can now separate all the electronic bits from the casing. Use a small screwdriver from inside the casing to free the locking hook on each key, slide out the key complete with the metal pin (don't try to separate those). When reassembling, put a new 'size 006' O-ring on each pin. They were fitted there originally, but they have long since cracked and fallen off in most cases.

The 9810 keyboard comes apart very easily. After removing the complete assembly from the machine, pull off the interconnect PCB at the side (this connects the encoder board to the key matrix). Disconnect the edge connector that connects the wiring harness to the encoder board, then undo the screws and take off the encoder. Undo the 6 screws that hold the keyboard to the bezel, take it off. If you want, you can remove the display window with the obvious screws. Back on the key chassis, take off the front strip by undoing the 6 larger screws. Then remove the mains switch (2 obvious screws). The keys just pull out complete with their plungers and springs -- you can separate the key from the plunger if you want to. Remove the screws and take off the PCB, then remove the key housings. Many of the screws in this assembly were fitted with 'threadlock'. I find it a good idea to run a tap (4-40 UNC) into all the holes and to run the screws into a die (same thread). Makes reassembling a lot easier.

The 9830 is somewhat similar. Unplug the interconnect PCB (which carries the wiring harness in this machine). Undo the screws and take off the encoder board. Then remove the bezel. Before removing the front strip, desolder the wires to the power-on lamp from the keyboard PCB. Remove the front strip, then the mains switch. The keycaps pull off, but if you want to remove the switches or the PCB, you have to desolder them. I don't normally do this!

If you must dismantle an HP chicklet keyboard (9815, original 9825, 9831, etc), remove the logic boards, etc. Then undo all the tiny screws on the back and pull off the keyboard PCB. Make sure you have a diagram of the key positions before doing this, some _will_ fall out. Recover the switch contacts, etc (like the slide switches on a handheld. When reassembling, put the casing on the edge of a table/board so that the key holes are over the table. You can then fiddle the keys into place and refit the PCB.

Re: How to clean a big vintage machine?

*Message #5 Posted by **Katie Wasserman** on 28 June 2005, 11:18 p.m.,*
in response to message #1 by marais

There is a trick to cleaning the plastic calculators it's Novus Plastic Polish. Use #2 to get out light scratches and/or #1 to clean it, but don't use #3 it's too abrasive. Anyway this stuff can make a calculator look brand new again assuming that it has no physical damage or paint issues.

But like you suggest, for best results it's necessary to remove the keys, display lens, etc. and clean them

separately from the rest of the case.

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HP 19B Formulas

*Message #1 Posted by **barry d.** on 27 June 2005, 3:39 p.m.*

Hopefully someone can help me with a formula that appears to be reasonably simple to figure out, for any experienced HP user. I'm just not all that savvy when it comes to creating formulas.

Anyone familiar with the HP 19B calculator probably knows the formula below is the one used to solve for Present Value and loan calculations in leasing and loans.

ADV:PMT=(-PV-FV*(SPPV(I%YR/12:N)))/(USPV(I%YR/12:N-#ADV)+#ADV)

My goal is to simply add one simple step to the formula (or create another one if need be) to add "Annual Debt Service (ADS)calculation. In other words, once a payment is caluclated, I'd like to be able to have the calculator compute the payment AND multply by 12, which equals the ADS (Annual Debt Servive). This is a common component in real estate investment comparisions when analyzing the projected cash flow.

Thank you for your assistance.

Barry

Re: HP 19B Formulas

*Message #2 Posted by **Bob Wang** on 28 June 2005, 1:40 p.m.,*
in response to message #1 by barry d.

Barry:

Probably the easiest way is just to multiply by 12 to get ADS after you've calculated PMT. BUT you can save *2* keystrokes, i.e. RCL PMT, instead of *,1,2,= by using the following formula, solving for ADS, and recalling the PMT ;-)

ADV:12*L(PMT:(-PV-FV*(SPPV(I%YR/12:N)))/(USPV(I%YR/12:N-#ADV)+#ADV))-ADS+0*PMT

Bob

19B Lease with Advance Payments Annual Debt Service

*Message #3 Posted by **Bob Wang** on 29 June 2005, 12:41 p.m.,*
in response to message #1 by barry d.

Barry:

I thought a little more about your request, and here are 3 approaches. The first one is probably what you are looking for, but it comes with a BIG CAVEAT. You ABSOLUTELY, POSITIVELY MUST solve for PMT first, before pressing ADS. Otherwise, the ADS you get will be based on the old value stored in PMT. The other 2 alternatives will alert you with an error message:

Option 1: Enter all values, press MORE, PMT, *THEN* ADS:

ADV:IF(S(PMT):(-PV-FV*(SPPV(I%YR/12:N)))/(USPV(I%YR/12:N-#ADV)+#ADV)-PMT:12*PMT-ADS)

Option 2: Enter all values, press MORE, ADS, RCL PMT:

ADV:12*L(PMT:(-PV-FV*(SPPV(I%YR/12:N)))/(USPV(I%YR/12:N-#ADV)+#ADV))-ADS+0*PMT

Option 3: Enter all values, press MORE, PMT, RCL ADS:

ADV:L(ADS:12*(-PV-FV*(SPPV(I%YR/12:N)))/(USPV(I%YR/12:N-#ADV)+#ADV))/12-PMT+0*ADS

Hope this helps,

Bob

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Finally! For the first time on the Internet!

*Message #1 Posted by **Eric Smith** on 26 June 2005, 8:26 p.m.*

Ta-da!

Nonpareil for Windows!

Offer not good after curfew in sectors R and N.

Re: Finally! For the first time on the Internet!

*Message #2 Posted by **Les Bell [Sydney]** on 26 June 2005, 8:59 p.m.,*
in response to message #1 by Eric Smith

What is this "Window" of which you speak?

--- Les
[http://www.lesbell.com.au]

;)

Re: Finally! For the first time on the Internet!

*Message #3 Posted by **Eric Smith** on 26 June 2005, 9:05 p.m.,*
in response to message #2 by Les Bell [Sydney]

I was quite astonished when people started asking for Nonpareil to support it. I had to search for it on Google. Apparently it's some sort of obscure operating system for PCs. The idea is that you have to pay actual money for it, and you get less functionality than you would from competing operating systems. And you don't get the source code.

I'm not sure why anyone would want that, but I guess it takes all kinds.

Re: Finally! For the first time on the Internet!

*Message #4 Posted by **Les Bell [Sydney]** on 26 June 2005, 9:19 p.m.,*
in response to message #3 by Eric Smith

Thanks for the explanation, Eric; I've found out a little more about it now.

Apparently, its major differentiating feature is that third parties are able to remotely install applications on it without any user involvement or even awareness! This seems to be an amazing breakthrough in user-friendliness!

I do hope it catches on - I find having to type "yum install *packagename*" whenever I want to install something to be a real drag. It must be a pleasant surprise to find that someone else has installed software for you!

Best,

--- Les
[//http://www.lesbell.com.au]

Re: Finally! For the first time on the Internet!

*Message #5 Posted by **hugh steers** on 27 June 2005, 9:22 a.m.,*
in response to message #3 by Eric Smith

they dont actually want it. its forced upon them, like some kind of conspiracy theory.

theres also a number of amusing "joke" features. for example, the open file dialog box usually starts up parked at a useless place (like "MyComputer"). it has a drop down tab. when you press this tab, the whole combobox vanishes from the dialog for around 30 seconds, during which period the machine is generally most unresponsive. eventually it will come back.

i have also found that there is often time for a bit of reading or tea making during the delay between pressing the mouse and a menu appearing, for example.

Re: Finally! For the first time on the Internet!

*Message #6 Posted by **Mike T.** on 26 June 2005, 9:11 p.m.,*
in response to message #1 by Eric Smith

And just as I **FINALLY** managed to get Nonpareil to compile under Debian too ... I've only just had time to take a quick look at the HP11C, HP33C and HP32E emulations and **WOW**, it was worth the effort!! As expected the accuracy of the simulation/emulation is spot on.

Well done Eric.

Now I just have to get 0.74 to build...

Mike T.

P.S - For anyone else having problems on Debian you need to install the lib-devel versions of the various packages to satisfy the dependencies in order to build Nonpareil, the libs packages won't do - several megabytes later...

Re: Finally! For the first time on the Internet!

*Message #7 Posted by **Namir** on 26 June 2005, 9:16 p.m.,*
in response to message #1 by Eric Smith

Well done Eric! I was able to install the files and add .exe to the nonpareil file. I ran it and it gave me a window with the list of calculators to choose from. I tried a few and they seem to pass preliminary tests. GOOD WORK!!

Namir

Re: Finally! For the first time on the Internet!

*Message #8 Posted by **Eric Smith** on 26 June 2005, 10:00 p.m.,*
in response to message #7 by Namir

> Quote:
>
> and add .exe to the nonpareil file.

Oops! Thanks for calling that to my attention. I'll get that fixed in 0.75.

Nonpareil release 0.76

*Message #9 Posted by **Eric Smith** on 27 June 2005, 12:51 a.m.,*
in response to message #7 by Namir

Nonpareil release 0.76 has the executable files named properly. It also omits the HP-67, which was not intended to be included before as it is not functional. There are no changes to the code.

Easteregg crashes

*Message #10 Posted by **Klaus** on 27 June 2005, 6:03 a.m.,*
in response to message #9 by Eric Smith

Hi,

Eric: nice work! Keep it up, it is appreciated by many people.

Activating the Easteregg carshes nonpareil on my machine? Do other users have the same problem?

Kind regards, Klaus

Re: Easteregg crashes

*Message #11 Posted by **Eric Smith** on 28 June 2005, 4:29 a.m.,*
in response to message #10 by Klaus

> Quote:
>
> Activating the Easteregg carshes nonpareil on my machine

Probably a problem with the SDL sound code. I've only tested on Windows XP. What version of Windows are you running?

Do you know whether any other programs using SDL sound work on your system? Maybe you can try the audio test from SDL_plattest (though I haven't tried it on my system yet).

Currently Nonpareil doesn't use sound for anything important, though in the future I'll try to add support for the HP-41 tones. Does anyone want an option for key click sounds?

Eric

Re: Easteregg crashes

*Message #12 Posted by **Klaus** on 28 June 2005, 8:57 a.m.,*
in response to message #11 by Eric Smith

I use WinXP too, but have no soundhardware connected. That will be the problem.

Thanks, Klaus

Re: Nonpareil release 0.76

*Message #13 Posted by **GWB** on 27 June 2005, 10:18 a.m.,*
in response to message #9 by Eric Smith

```
Thanks!


Now HP-35 works (it would not yesterday). However the trigonometric functions don't
work:



     30 sin => 2.322863214-05
 .5 arc sin => blinking 0
     45 tan => 0
     etc...


On the voyagers, the "r" in "running" is formed with segments 'e' and 'g' rather
than with segments 'a' and 'f':


         unning
        r


Perhaps because I get these Gtk warnings on the DOS windows when Nonpareil starts?


------------------------------------------------------------


(nonpareil.exe:3124): Gtk-WARNING **: NÒo foi possÝvel encontrar o m¾dulo especi
ficado.


(nonpareil.exe:3124): Gtk-WARNING **: Loading IM context type 'cedilla' failed


------------------------------------------------------------


(First line translates as "It has not been possible to find the specified module")


Has any other user had these kind of trouble? Thanks.
```

Re: Nonpareil release 0.76

*Message #14 Posted by **Arnaud Amiel** on 27 June 2005, 2:14 p.m.,*
in response to message #13 by GWB

Actually here on windows XP no classic do the trigonometrics correctly. But appart from that, it looks great.

Arnaud

Re: Nonpareil release 0.76

*Message #15 Posted by **GWB** on 27 June 2005, 3:20 p.m.,*
in response to message #14 by Arnaud Amiel

I forgot to add it was on WinXP, but according to Eric's reply below this doesn't depend on the Windows version. So far, everything else looks pretty good!

Re: Nonpareil release 0.76

*Message #16 Posted by **Eric Smith** on 27 June 2005, 2:33 p.m.,*
in response to message #13 by GWB

> Quote:
>
> However the trigonometric functions don't work:

And if you think those examples are bad, try "0 cos" or "90 cos". I'll have to research this. In the mean time, I'll add mention to the release notes that the HP-35 trig functions aren't working correctly.

Eric

Re: Nonpareil release 0.76

*Message #17 Posted by **Eric Smith** on 27 June 2005, 4:36 p.m.,*
in response to message #16 by Eric Smith

I found the bug that was causing the trig functions of the Classics to fail. Back in May I was doing some code cleanup, and broke the "a + c -> c" instruction. There'll be a fixed release tonight or tomorrow.

Re: Nonpareil release 0.76

*Message #18 Posted by **Mark Hardman** on 27 June 2005, 8:39 p.m.,*
in response to message #17 by Eric Smith

I've died and gone to heaven! To think of the thousands of dollars I could have saved by just waiting for Nonpareil to be released!

I hate to point out issues. But, the HP-80 emulation has a few problems:

2 SQRT gives a result of 32

12 SAVE^ 12 X gives a result of 14.4

To name a few...

Eric, do you have a PayPal destination where we could contribute to your projects efforts?

Mark Hardman

Re: Nonpareil release 0.76

*Message #19 Posted by **Eric Smith** on 27 June 2005, 9:37 p.m.,*
in response to message #18 by Mark Hardman

> Quote:
>
> But, the HP-80 emulation has a few problems

I just verified that this is caused by the same bug as the trig problem on the HP-35 and HP-45. It will be fixed in release 0.77 which I'll make available tonight or tomorrow.

> Quote:
>
> do you have a PayPal destination where we could contribute to your projects efforts

Good question. For some time now, I've intended to sell the Windows version of Nonpareil. But more recently I've been thinking that I'll probably just give it away and try to encourage donations.

Eventually I'll put a PayPal donate button directly on the Nonpareil web site, but for now anyone that wants to contribute should just PayPal to my regular email address, and mention "Nonpareil donation" in the message. I'll probably put a list of names of donors in the CREDITS file, but anyone that wants to remain anonymous can just let me know.

Thanks!
Eric

Nonpareil release 0.77 fixes Classsics

*Message #20 Posted by **Eric Smith** on 28 June 2005, 4:21 a.m.,*
in response to message #17 by Eric Smith

Nonpareil 0.77 fixes the bug that was causing incorrect results for various functions on the Classic series calculators (35, 45, 55, 80). None of the later models were affected. Thansk to GWB and Mark Hardman for bringing this problem to my attention.

Windows error message

*Message #21 Posted by **Britt** on 28 June 2005, 9:41 a.m.,*
in response to message #20 by Eric Smith

On Windoze XP Pro with SP2 I always encounter the following error message when trying to run nonpareil.exe version 0.77 or 0.76:

---------- nonpareil.exe - Entry Point Not Found ---------- The procedure entry point gdk_pixbuf_new_from_file_utf8 could not be located in the dynamic link library libgdk_pixbuf-2.0-0.dll. ---------- OK ----------

Re: Windows error message

*Message #22 Posted by **Eric Smith** on 28 June 2005, 2:17 p.m.,*
in response to message #21 by Britt

> Quote:
>
> The procedure entry point gdk_pixbuf_new_from_file_utf8 could not be located in the dynamic link library libgdk_pixbuf-2.0-0.dll.

Did you install GTK+ using the installer on the Nonpareil download page?

Re: Windows error message

*Message #23 Posted by **Britt** on 28 June 2005, 3:14 p.m.,*
in response to message #22 by Eric Smith

Yes, I installed GTK+ but the installer put the lib directory at the end of my USER path. I just moved it to the front of my SYSTEM path and it works now.

Thanks, Britt

Re: Finally! For the first time on the Internet!

*Message #24 Posted by **Vieira, Luiz C. (Brazil)** on 26 June 2005, 10:29 p.m.,*
in response to message #1 by Eric Smith

Hey, Eric;

Congratulations once again! That's something to be proud of (I'd be). What an achievement...

Best regards.

Luiz (Brazil)

Re: Finally! For the first time on the Internet!

*Message #25 Posted by **Namir** on 26 June 2005, 11:03 p.m.,*
in response to message #1 by Eric Smith

Eric,

How can I reset the emulator for a specific calculator. I wrote a short program for the HP-67:

LBL A x^2 x^2 LN RTN

Not sure what I did, but somehow the emulator stopped displaying anything!! WHen I reload it I see no digits in the display. Please help!!!

Namir

Re: Finally! For the first time on the Internet!

*Message #26 Posted by **Eric Smith** on 27 June 2005, 12:14 a.m.,*
in response to message #25 by Namir

The HP-67 is not functional in Nonpareil. It shouldn't have been included.

Eric

Re: Finally! For the first time on the Internet!

*Message #27 Posted by **hugh steers** on 27 June 2005, 9:17 a.m.,*
in response to message #1 by Eric Smith

i can report that its working well so far under windows XP SP2. congratulations on this fine work.

i'd like to pass on a couple of minor glitches incase they are of help to anyone.

for some reason (could be my fault), the .exe and .dll files were not made executable. running the exe caused a

fatal error (application failed to initialise) and terminated. i needed chmod a+x *.exe *.dll and it worked fine.

i also get this when it starts up: (nonpareil.exe:2720): GLib-CRITICAL **: g_convert: assertion `str != NULL' failed

however, it still seems to work ok (unless im missing something i dont should be there).

Re: Finally! For the first time on the Internet!

*Message #28 Posted by **bill platt** on 27 June 2005, 2:06 p.m.,*
in response to message #1 by Eric Smith

WOW!!!

This is very cool!

Best regards,

Bill Platt

Edited: 8 July 2005, 10:28 p.m. after one or more responses were posted

Re: Finally! For the first time on the Internet!

*Message #29 Posted by **Jake Schwartz** on 28 June 2005, 11:47 a.m.,*
in response to message #28 by bill platt

Now, all we need is a version which runs on Palm OS and ARM-based Pocket PCs :-) :-) I'd love to carry a couple of dozen HP calcs in a single pocket!

Jake

Re: Finally! For the first time on the Internet!

*Message #30 Posted by **Jake Schwartz** on 28 June 2005, 12:01 p.m.,*
in response to message #29 by Jake Schwartz

I forgot to mention...this will definitely be a "hit" at the HHC2005 conference in Chicago on September 17-18th...perhaps a copy could be circulated to each attendee?

Jake

(For info on HHC2005, check http://holyjoe.net/hhc2005/ on the web.)

Re: Finally! For the first time on the Internet!

*Message #31 Posted by **Eric Smith** on 28 June 2005, 2:37 p.m.,*
in response to message #30 by Jake Schwartz

> Quote:
>
> this will definitely be a "hit" at the HHC2005 conference in Chicago on September 17-18th...perhaps a copy could be circulated to each attendee?

Yes, I've been planning to do that.

Re: Finally! For the first time on the Internet!

*Message #32 Posted by **GWB** on 28 June 2005, 12:30 p.m.,*
in response to message #29 by Jake Schwartz

> Quote:
>
> I'd love to carry a couple of dozen HP calcs in a single pocket!

For the while, what about three of 'em: HP-35, HP-45 and HP-55. See this port to PalmOS by Jonathan Purvis: http://one-two-three-four-five.com/palm/csim/

Gerson.

Re: Finally! For the first time on the Internet!

*Message #33 Posted by **Namir** on 28 June 2005, 1:57 p.m.,*
in response to message #29 by Jake Schwartz

Jake,

I'd say it worth attending the HHC2005 just for that!! Eric made me drewl in HHC2004 when he discussed the early versions!!

Namir

Re: Finally! For the first time on the Internet!

*Message #34 Posted by **Eric Smith** on 28 June 2005, 2:34 p.m.,*
in response to message #29 by Jake Schwartz

> Quote:
>
> Now, all we need is a version which runs on Palm OS and ARM-based Pocket PCs

I'll probably add a PalmOS version since I want to run it on my Fossil Abacus WristPDA (about $150 from TigerDirect or Amazon).

I might eventually write a native Windows front end (to replace the use of GTK+); at that point a PocketPC version would be easy. But it's not high on my priority list.

Re: Finally! For the first time on the Internet!

*Message #35 Posted by **R Lion** on 28 June 2005, 5:43 p.m.,*
in response to message #1 by Eric Smith

Thanks for your work!!

Raul L

Re: Finally! For the first time on the Internet!

*Message #36 Posted by **Paul Brogger** on 29 June 2005, 6:26 p.m.,*
in response to message #1 by Eric Smith

. . . and,

Does anyone know *why* it is they never go into the foothills?

Re: Finally! For the first time on the Internet!

*Message #37 Posted by **Eric Smith** on 29 June 2005, 8:28 p.m.,*
in response to message #36 by Paul Brogger

> Quote:
>
> Does anyone know why it is they never go into the foothills?

Not for sure, but I suspect it may be for the same reason that the Porridge bird lays his egg in the air.

Re: Finally! For the first time on the Internet!

*Message #38 Posted by **Mike T.** on 30 June 2005, 8:15 p.m.,*
in response to message #1 by Eric Smith

I've had a chance to try out Nonpareil under Linux a bit since yesterday and I definatly think it is an great achevement.

The photo realistic panels look stunning - but in use I did find the more synthetic front panels much easier to read.

Mike T.

PS - Any chance of including the HP10C, just to complete the set!

Re: Finally! For the first time on the Internet!

*Message #39 Posted by **Eric Smith** on 30 June 2005, 8:35 p.m.,*
in response to message #38 by Mike T.

> Quote:
>
> The photo realistic panels look stunning - but in use I did find the more synthetic front panels much easier to read.

The long term plan is to use the "synthetic" style by default for all the calculators.

The ones that are using photographs are doing so thanks to the generosity of the MoHPC curator, Dave Hicks.

As I get synthetic faces for more models, I will drop the corresponding photographs from the package, but I'll keep the KML files that work with the photographs, and provide instructions for users that want to download them from the MoHPC web site.

> Quote:
>
> Any chance of including the HP10C, just to complete the set!

I have two HP-10C calculators. One is old and beat up, and I don't mind dumping the ROM from that one, but I can't find it right now. The other is near-mint. That would still be OK, except that it's the old-style Voyager where the display and electronics are separate from the keyboard, and wrapped in what I assume to be antistatic tape. I've had some of those apart in the past, but it's a pain, and I don't want to do that to a pristine calculator. Also, it's much more difficult to probe the necessary IC leads on that style.

A friend opened up his 10C (also in excellent condition), and his is also of the old-style construction.

If anyone has a new-style 10C (single board with keyboard and chips) and is willing to make it available, I'd be happy to dump the ROMs. This involves removing the rubber feet and four screws, and attaching clips to four leads of an IC, but no permanent modification or damage.

Eric

Re: Finally! For the first time on the Internet!

*Message #40 Posted by **Mike T.** on 1 July 2005, 4:20 p.m.,*
in response to message #39 by Eric Smith

Can you tell from the serial number which one you've got. Mine is old and rather well used but I do know where it is, shipping charges would proabably be borrowing it prohibitive though..

Mike T.

Re: Finally! For the first time on the Internet!

*Message #41 Posted by **Eric Smith** on 2 July 2005, 3:16 a.m.,*
in response to message #40 by Mike T.

I think HP changed to the new Voyager internal design in late 1983 or early 1984. The new-style 11C, 12C, and 16C all use the same PCB, part number 00011-80012 (assembly 000xx-60012, but all models marked 00011-60012). I would expect the 10C to use that same board. The 15C uses a different board to make room for the extra ROM/RAM chip, and later Voyagers of other models might use that board too. There were several more redesigns, especially of the 12C, but the 10C probably wasn't made in any of the later designs.

If you take off the back, and there is a visible circuit board, that's the new style which is preferred for ROM dumping. If all you see after removing the back is black plastic flaps, it's the old style. I'm out of town now, so I can't take a photo of an old-style, but you can see the newer style at http://gallery.brouhaha.com/romsucker-voyager/img_4922.

Eric

Re: Finally! For the first time on the Internet!

*Message #42 Posted by **Arnaud Amiel** on 2 July 2005, 4:23 p.m.,*
in response to message #41 by Eric Smith

The old packageing is in the museum:

Arnaud

Re: Finally! For the first time on the Internet!

*Message #43 Posted by **Mike T.** on 3 July 2005, 5:04 a.m.,*
in response to message #41 by Eric Smith

Serial Number is 2235A07777 so I'd guess that it is the old style...

Re: Finally! For the first time on the Internet!

*Message #44 Posted by **Mike T.** on 1 July 2005, 4:16 p.m.,*
in response to message #1 by Eric Smith

No problems yesterday however having loaded the printer module before exiting and shutting down last night I find that I cannot load the HP41CV.KML or HP41CV.KML in Nonpareil for Linux this evening. The last message is "fatal error: can't find chip 'Helios printer' addr 0".

Suspect that the calculator knows that it need to load the parinter module to restore it's prior state and can't find it because it isn't in the default directory or path...?

Anyway I hope this feedback helps

Mike T.

Re: Finally! For the first time on the Internet!

*Message #45 Posted by **Eric Smith** on 2 July 2005, 3:07 a.m.,*
in response to message #44 by Mike T.

Sorry, I should have put a warning about that in the release notes. Right now the state save files don't record the optional modules that are installed, but they do include the state information for those modules. So when a fresh Nonpareil instance tries to load the state save file, it gets unhappy.

In a future release, the state save files will have pointers to the relevant module files. In the nearer term, I'll try to make a release available which will ignore extra state.

The easiest way to recover from this problem with the current release on Nonpareil would be to delete the state save files (41CV.nst and 41CX.nst). They should be in "C:\Documents and

Settings\<username>\.nonpareil\" (old path) or "C:\Documents and Settings\<username>\Nonpareil\" (new path).

Sorry for the inconvenience.

Eric

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HP Forum Archive 15

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Should we get back to this Coburlin issue again?

*Message #1 Posted by **Vieira, Luiz C. (Brazil)** on 26 June 2005, 6:08 p.m.*

Hi, all;

I'm completely sorry to bring back this issue again, and I hope that the regular contributors that actually are here for calculators and related subjects do not take it wrong, but we'd been invaded by the Coburlin matters a few weeks ago and Coburlin himself (or whatever it was) decided to express his own, totaly profit driven, thoughts amongst us.

I know that a few guys, that either do not want or do not have the intention to reveal their own names as many serious contributors in here do, may not be aware of these previous headake of ours, but I'd sinserely vote for removing any posts relating Coburlin when Coburlin is the only subject. C'mon, we're all here to discuss calculators subjects, not non-calculators subjects. We all know already what Coburlin does and I for one don't care a damn bit. I'd rather not seeing a thread with 14 entries about Coburlin that add nothing but waste space in this forum.

Thre is a lot more important and interesting things to be discussed here.

To those of you that are only accidental readers, please, I ask you not to consider this as personal or offensive, instead a call for peacefull, relaxing and constructive readings among the ones found here.

To those of you that are regular contributors and have already had the chance to contact me off-line and consider me as a serious contributor as well, please, forgive me again. I know that one of the subjects that is clearly mentioned as one of the discussed subjects here is 'tips on buying'. I see no actual contribution on discussing Coburlin's techniques here.

Thanks and forgive me.

Luiz (Brazil)

Edited: 26 June 2005, 6:33 p.m. after one or more responses were posted

Re: Should we get back to this Coburlin issue again?

*Message #2 Posted by **Matthias** on 26 June 2005, 6:13 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

BRAVO

Re: Should we get back to this Coburlin issue again?

*Message #3 Posted by **Mike T.** on 26 June 2005, 6:51 p.m.,*
in response to message #2 by Matthias

Perhaps we could a seperate forum where we can discuss buying and selling HP calculators..?

Mike T.

Separate Forums - good idea

*Message #4 Posted by **John L. Shelton** on 26 June 2005, 9:29 p.m.,*
in response to message #3 by Mike T.

Occasionally, I enjoy the soap-opera issues, but I understand others don't.

I'd be in favor of dividing this Forum into a small number of sub-fora:

** Restoration/repair ** Simulation & new calculator efforts ** Programming & performance testing, programming puzzles ** advice on buying/selling ** soap opera, politics, news, etc - vaguely related to HP Calc.

Perhaps a few trusted people would have permission to bump any thread from specific fora to the General forum.

Re: Separate Forums - good idea

*Message #5 Posted by **Vieira, Luiz C. (Brazil)** on 26 June 2005, 10:16 p.m.,*
in response to message #4 by John L. Shelton

Hi, John;

I'm sorry if I put some rant in my words. I like reading funny things here, I actually tell my students that science proves men is the only animal that expresses hapinnes by laughing, and I like laughing when I see/hear something funny. I also tell my students that serious people are the ones that know when to start and stop laughing. Bad humorous people are not necessarily serious people, right?

I just think that this particular issue is anoying, although necessary sometimes (some medicine are, too). I agree with the fact that mentioning Coburlin's atrocities calls our attention to the dammage he can cause. And as you see, mentioning his name deviates our attention w=to what is, as I see, interesting to the main community.

I apologize for posting about this, I'd rather stay in silence, but I think if all of us who disagree stay in silence, this wonderfull place Dave Hicks offers us to spread our knowledge and common interests related to calculators around will be, in fact, spread appart. Many good voices stay in silence when Coburlin is the issue.

Thanks for your post. I agree that life diserves good moments. And laughing is part of it.

Best regards.

Luiz (Brazil)

Edited: 26 June 2005, 10:17 p.m.

Re: Should we get back to this Coburlin issue again?

*Message #6 Posted by **I, Claudius** on 26 June 2005, 10:03 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

This is a serious issue - there is a predator out there, clever, thoroughly dishonest, and totally disdainful of us calculator nerds. To him, we're just idiots to be preyed upon. By periodically informing the community of his current activities it may alert new guys that not all who come here have the best interests in mind.

Re: Should we get back to this Coburlin issue again?

*Message #7 Posted by **Dave Hicks** on 26 June 2005, 10:47 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

For as long as ebay has existed, there have been people who made money by snapping up items at low prices and selling them for much more. These people seem to fall into two distinct camps: People who use one ebay account to do everything, and people who use two. The two-accounters further break down as to how they obtain two accounts - some use relatives and friends giving them not only two account names but completely unrelated real names and mailing addresses.

People in the one-account camp get picked on. People don't like to see people buy an item on ebay and then sell it for much more. (Never mind that many items on ebay were picked up somewhere else for much less.) However, people who do the same thing with two accounts are frequently well-loved by the collecting community. The buyer identity is well-loved because he seems to be a regular guy just like the rest of us fanatics. We'll even overlook warning signs like that he only buys HP calculators and his feedback rating has four digits. Likewise the seller identity is also well-loved because he seems to have a magical source of so many HPs.

Honestly, I don't know why someone who buys a thousand or more HPs and never appears to sell them seems like a "good guy" anyway. If he was really taking HPs off the market at that rate, then prices would really go up.

People in the two-account camp have even used this forum (posting under an alias) to attack their one-account competitors. One of the harshest attacks on a one-accounter came from a person who was then believed to be a "good guy" but later was revealed to be a two-accounter.

I've come close to banning ebay talk on this forum, but I've avoided it because I really don't want to stop people from talking about what interests them, however, let's try this: The next time you want to post something about Coburlin, ask yourself: Is Coburlin doing anything really new? And is there really anything specifically HP calculator-related?

There are many more one-acounters, and you have no way of knowing how many two-accounters there are. You may have just bought something from someone doing exactly the same thing - only he's clever enough to hide it with two accounts.

I'm open to the idea of opening one or more additional forums, but I'm not sure an ebay discussion forum is the one I'd really most like to add at this time.

Re: Should we get back to this Coburlin issue again?

*Message #8 Posted by **Thibaut.be** on 27 June 2005, 7:18 a.m.,*
in response to message #7 by Dave Hicks

You're right Dave, there are far more interesting topics than Ebay on this forum.

Likewise TV programs such as "Cops live", everybody agrees that this is crap but there will still be a lot of people watching it... Coburlin is a "crap" topic but a lot of us will read the thread because it concerns almost everybody, as ebay is one of the only old HP distribution channel.

Therefore a forum split dedicated to ebay is for me a fine solution : likewise your auction / not auction filter in the classified ads section, everyone is free to volounteerly browse the topic. You could limit space by e.g. automatically deleting posts after X months, and refrain any HTML...

A second option would be to create an external ebay dedicated forum, but I prefer the former.

Re: Should we get back to this Coburlin issue again?

*Message #9 Posted by **Ron** on 27 June 2005, 9:52 a.m.,*
in response to message #7 by Dave Hicks

Please, no sub-forums. Topics overlap. Information in one sub-forum will often be relevant in another sub-forum. With the current format, it's easy enough to skip the posts we're not interested in.

Re: Should we get back to this Coburlin issue again?

*Message #10 Posted by **Dave Shaffer** on 27 June 2005, 12:32 p.m.,*
in response to message #9 by Ron

I tend to agree with Ron - leave it all in one big mess. We can skip whatever is not interesting.

Our Community College "everyone" address was terminated a few months ago, because somebody posted confidential information about a student. Instead of deleting the offender, the whole system was taken down. It was a GREAT way to keep up with whatever was interesting, current affairs, gossip, etc. The IT guys then established some kind of a bulletin board system (with lousy software - they shoulda checked here first!) where anybody could start a new topic, which was invisible unless you went looking for it. So, you wind up with 25 hard-to-find topics, that nobody reads. I haven't checked it in two months, whereas I used to check the original system several times a day. It's just not worth the effort.

Moral (IMHO): don't fragment things, and let individuals decide what they want to read or skip.

I love the format of this forum

*Message #11 Posted by **bill platt** on 27 June 2005, 2:01 p.m.,*
in response to message #7 by Dave Hicks

I have never found a better organized nor more approachable system ever.

Like Ron says, we can easily skip the stuff we don't want. At the same time, we can see everything that is available. And since the cookies keep track of what we personally have read, we can go quickly through. And the default tree system, the fact we can branch off down---all works great--much better than the locked-in single thread per topic type. Really, I am impressed more than words---I keep running into other forums and they just don't come anywhere close!

I would love to be able to search across archives, or do combined poster and topic refinement (like, "hmmm, what was it that Gene said about the BAII vs the 12c.....") but I think this is a minor enough thing that I am willing to be patient!

Thanks again Dave, for a great "universe."

Best regards,

Bill Platt

Edited: 8 July 2005, 10:29 p.m.

Re: Should we get back to this Coburlin issue again?

*Message #12 Posted by **James M. Prange (Michigan)** on 28 June 2005, 12:36 a.m.,*
in response to message #7 by Dave Hicks

True, there are certainly those who do far worse than Coburlin on eBay.

A nice things about him is that he bids early, so anyone who's willing to spend the money can always outbid him. Well, except in the case of "Buy it now" items, but I suspect that some of us might've bought those items if we'd happened to see them before he did.

As far as I can see, that auction that ended early to sell to the current highest bidder was an unusual case; who knows why the seller made that decision.

Regards,
James

Nonpareil is what's really happening

*Message #13 Posted by **Namir** on 26 June 2005, 11:00 p.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

I was gone for the weekend in the mountains in a resort with no TV, phone, and internet access. When I came back I saw the thread about coburlin and also one about nonpareil posted by Eric Smith. For me, clearly, Eric's message regarding posting a Windows version of the nonpareil IS BY FAR THE MORE RELEVANT! I downloaded Eric's software and ran the emulators of various calculators. WOW! That was really interesting! Whet Co-whatever does with his calculators on eBay means nothing here!

Namir

Re: Nonpareil is what's really happening

*Message #14 Posted by **Arnaud Amiel** on 27 June 2005, 2:02 p.m.,*
in response to message #13 by Namir

What is more, I guess nonpareil might drive the prices down... Anyway, now I can try before I buy. Thanks to Eric

Arnaud

Re: Nonpareil is what's really happening

*Message #15 Posted by **Namir** on 27 June 2005, 3:55 p.m.,*
in response to message #14 by Arnaud Amiel

Armand,

YOu are right. With electronic versions that will not need batteries to replace (or contact to corrode), keys to wear off, display to go bad, AND the ability to save/load calc info to PC files ... it's nicer to play with the emulators.

Namir

Re: Should we get back to this Coburlin issue again?

*Message #16 Posted by **GWB** on 27 June 2005, 10:28 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

What if automatically blocking any posting containing the word "Curbloin" or any of its possible combinations?

Re: Should we get back to this Coburlin issue again?

*Message #17 Posted by **bill platt** on 27 June 2005, 2:05 p.m.,*
in response to message #16 by GWB

Too restrictive and unweildy.

We see mto be pretty darn good at self-policing here (with occasional very quiet help from our sponsor). I really like the fact that we seem to be able to resolve things here without lots of rules or overlording. It is such a wonderful breath of fresh air in our freedom-starved existence (seatbelts, bike helmets, boat driver licenses, expansion of eminent domain, ...not that they are all bad...but they certainly take the individual's freedom to choose away.....)

Re: Should we get back to this Coburlin issue again?

*Message #18 Posted by **GWB** on 27 June 2005, 3:42 p.m.,*
in response to message #17 by bill platt

I was just kidding. Anyway, whatever restriction is made, they are easily overcome: people would simply insert blank spaces, symbols or the like. I myself don't feel bother by hearing people complaing about you know who. Actually they sometimes gets frustrated when this guys tries to make money out of our 'sacred' calculators. I would like to add there still life off e-Bay, I recently purchased an excellent harldy used 35 complete with travel case, leather case, manual and charger for less than one third of that guy is asking for a worse one. And I've just traded a mint 11C for a 12C.

Best regards,

Gerson.

Re: Should we get back to this Coburlin issue again?

*Message #19 Posted by **Karl Schneider** on 27 June 2005, 10:24 p.m.,*
in response to message #18 by GWB

GWB posted,

> Quote:
>
> And I've just traded a mint 11C for a 12C.

I would hope that your statement was reversed -- that is, you traded *(away)* a 12C *(in return)* for a mint 11C...

As for the main subject, I agree with those who not recommend that the Forum be split into sub-groups. Topics do overlap. Those who ask for sub-Forums certainly don't mind proposing more work for Dave...

-- KS

(Oops!) Re: Should we get back to this Coburlin issue again?

*Message #20 Posted by **GWB** on 28 June 2005, 12:14 p.m.,*
in response to message #19 by Karl Schneider

Oops!

Thanks for pointing out my mistake. I'll get another 12C, but this time I'll wait until I find a good one (Non-China made).

About the forum not having to be split into subgroups, I totally agree with you.

Gerson.

Re: (Oops!) Re: Should we get back to this Coburlin issue again?

*Message #21 Posted by **Ron** on 29 June 2005, 12:15 a.m.,*
in response to message #20 by GWB

Wait a minute...

You traded a Chinese 12C for a mint 11C?

When you find a non-Chinese 12C, you'll trade the mint 11C straight across - Right? I mean, we're all just as willing to trade down, as to trade up - Right? Because if we're only willing to trade up, that would seem to put us into the same category as what's-his-name. :^0

I'm not criticizing you, Gerson, as I wouldn't hesitate to make the same trade you just made. But for people like me (up-traders) to criticize Coburlin, seems a little like the hole calling the doughnut, "round."

IMHO

Re: (Oops!) Re: Should we get back to this Coburlin issue again?

*Message #22 Posted by **GWB** on 30 June 2005, 12:11 p.m.,*
in response to message #21 by Ron

> Quote:
>
> When you find a non-Chinese 12C, you'll trade the mint 11C straight across - Right? I mean, we're all just as willing to trade down, as to trade up - Right? Because if we're only willing to trade up, that would seem to put us into the same category as what's-his-name. :^0

As a rule I don't trade, neither down nor up. In fact, I did not want to trade that 12C. I just found an 11C announced on a local e-auction as like new and made a bid (the auction ended about USD $100.00). During the auction, the seller said he wanted a 12C, so I offered mine. After the auction, I warned him mine was a poor quality Chinese one, he said there was no problem, because he needed a 12C for his work. When he received the 12C he liked it very much.

When I was a student, like many others, I would sell an older calculator to buy a new one. The only calculator I sold recently (3 month ago), was a never used silver bezel 32Sii, sold for about $80.00 dollars (the same amount I had paid) to someone here who wanted it so much, because I have a Brown Bezel I like it better - but that was before I started collecting them. Anyway, I don't want to have each and every model, most likely my collection will never have more than 12 items. (However I appreciate those collections that include even all different ROM versions of the same model)

What I have so far:

1 HP-11C; 1 HP-15C; 1 HP-32SII; 1 HP-35; 1 HP-42S; 1 HP 48GX and 2 HP82240B IR printers, one new in box (but these don't count);

... and what is missing:

an HP-12C, an HP-28S, an HP-55, an HP-67, and, of course, an HP41CV or CX. (But please don't offer them to me now, as currently I am neither purchasing nor trading.)

Best regards,

Gerson.

Re: Should we get back to this Coburlin issue again?

*Message #23 Posted by **Blurdybloop** on 28 June 2005, 12:42 a.m.,*
in response to message #1 by Vieira, Luiz C. (Brazil)

I respectfully request that the forum *NOT* be censored of warnings about certain eBay sellers.

Nearly 32 years ago, I was a college freshman who went into debt for many months in order to buy an HP-35, and who really lusted after an HP-65 but could not think of buying on then. This itch finally demanded scratching, so I went to eBay.

I quickly observed a certain eBay seller, with ID starting with "C". Thanks to the forum here (and yes, I searched the archives as well), I determined that my suspicions were valid.

I understand how, to the regulars, repeated postings about someone's bad behavior can be annoying. Nevertheless, there are newcomers/short-time visitors who benefit by such postings.

I now have pretty much everything that I wanted, and so I'll probably be bowing out of both eBay's HP calculator market and this forum. But, I do not want to leave with saying "thank you."

Thank you. You're a great bunch of folks.

You're welcome!

*Message #24 Posted by **Karl Schneider** on 29 June 2005, 1:32 a.m.,*
in response to message #23 by Blurdybloop

"Blurdybloop" said,

> Quote:
>
> I now have pretty much everything that I wanted, and so I'll probably be bowing out of both eBay's HP calculator market and this forum. But, I do not want to leave with saying "thank you."
>
> Thank you. You're a great bunch of folks.

Thanks for the collective acknowledgement. You're welcome!

My HP history has similarities -- I lusted after the HP-41 as a high school senior in 1980, but couldn't afford it; saw an appealing HP-34C the following year, and bought a HP-15C in 1983.

I also have most of what I want, mostly from eBay and a local seller -- the fine, "mature" HP calc's introduced between 1979-1993.

Are you sure that your collection is complete? There's a world of excellence beyond the early LED-based models (if, in fact, that's what you focused on).

-- KS

Re: Should we get back to this Coburlin issue again?

*Message #25 Posted by **Jeff O.** on 29 June 2005, 7:40 a.m.,*
in response to message #23 by Blurdybloop

> Quote:
>
> I now have pretty much everything that I wanted, and so I'll probably be bowing out of both eBay's HP calculator market and this forum.

I can understand bowing out of eBay's calculator market, but why bow out of this forum? If you do that, you'll miss out on a lot informative and entertaining discussion from a good group of people. You will also miss out on new developments, like Nonpareil, Free42, OpenRPN, etc. So stick around.

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Coburlin's Idea of "Works Great"

*Message #1 Posted by **I, Claudius** on 26 June 2005, 2:54 p.m.*

Caveat Emptor needed with this HP35:

"...works great...ON switch is sensitive, but works with a few tries."

Only $319 BuyItNow: http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&category=58039&item=5784023615&rd=1

Edited: 26 June 2005, 3:03 p.m.

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HP Forum Archive 15

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On eBay: "HEWLITT PACKARD HP 28C RED LED CALCULATOR"

*Message #1 Posted by **James M. Prange (Michigan)** on 25 June 2005, 8:38 p.m.*

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=5784483327

I'm not sure what it is, but I'm sure that it isn't a 28C.

Does anyone here (besides Coburlin) recognize it?

Regards,
James

Edited: 25 June 2005, 8:40 p.m.

Re: On eBay: "HEWLITT PACKARD HP 28C RED LED CALCULATOR"

*Message #2 Posted by **GWB** on 25 June 2005, 9:09 p.m.,*
in response to message #1 by James M. Prange (Michigan)

Most likely a typo. It is definitely a 38C.

http://www.hpmuseum.org/38cdisp.jpg

Regards,

Gerson.

Re: On eBay: "HEWLITT PACKARD HP 28C RED LED CALCULATOR"

*Message #3 Posted by **Howard Owen** on 25 June 2005, 10:37 p.m.,*
in response to message #2 by GWB

Did the 38C have an IR printer? The auction text says the guy printed the self test on the IR printer.

That would match the 28C, which had the IR port, and the self test function. The picture clearly is not a 28C. So it looks like wholesale confusion, rather than a mere typo.

Sounds like a typical day, for me. 8)

Re: On eBay: "HEWLITT PACKARD HP 28C RED LED CALCULATOR"

*Message #4 Posted by **Paul Marin** on 26 June 2005, 6:56 p.m.,*
in response to message #2 by GWB

38C's never came out with blue buttons. Please refer to the archives to compare photo's Paul

Re: On eBay: "HEWLITT PACKARD HP 28C RED LED CALCULATOR"

*Message #5 Posted by **Paul Marin** on 26 June 2005, 6:58 p.m.,*
in response to message #4 by Paul Marin

OOpp's, Sorry. Logged on to the wrong message Sorry guys. Ignore this please Paul

Re: On eBay: "HEWLITT PACKARD HP 28C RED LED CALCULATOR"

*Message #6 Posted by **Etienne Victoria** on 26 June 2005, 4:41 a.m.,*
in response to message #1 by James M. Prange (Michigan)

Hi James et al,

I think it's a 38C + a mess with the description of 2 other auctions.

...or a Hewlitt Packenstein 28C with LED display substituted to the LCD ;-)

Etienne (Snowflake support)

Re: On eBay: "HEWLITT PACKARD HP 28C RED LED CALCULATOR"

*Message #7 Posted by **Chan Tran (USA)** on 27 June 2005, 6:17 p.m.,*
in response to message #6 by Etienne Victoria

I saw Coburlin was the highest bidder so I put in a bid. I was the highest bidder until a few hours ago and the seller some how cancelled all bids and sold it to a buy it now buyer for $50. The original post has no buy it now option. I am wondering what has happened? I don't know about Ebay rules as far as the seller simply cancels buyer bid without giving me reason.

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HP Forum Archive 15

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HP-IL ISA Card + EMU41 + Linux!

*Message #1 Posted by **Howard Owen** on 25 June 2005, 5:03 p.m.*

It works! It works!

I purchased one of Cristoph's HPIL/PC boards because I wanted to transfer programs to my HP-41CX. I also wanted to look at the possibility of writing a Linux driver for the card, since DOS is not my favorite program loader.

I purchased an old Compaq P5 desktop, loaded it up with RAM, and stuck FreeDOS on one partition, and Slackware 10.1 on the rest of the 600MB disk. After confirming that the HP-IL card worked under native FreeDOS, I loaded the DOSEMU virtual machine on Slack. I already knew that EMU41 would run under DOSEMU (and FreeDOS) but the question remained: would it work with DOSEMU's primitive I/O port access? This just allocates a range of addresses and hands them to the virtual machine. I wasn't sure how many addresses to give DOSEMU, although I knew they would start at the base address of the ISA card, 0x700. The HP-IL chip docs said their were 8 8bit registers, but since I didn't know how they were mapped into the PC's memory (1 for 1?) I allocated 17 8bit addresses, 0x700 - 0x710 for the card in ~/.dosemurc. I also passed on IRQ 7 to the virtual machine. (Before doing this, I confirmed that neither the addresses, nor the IRQ were allocated in Linux.)

I connected my 41CX to the PC via the HP-IL, and fired up DOSEMU. I had the FreeDOS partition mounted at /dos, and mapped from autoexec.bat to drive E:. I changed to E:\EMU41 and fired up my (HP-IL enhanced copy of) EMU41. I turned on my 41CX, and saw the listing for Cristoph's HDRIVE1.DAT! I confirmed that I could transfer files between the PC and the 41CX.

So now I'm ready to start looking at a Linux driver for the card. I can use the debug facilities in DOSEMU to snoop on the communication between EMU41 and the real part of the loop through the card. Together with the copius docs from HP and others available for the chip and for the HP-IL protocol, that should help me write the Linux driver. I've never written one before, so this will be a fun challenge in itself. I'm already deeply into Linux Device Drivers, both the 2nd edition, covering 2.4 and the third edition, covering 2.6. Since Slack 10.1 runs 2.4.27, I'll probably start with that version.

I'll be adding a more extensive writeup to the articles area, but I wanted to report this success here, and engage discussion with all of you about the upcoming work.

Edited: 25 June 2005, 10:49 p.m. after one or more responses were posted

Re: HP-IL ISA Card + EMU41 + Linux!

*Message #2 Posted by **Les Bell [Sydney]** on 25 June 2005, 9:05 p.m.,*
in response to message #1 by Howard Owen

Excellent work, Howard!

I've never written a Linux device driver, but I'm part-way through Love's "Linux Kernel Development" book, and I understand a lot of the issues. An HP-IL driver would be a popular resource - every time I pick up "Linux Journal" I'm impressed by both the number and the quality of the scientific projects that are using Linux.

I don't have any HP-IL gear myself, but I'm tempted to get some. just to get involved!

Best,

--- Les
[http://www.lesbell.com.au]

Re: HP-IL ISA Card + EMU41 + Linux!

*Message #3 Posted by **Howard Owen** on 25 June 2005, 9:50 p.m.,*
in response to message #2 by Les Bell [Sydney]

"Linux Kernel Development" is great. As the title suggests, it's focussed on writing code in the kernel. Most other books I've read on kernels, Linux, BSD SysV, are theoretical works. You need the theory to be able to code, but examples are darned helpful too! At the other extreme, there's the kernel source itself. But even when used together with LXR, that's an awfully large chunk to try to digest. So Love's book is a good balance.

"Linux Device Drivers" also has a practical focus with examples. It's a nice complement to LKD.

Edited: 25 June 2005, 10:54 p.m.

Re: HP-IL ISA Card + EMU41 + Linux!

*Message #4 Posted by **Vieira, Luiz C. (Brazil)** on 25 June 2005, 11:16 p.m.,*
in response to message #3 by Howard Owen

Hi, guys;

I'm addicted to Linux as well, but mainly because of professional demands, I must regularly use Windows® environment. Please, consider that I do not complain for the fact I must use Windows® environment, I'd just like to have more chances to use Linux in a regular basis.

About HP, Linux and RPN. The simplest calculator implementation under BASH is an RPN calc (forgive me, I don't recall the command line to invoque it). Another fact: HP used to fully support Linux about three to four years ago. Anyone knows about this? And Nonpareil is Unix/Linux based...

I read many texts concerning Linux development, HW and SW. I still want to deal with measurement under Linux-based PC's running graphics applications (GPL?) that read custom/commercial acquisition boards. Is there any public e-place (groups) where these issues are discussed? I remember reading a few, now I'm somehow off-line... Want to get on board again. Any suggestions?

Cheers and thanks.

Luiz (Brazil)

Re: HP-IL ISA Card + EMU41 + Linux!

*Message #5 Posted by **Les Bell [Sydney]** on 25 June 2005, 11:33 p.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

> Quote:
>
> The simplest calculator implementation under BASH is an RPN calc (forgive me, I don't recall the command line to invoque it)

That's almost certainly dc. man dc for cryptic help on how to use it.

> Quote:
>
> HP used to fully support Linux about three to four years ago

If the latest sales figures are to be believed, HP is the leader in the Linux-on-Intel server market, selling approximately 1.5 times as many servers as IBM (going on memory of an article a few days ago, here). Personally, I think IBM *supports* Linux more, but HP probably makes more money from it.

> Quote:
>
> I still want to deal with measurement under Linux-based PC's running graphics applications (GPL?) that read custom/commercial acquisition boards. Is there any public e-place (groups) where these issues are discussed?

I'm not active in that field myself - just impressed by what I read - but you might want to start here: http://sal.linet.gr.jp/index.shtml. I'll have a look through my bookmarks and see what I might have on file, too.

One nice application that I *do* use from time to time is Octave: http://www.octave.org/.

Best,

--- Les
[http://www.lesbell.com.au]

Re: HP-IL ISA Card + EMU41 + Linux!

*Message #6 Posted by **Howard Owen** on 26 June 2005, 12:25 a.m.,*
in response to message #5 by Les Bell [Sydney]

Good 'ol **dc**.

```
4 2 + p
6
3 / p
2
4 / p
0
```

Yup. Integer only!

Re: HP-IL ISA Card + EMU41 + Linux!

*Message #7 Posted by **Les Bell [Sydney]** on 26 June 2005, 1:15 a.m.,*
in response to message #6 by Howard Owen

> Quote:
>
> Yup. Integer only!

Nup - arbitrary precision, set with the k command:

```
[les@sleipnir les]$ dc
2 k
4 2 + p
6
3 / p
2.00
4 / p
.50
```

(Disclaimer: I contract to IBM, supporting Linux.) ;)

Best,

--- Les
[http://www.lesbell.com.au]

Re: HP-IL ISA Card + EMU41 + Linux!

*Message #8 Posted by **Howard Owen** on 26 June 2005, 2:20 a.m.,*
in response to message #7 by Les Bell [Sydney]

Well, I'll be damned!

You know, I love it that I can learn something new about Unix, 17 years after I started using it seriously. Obviously, I don't use dc much, or I would have known that you could do arbitrary precision with it. (The words "arbitrary precision" appear in the first sentence of the man page.) The OpenBSD man page for dc has the following reference:

> Quote:
>
> L. L. Cherry and R. Morris, "DC - An Interactive Desk Calculator", USD:05.

That's probably Robert Morris from Bell Labs, so the thing has a long history.

Thanks! (was: HP-IL ISA Card + EMU41 + Linux!)

*Message #9 Posted by **Vieira, Luiz C. (Brazil)** on 26 June 2005, 6:37 p.m.,*
in response to message #5 by Les Bell [Sydney]

Thanks, Les Bell. Sorry taking too long to read your answer... and to thank for it.

I added a few info to the answer I posted to Howard, right below. Please, Les Bell, have you found some important material that you already have and can send me, I'd be glad receiving:

lcvieriaat quantica dot com dot br

Best regards.

Luiz (Brazil)

Edited: 26 June 2005, 7:03 p.m.

Re: Thanks! (was: HP-IL ISA Card + EMU41 + Linux!)

*Message #10 Posted by **Les Bell [Sydney]** on 26 June 2005, 7:39 p.m.,*
in response to message #9 by Vieira, Luiz C. (Brazil)

Luis,

Sorry, I haven't had a chance to dig much in the way of data acquisition-related links out of my bookmarks. It's not an area I do any work in, anyway, so I doubt that I'd have all that much. When I get a chance, I'll do some digging.

Meanwhile, try this: head on over to http://www.linuxjournal.com and use the search box at the top left of the page to search for "data acquisition". I just tried it, and it returned what looks to be around 50 hits. One that caught my eye was "GPIB: Cool, It Works with Linux!". That little lot should keep you reading for a while!

Best,

--- Les
[http://www.lesbell.com.au]

Re: HP-IL ISA Card + EMU41 + Linux!

*Message #11 Posted by **Howard Owen** on 26 June 2005, 12:18 a.m.,*
in response to message #4 by Vieira, Luiz C. (Brazil)

I work for IBM supporting Linux. And although HP is a competitor, they do support Linux on their hardware in a big way. Les's message has more information. 8)

> Quote:
>
> I must regularly use Windows® environment.

So must we all. I have to use Windows to work inside IBM, because there are still some applications that require IE. There is a big push underway to update those apps so they can be run using Mozilla or Firefox on any platform, but in a company the size of IBM, it takes a *long* time.

> Quote:
>
> Is there any public e-place (groups) where these issues are discussed?

I'm into HP calculators for the fun of it. The last time I was involved in scientific computing was in 1992. Les's links look like a good jumping off point. There are also some usenet groups that look relevent. (Links are to Google Groups).

- sci.engr.control
- natinst.public.measure.general
- natinst.public.gpib.general
- comp.graphics.visualization
- sci.image.processing

The first group is concerned with control systems generally. The next two are for National Instruments, so they contain a lot of information regarding GP(HP)-IB measurement and control equipment. Windows, MacOS and Linux all seem to be represented. The last two are more graphics oriented, in case that's your main interest.

As far as I know, HP-IL is mostly dead in actual production use. You do see volt meters and such go by on eBay with HP-IL interfaces occasionally. But I'm not sure if it's collectors buying them, or if there are actually HP-85s with HP-IL interfaces still working out there. (My HP-85 is on its way!

8)

Thanks, too! (was: HP-IL ISA Card + EMU41 + Linux!)

*Message #12 Posted by **Vieira, Luiz C. (Brazil)** on 26 June 2005, 6:40 p.m.,*
in response to message #11 by Howard Owen

Hi, Howard;

as I mentioned to Les Bell, sorry taking too long to answer.

I'll do my research, now. My interest on graphics is mainly on having an on-screen analog signal view (as in an oscilloscope) and digital bus signal analysis, as we can see in a digital analyzer. AFAIK, the acquisition board needs manily a fast A/D converter for analog signals and as many registers as the number of lines you want to analyze so you can capture the bus state from time to time. The way you see the resulting captured data depends on SW. With the new processing speed and with the help of Linux graphics development tools, I guess we can have many good stuff with low-budget capture boards. When I saw low-budget I do not mean bad quality products, instead the simplest HW possible so we can have faster capture times. About the SW, as I intend using these resources to analyze low-speed equipment, I guess it's not hard to try some homebrew solutions.

Best regards.

Luiz (Brazil)

Edited: 26 June 2005, 6:53 p.m.

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Coburlin At It Again

*Message #1 Posted by **I, Claudius** on 24 June 2005, 11:24 p.m.*

He's back... out to make bucks off people willing to pay too much for "obsolete" stuff... BuyItNow for only $349 or $439!

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&category=58039&item=6778080824&rd=1

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&category=58039&item=5782585362&rd=1

Re: Coburlin At It Again

*Message #2 Posted by **Blurdybloop** on 24 June 2005, 11:58 p.m.,*
in response to message #1 by I, Claudius

I noticed that he buys cheap & sells dear...

Re: Coburlin At It Again

*Message #3 Posted by **Howard Owen** on 25 June 2005, 3:04 a.m.,*
in response to message #2 by Blurdybloop

Blurdyboop sed: "I noticed that he buys cheap & sells dear..."

Which is, of course, the way you make a living trading.

I couldn't believe that he could be successful selling at those prices, but looking at his feedback page, there are examples upon example of people paying the frieght for HP41s at extreme premium prices. It appears to me that everything he sells is well packaged, and very complete, but even so, I find the value proposition to be a big stretch. His auctions repeat a lot, so he has to wait for the right sucke^ucustomer to come along. But it looks like one eventually does.

Now the real trick is to buy at the absurdly low prices he manages to find. You can track those from his feedback page too.

Re: Coburlin At It Again

*Message #4 Posted by **Matthias** on 25 June 2005, 5:09 a.m.,*
in response to message #3 by Howard Owen

I´m not quet shure if he really sold these items.... Have a look the the sellers, the y are all new and do not deal a lot. Maybe he also sells it to "friends" to affect us he is selling items at those prices. I have never dealed with one of his buyers, did you?

Matthias

Re: Coburlin At It Again

*Message #5 Posted by **Frank Boehm** on 25 June 2005, 1:58 a.m.,*
in response to message #1 by I, Claudius

well, the calculators are - as usual - turned into mice once the 1-day limit before the auction ends comes nearer 8)

Re: Coburlin At It Again

*Message #6 Posted by **Steve Epstein** on 25 June 2005, 7:57 a.m.,*
in response to message #5 by Frank Boehm

I don´t think he has a real job, if fact his only job is to find&buy HP stuff at cheap prices and to sell at expensive prices, he spends too many time searching Ebay for HP stuff, and also he pays little fees to Ebay due to turning $$$ calculators into low price mices, so he has a very well assembled business ;)

Whatever . . .

*Message #7 Posted by **Mark Lynch** on 25 June 2005, 8:11 p.m.,*
in response to message #1 by I, Claudius

Who cares?

exactly (nt)

*Message #8 Posted by **.** on 25 June 2005, 10:50 p.m.,*
in response to message #7 by Mark Lynch

nt

That's my babe!

*Message #9 Posted by **$$$** on 25 June 2005, 10:59 p.m.,*
in response to message #1 by I, Claudius

No, that's MY boy!

*Message #10 Posted by **Greed** on 25 June 2005, 11:01 p.m.,*
in response to message #9 by $$$

...

Re: Coburlin At It Again

*Message #11 Posted by **Jonathan watmough** on 26 June 2005, 2:05 a.m.,*
in response to message #1 by I, Claudius

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&category=58039&item=5779083056

Read it and weep. Guy has some brass ...

Re: Coburlin At It Again

*Message #12 Posted by **Pascal** on 26 June 2005, 2:16 a.m.,*
in response to message #11 by Jonathan watmough

Why would a seller end his auction a few hours after submitting it to sell it for $11 ? The only possible answer is that Coburlin contacts the seller to make a deal off ebay in order to avoid ebay fees. He asks the seller to change his auction to put a low buy it now price and he gives the seller a higher price.

Re: Coburlin At It Again

*Message #13 Posted by **James M. Prange (Michigan)** on 26 June 2005, 4:39 a.m.,*
in response to message #12 by Pascal

Well, something like that could explain how he manages to "buy low" so often. I wonder if a lot of his purchases were from auctions that ended early.

Regards,
James

Re: Coburlin At It Again

*Message #14 Posted by **Blurdybloop** on 26 June 2005, 2:01 p.m.,*
in response to message #13 by James M. Prange (Michigan)

I guess the reason that eBay hasn't cracked down on his abuse of the auction process is that he's too small a fry to merit attention.

Ha!

*Message #15 Posted by **Mark Lynch** on 30 June 2005, 10:08 a.m.,*
in response to message #14 by Blurdybloop

> I guess the reason that eBay hasn't > cracked down on his abuse of the > auction process is that he's too > small a fry to merit attention.

But not too small for *us* to obsess about, huh?

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the 12c Platinum case

*Message #1 Posted by **megarat** on 24 June 2005, 4:50 p.m.*

i'm sure everyone here has seen the iterations of 12c Platinum cases for auction on eBay, touting them as superior cases to the original HP cases.

i have an earlier 16c, with the early-style slipcase, and i don't like the case as much as the one that came with my later-production 15c. i'm entertaining the notion of picking of a new/replacement one for it.

so just what are these cases like? are they okay, or are they substandard, akin to the later 12c cases?

thanks, -cam

Re: the 12c Platinum case

*Message #2 Posted by **Ron** on 27 June 2005, 10:01 a.m.,*
in response to message #1 by megarat

Very nice. Semi-hard. I like 'em. Don't know about durability though.

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For the Discriminating Collector

*Message #1 Posted by **Howard Owen** on 24 June 2005, 1:35 a.m.*

Grab it before someone else does!

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&category=58042&item=5784538066&rd=1

Re: For the Discriminating Collector

*Message #2 Posted by **Chan Tran (USA)** on 24 June 2005, 7:20 a.m.,*
in response to message #1 by Howard Owen

I have seen those things before. They are actually newer than some of our HP calculators though.

Re: For the Discriminating Collector

*Message #3 Posted by **Howard Owen** on 24 June 2005, 11:27 a.m.,*
in response to message #2 by Chan Tran (USA)

I think that could be considered part of the joke. 8)

Re: For the Discriminating Collector

*Message #4 Posted by **Chan Tran** on 24 June 2005, 12:27 p.m.,*
in response to message #3 by Howard Owen

I knew it was a joke but the seller claims that it's pre-TI so it must be pre HP calcs too. And the thing isn't even a calculator it's simple a counter. I am not sure but I believe if one looks hard one could find the thing brand new and still in production.

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Community interest in a new 49G+ enclosure and keyboard

*Message #1 Posted by **Hugh Evans** on 24 June 2005, 12:42 a.m.*

This relates loosely to the OpenRPN project. Virtually all of the complaints I've heard regarding the 49G+ relate to quality of build issues. Our proposed retrofit kit would include:

*Hinged keys *Molded labels on both keys and the keyboard fascia *Voyager style keys (no more side-by-side shift labels) *Optically optimized blue and orange shift labels *Plain black finish *A real double-width ENTER key and 48gx style layout *New tactile domes *Water resistant enclosure

The kit will likely cost in the neighborhood of $50. Profits will go directly toward equipment and development costs for OpenRPN (if this idea is successful our production facilities will be fully capable for OpenRPN hardware assembly and manufacturing!)

If you are interested in buying such a kit please send me an e-mail with "49G+ kit" somewhere in the subject heading and state how many you honestly anticipate buying.

Questions, comments and other ideas are welcome.

Best Regards, HDE

Re: Community interest in a new 49G+ enclosure and keyboard

*Message #2 Posted by **.** on 24 June 2005, 1:33 a.m.,*
in response to message #1 by Hugh Evans

I wish you luck with this, but I find it extremely hard to believe you could sell such a kit for fifty dollars, and actually turn a profit. Also, how do you plan to connect this new keyboard to the PCB? If the layout is different it seems like a lot of effort for the average user to install.

.

Re: Community interest in a new 49G+ enclosure and keyboard

*Message #3 Posted by **Hugh Evans** on 24 June 2005, 2:26 a.m.,*
in response to message #2 by .

Considering I've spent over a year now designing production processes to make complete calculators with a price point of $100, the enclosure and keys are not the expensive part. Injection molding for the labels is being sidestepped by laser etching and filling with colored resin. Resin will be degassed and after filling will be allowed to set under high pressure to eliminate bubbles.

As for the change in keyboard layout, it should be possible using a thin one or two layer PCB piggybacked to make contact with the original pads. Only a few keys will be moved, so only a few traces will be needed to make the change possible.

This is more of a fundraising effort than anything else. In order to finance all of the equipment we need to

produce OpenRPN hardware will require ~$40,000.

-HDE

PS- if anyone has a spare 49G+ left over from warranty replacement, broken, non-functional, etc. that you are willing to donate it would be greatly appreciated. We will be more than happy to pay for all packing, shipping, and handling (and perhaps even a free kit if this idea pans out).

Re: Community interest in a new 49G+ enclosure and keyboard

*Message #4 Posted by **Howard Owen** on 24 June 2005, 9:58 a.m.,*
in response to message #3 by Hugh Evans

I would purchase one kit at that price, Hugh.

49G+ enclosure and keyboard - Show The Process

*Message #5 Posted by **I, Claudius** on 24 June 2005, 9:42 a.m.,*
in response to message #1 by Hugh Evans

A photo sequence showing the process will do wonders to jumpstart this. Testimonials from users whose units have gone from missing keypresses to functioning perfectly, although anecdotal, will also help.

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Drop testing the 49g+

*Message #1 Posted by **ECL** on 23 June 2005, 10:16 p.m.*

Regarding an earlier post about survival prospects for the 33s and 49g+,

The 49g+ comes prepared. Many have complained about buttons coming loose, or falling off (I saw one still in the box at school with a button popping out at an angle).

This is likely a built in energy expelling mechanism. It may work like one UAV, in that to land, it bursts into several segments to reduce the impact of hitting the ground.

ECL

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HP-35 origonal 17 prototype?

*Message #1 Posted by **patrick earhart** on 23 June 2005, 6:10 p.m.*

I supposedly have one of the original 17 lab prototypes HP-35 calculators that I acquired from Tom Holden when he left HP back in the late 1980's. It came with an extra printed circuit board with the letters "B-211 -22 2323" on the top and "00035-60010" on the bottom. Does any one know how to decode these numbers? The story he told me was that the keyboard died on him so he replaced it with a newer keyboard and upgraded the printed circuit board to get rid of the 'bugs.' The 'extra' board was the original. Any help would be greatly appreciated. thanks, patrick

Re: HP-35 origonal 17 prototype?

*Message #2 Posted by **Eric Smith** on 23 June 2005, 7:35 p.m.,*
in response to message #1 by patrick earhart

00035-60010 is the HP part number of the printed circuit board assembly. The bare circuit board would have an 00035-800xx suffix, but they aren't always marked on the boards. The "B-..." number is probably a designation assigned by the fab house, for their own internal tracking purposes, and there's no real way to decode it without knowledge which fab house was used and what their specific codes were.

What I want to know is the part numbers on the chips, especially the ROMs (round metal cans). They're most likely 1818-xxxx and 1820-xxxx part numbers, though other designations might sometimes be used.

Re: HP-35 original 17 prototype?

*Message #3 Posted by **patrick earhart** on 23 June 2005, 7:58 p.m.,*
in response to message #2 by Eric Smith

The largest chip is on a ceramic package with a square metal lid 'AMi 7223KPH 1820-0849.' The next chip is marked 'AMi 7219KXP 1820-0848.' The next smaller chip is a plastic DIP marked 'hp 0855 1931-B' The round chip cans are labeled 'AMi K72238BC 1818-0017' 'AMi K7223AT 1818-0020' and 'AMi K7220C 1818-0006.' Man those numbers are HARD to read! Hope this helps. thanks, patrick

HP-35 original prototype

*Message #4 Posted by **Bernhard** on 24 June 2005, 3:50 p.m.,*
in response to message #3 by patrick earhart

The round chip cans are the ROMs and both their date codes and HP id number indicate a very early firmware version - bugs all included.

Patrick would you like to lend us the board to read the microcode ?

Re: HP-35 original prototype

*Message #5 Posted by **patrick earhart** on 24 June 2005, 4:26 p.m.,*
in response to message #4 by Bernhard

I would be willing to explore this idea. How would it be done? Where and how would it happen? And finally who are you and how do i know i will get my origional back? My understanding is that this board is VERY valuable. thanks, patrick earhart.

HP-35 original prototype / microcode preservation project

*Message #6 Posted by **Bernhard** on 25 June 2005, 7:19 a.m.,*
in response to message #5 by patrick earhart

Thanks, Patrick, for considering to help in conserving HP microcode. To answer your questions, I will contact you directly under your email address, since these matters are unlikely to be of interest to a public forum, except for the following public announcement:

a major technical breakthrough the last few days (!) has enabled me to construct a HP microcode reader that is able to handle all the Classic series ROMs and does not need desoldering of the ROMs, so the risk of damage is virtually nil.

Anyone willing to lend HP classic CPU boards to our microcode extraction / preservation project please contact me on my email.

Thanks, Bernhard

Re: HP-35 original prototype / microcode preservation project

*Message #7 Posted by **Peter Monta** on 27 June 2005, 6:36 a.m.,*
in response to message #6 by Bernhard

Good news about the microcode reader. What approach did you take? Do traces need to be cut? Is there, or will there be, a web site that contains the extracted code (and, ideally, details about the reader)?

Please keep this forum updated on the project---I think it would be of direct interest to many readers here.

I'm certainly willing to send you what versions I have: HP-35 v2 and v3, HP-45, and HP-80. I doubt that these are in any way unique or rare, though, so I'll send you the ROM markings first---you can check if they're duplicates of boards you already have access to.

Cheers, Peter Monta

On the HP microcode reader / microcode preservation project

*Message #8 Posted by **Bernhard** on 27 June 2005, 1:31 p.m.,*
in response to message #7 by Peter Monta

The current HP microcode reader emulates an ACT or CTC and generates "HP word cycles" by software running on an old 100 Mhz PC which I keep in my lab. Advantage: no delay loops needed, it is already slow enough ;-)

The software is written in C and debugged under Linux, then transported and recompiled on the DOS box.

The current hardware options are twofold:

For Woodstocks / Classics, desolder the ROM chips and plug one each into a simple

circuit providing power and level translators.

For Classics, desolder just the CTC and hook the reader to a few CTC pads and by microhooks, to a few holes on the main board. The mainboard itself provides the -12V/+6V power and the clock signal level translation.

The disadvantage is: some desoldering needed. But with professional tools and some skills, absolutely no traces need to be cut (I would never do such damage to any of my HPs) and after the chips are resoldered and in place again, and the board cleaned from flux residues, we still have a perfect HP mainboard without any damages.

For the Classics, desoldering the 16 pin ROM ceramic packages or the 10 pin TO cans proved to be too risky, so I reengineered the approach to desolder just the CTC. In the unlikely event that the CTC is damaged during the soldering process (i.e. heat and mechanical stress), a replacement CTC can be salvaged from lowly HP35s or 45s.

For Spice, I still don't have written any reader software. And I still lack a HP27 to see which logic / clock levels would be needed for these early NMOS HP chips.

This is work under progress. I have no doubt it will be of great benefit to the HP user community and schematics and software will be made available to the public domain in due time. First, I must have absolute confidence that the approaches and techniques chosen are sound and foolproof.

Volunteers may contact me under the email given above.

Regards, Bernhard

Re: HP-35 origonal 17 prototype?

*Message #9 Posted by **Frank Boehm** on 24 June 2005, 2:10 a.m.,*
in response to message #1 by patrick earhart

One of my prototype PCBs has no part# at all; the other two have part# "00035-60005" I think 60010 is "production quality" and not a prototype part, due to the early datecode (my prototype is about 7 weeks earlier) this is probably a V1 board.

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HP LAPTOP VERSIONS?

*Message #1 Posted by **Jon Lee** on 23 June 2005, 2:44 p.m.*

Hi there,

I'm in the process of purchasing a new HP Laptop. I was wondering if anyone can tell me if there is a difference between the HP DV4040us and DV4040ca. The DV4040ca is from a seller from canada, so the ca is in the back? Does anyone know if everything is compatitable though? Thanks guys!!

Jon

Re: HP LAPTOP VERSIONS?

*Message #2 Posted by **Namir** on 23 June 2005, 3:01 p.m.,*
in response to message #1 by Jon Lee

The Canadian version is unarmed and has healthcare!!!

Re: HP LAPTOP VERSIONS?

*Message #3 Posted by **Unipalmer** on 24 June 2005, 3:34 p.m.,*
in response to message #2 by Namir

> Quote:
>
> The Canadian version is unarmed and has healthcare!!!

i.e., vulnerable and ill

:-)

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41CV Processor/Memory Problem

*Message #1 Posted by **Howard Owen** on 23 June 2005, 12:18 p.m.*

I recently repaired corrosion damage in an HP-41CV I picked up on eBay. The calculator seems to work fine until I execute "SIZE 100". This is what I see when I do that right after an ON-CLX reset to MEMORY LOST. I get a delay before the calculator comes back. Switching to program mode, I see "00 REG 219" Pressing SST Gives me a long interval during which "01" is displayed in the *right* hand part of the display. Eventually, I get a program line. Continuing to press SST, I see successive lines, sometimes with long delays in between. Currently, I see the following program:

01 LN 02

02 LBL 01

03 RCL 12

04 LBL 03

04 DEG

06 LBL 07

07 .

08 CLS(sigma)

09 LBL 00

10 FRC

11 9

12 END

Doing "GTO.." results in a very quick "PACKING." Following this, the program listed above is still in memory, but the initial line has changed to another CLS(sigma).

The first line 01 is synthetic. 'LN 02' appears to be bytes 0x50 and 0x02. CLS is 0x70. There is a delay single stepping between lines 01 and 02 in the second form of the program. Clearly, the permenant .END. is missing on this machine after resizing.

This guy had a small crack in the lower left hand screw post. I decided not to mess with it since I hate removing the flexible connector and plastic frame from damaged posts. Can anyone venture an opinion whether the above symptoms could result only from a bad connection between the processor and keyboard PCBs? My guess is "No" because flexing the (fairly solid feeling) case doesn't effect the "program" I see, It sounds more like a bad RAM chip to me.

Any help and/or advice gratefully accepted.

Re: 41CV Processor/Memory Problem

*Message #2 Posted by **Howard Owen** on 23 June 2005, 2:57 p.m.,*
in response to message #1 by Howard Owen

The problem occurs at "SIZE 256" and not above, I've discovered. Nice power of two, that...

Re: 41CV Processor/Memory Problem

*Message #3 Posted by **Vieira, Luiz C. (Brazil)** on 23 June 2005, 10:15 p.m.,*
in response to message #2 by Howard Owen

Hi, Howard;

I consider that you have a full-nut HP41CV from now on. Is that valid?

The HP41CV main memory is divided in five blocks of (64x7) bytes, or 64 registers each. There is always a 1-register low counting, as you can see in the maximum 00 REG 319 (320 = 64 X 5). This is because of the permanent 3-byte .END., and you can check this by setting SIZE [319] and adding at least four [ENTER^] instructions (or any other 1-byte) prior to read PACKING and TRY AGAIN.

Now that you mention that you do not have troubles when executing [SIZE] 256 till [SIZE] 319, I'd guess your HP41CV has a problem with one (or some) of the lower-addressed RAM chip (maybe uper-addressed, I'm not sure right now). Have you noticed if you also have strange contents in the upper numbered registers? I mean, after executing [SIZE] 319, what do you have with 254 [RCL][IND]X, 255 [RCL][IND]X, 256 [RCL][IND]X... Chances are you'll get weird results, though.

If you have an available 41CV (fullnut) to donate parts, you could try replacing some of the RAM chips. I have an halfnut HP41CV that ony reads 64 registers, and anytime I load a program on it (keystrokes, card reader, etc.) it has bytes being changed after the first execution. I succeeded building its mainboard in an HP41C fullnut case, so I have one of each: full- and half-nut 41C, CV and CX, altough the HP41C halfnut is, in fact, a deffective HP41CV. Because the RAM, ROM and display driver are all located in the hybrid board in the LCD assembly, there are no chances to try repairing it... (sob!)

I hope you succeed. Let us know if you need guidance.

Luiz (Brazil)

Re: 41CV Processor/Memory Problem

*Message #4 Posted by **Howard Owen** on 24 June 2005, 12:06 a.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Thanks for your detailed reply, Luiz. It confirms my suspicion that this is a RAM problem.

Yes, the calculator is a "full-nut" 41-CV. It's the only CV I own. I have a fully functional CX and several scrap 41Cs. presumably none of those can provide replacement RAM chips.

I ran the following program at SIZE 315, which resulted in 0 free registers.

01 0.314

02 LBL 00

03 STO IND X

04 RCL IND X

05 X!=Y?

06 XEQ 01

07 STO Y

08 INT

09 VIEW X

10 X<>Y

11 ISG X

12 GTO 00

13 STOP

14 LBL 01

15 TONE 9

16 STOP

17 RTN

I never heard the beep when I ran this.

Re: 41CV Processor/Memory Problem

*Message #5 Posted by **Meindert Kuipers** on 24 June 2005, 2:55 a.m.,*
in response to message #4 by Howard Owen

If this is indeed a memory problem, then it might be solved by a future firmware version of the MLDL2000. Support for User Registers is planned as a feature (which can be upgraded by the user of course).

Meindert

Re: 41CV Processor/Memory Problem

*Message #6 Posted by **Howard Owen** on 24 June 2005, 10:02 a.m.,*
in response to message #5 by Meindert Kuipers

That would be *cool*.

It would also be an extremely useful diagnostic tool to be able to mask out or page portions of user memory. Add that to the capability of loading the service module, and you have a very

handy addition to the calculator repairman's toolkit!

Re: 41CV Processor/Memory Problem

*Message #7 Posted by **Meindert Kuipers** on 24 June 2005, 10:33 a.m.,*
in response to message #6 by Howard Owen

The Service Module should work in the MLDL2000 as it is, but I have not tested it. Some tests will fail since the Service Module is reported to have additional hardware.

Meindert

Re: 41CV Processor/Memory Problem

*Message #8 Posted by **Howard Owen** on 24 June 2005, 11:31 a.m.,*
in response to message #7 by Meindert Kuipers

Well, it should at least be interesting to see what doesn't work.

Are there any known surviving service modules out there? I imagine HP made a few over the years, but not nearly as many as the consumer modules.

Re: 41CV Processor/Memory Problem

*Message #9 Posted by **Eric Smith** on 24 June 2005, 7:58 p.m.,*
in response to message #7 by Meindert Kuipers

> Quote:
>
> Some tests will fail since the Service Module is reported to have additional hardware.

The module is just a ROM hard-addressed at 0x4000. There are tests that will fail without additional hardware, but that hardware isn't part of the service module. See the service manual for more information.

Re: 41CV Processor/Memory Problem

*Message #10 Posted by **Meindert Kuipers** on 25 June 2005, 7:34 a.m.,*
in response to message #9 by Eric Smith

I have just tested the Service Module, and it works fine in the MLDL2000, all tests seem to run just OK. Due to bank switching the Service Module has to be put in all 4 banks of Page 4.

I was mistaken by the Service Manual, there are some tests that require measurement of the current and somehow I was under the impression that the Service Module would measure voltage.

Meindert

Re: 41CV Processor/Memory Problem

*Message #11 Posted by **Eric Smith** on 24 June 2005, 7:56 p.m.,*
in response to message #5 by Meindert Kuipers

How would that work? Bad RAM chips generally still drive the bus when they are addressed; they just drive the wrong data. So adding an external device is unlikely to fix it, unless you also remove the bad chip.

Re: 41CV Processor/Memory Problem

*Message #12 Posted by **Meindert Kuipers** on 25 June 2005, 7:30 a.m.,*
in response to message #11 by Eric Smith

Unsoldering the bad chips is the best, but it depends on which part of the chip is failing. If the RAM IC fails to decode the address, it will not drive the bus.

Meindert

Oops! Wrong procedure of mine...(was: 41CV Processor/Memory Problem)

*Message #13 Posted by **Vieira, Luiz C. (Brazil)** on 24 June 2005, 6:55 a.m.,*
in response to message #3 by Vieira, Luiz C. (Brazil)

Hi, Howard;

I thought about one thing and wrote another...

Please, read:

> Quote:
>
> ... after executing [SIZE] 000, what do you have with 254 [RCL][IND]X, 255 [RCL][IND]X, 256 [RCL][IND]X...

instead of:

> Quote:
>
> after executing [SIZE] 319, what do you have with 254 [RCL][IND]X, 255 [RCL][IND]X, 256 [RCL][IND]X...

I read it now and I see the stupid instruction of mine... If you execute SIZE 319, there will be no registers to test. You mentioned it clearly, I just messed the nubers up.

Sorry!

Luiz (Brazil)

Re: Oops! Wrong procedure of mine...(was: 41CV Processor/Memory Problem)

*Message #14 Posted by **Howard Owen** on 24 June 2005, 11:26 a.m.,*
in response to message #13 by Vieira, Luiz C. (Brazil)

No problem, Luiz. We all make mistakes (see my note to JF below) and that one was minor. I appreciate your help.

Re: 41CV Processor/Memory Problem

*Message #15 Posted by **J-F Garnier** on 24 June 2005, 6:59 a.m.,*
in response to message #1 by Howard Owen

I wonder what is this "LN 02 synthetic line". I can't see any way for the HP-41 to generate it. Are you sure of this?

J-F

Re: 41CV Processor/Memory Problem

*Message #16 Posted by **Howard Owen** on 24 June 2005, 9:55 a.m.,*
in response to message #15 by J-F Garnier

You're right, Jeff. Thanks for pointing that out.

I think I merged the second line number with the first instruction while editing my post without noticing it. When I saw it later, I had already done GTO.. so the first instruction on the calculator had changed to CLS. I just rationalized my way into describing an impossible synthetic instruction. 8)

The first line is '01 LN' not '01 LN 02'. I have just reverified that GTO.. does change the first instruction to CLS. But now that makes better sense in bit flipping terms. We go from 0101 0000 to 0111 0000 without adding any bytes.

Edited: 24 June 2005, 5:19 p.m.

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HP 01 Watch on eBay

*Message #1 Posted by **Marcus von Cube** on 23 June 2005, 8:34 a.m.*

Look here:

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&category=58039&item=5782326312&rd=1

At the time of this writing, the price is at $710!

Re: HP 01 Watch on eBay

*Message #2 Posted by **Namir** on 23 June 2005, 2:58 p.m.,*
in response to message #1 by Marcus von Cube

When the auction end sthe that newbie bidder will realize that he needs to send real money and not Monopoly money!!

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HP-27s Emulator Question

*Message #1 Posted by **carey** on 23 June 2005, 7:58 a.m.*

Hi,

I am attempting to dump the rom from either of my two hp27s calculators for use in EMU42 using Christoph Giesselink's dump assembler program contained in the pioneer text file within the CPROMUPL archive. However, both calculators freeze and I have to exit the memory scanner.

I have succeeded in accessing the resident memory scanner, navigating to address #52000, entering the assembly program, returning to address #52000, and pressing the period (.) key to execute the program. I was careful to find the rom revision of each calculator (one is A, the other is B) and make the necessary modification of one line of code for each rom version. I have double-checked my typing for each of the four times I have tried but may still be making a silly mistake.

I was wondering if anyone has succeeded in dumping the rom for an hp27s using this program. If so, it will encourage me to keep trying!

Thanks,

Carey

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Nonpareil 0.73

*Message #1 Posted by **Eric Smith** on 23 June 2005, 2:36 a.m.*

Nonpareil 0.73 is a bug fix release to fix a problem that prevented 41CX simulation from working in 0.72. The Phineas (timer) chip is now only "installed" when the .mod file requests it; in the case of the 41CX this occurs when the mainframe microcode is loaded.

Suitable .mod files of the 82143A Printer and 82182A Time Module are now provided.

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Site dedicated to the 9825

*Message #1 Posted by **Vassilis Prevelakis** on 23 June 2005, 1:45 a.m.*

I came across (by accident) a site that is devoted to the 9825 calculator (http://www.hp9825.com).

Although incomplete (the actual 9825 pages appear to be missing), it contains a very informative and extensive history of HP up to the introduction of the 9825. I am sure that the site's curator (Steve Leibson) will continue to add to the material.

I found very charming the item about Bill Hewlett's involvement in the 9100 project. He specified the 9100's dimensions by asking his product engineers to built a calculator that would fit on a pull-out typing stand built into his wooden work desk. When the 9100 protype was finished, the engineers tried to fit it in Bill's desk, but it would not fit. Since Hewlett was not present, they fixed the desk, by asking a shop carpenter to enlarge the opening.

Another item I found really amusing was the TI fighter going after the HP-ship cartoon:

http://www.hp9825.com/assets/images/db_images/db_TI_Fighters3.jpg

**vp

Re: Site dedicated to the 9825

*Message #2 Posted by **marais** on 23 June 2005, 2:47 a.m.,*
in response to message #1 by Vassilis Prevelakis

Absolute gorgeous! I am amazed by the professional looking design of his web site. The contents looks as if the author has access to inside information. I bookmarked it immediately and hope he will find the time to complete the information. I was wondering why the 9810 did not appear, as it is an important link between the 9100 and the 9825. Opinions?

Re: Site dedicated to the 9825

*Message #3 Posted by **Klaus** on 23 June 2005, 7:42 a.m.,*
in response to message #2 by marais

Yes, the 9825 was a cool thing. I planned to write an emulator for it, and typed in many pages of microcode, but at the moment the project is on ice. The site you mentioon has been incomplete for more than half a year, so I think it will remain so!

Re: Site dedicated to the 9825

*Message #4 Posted by **marais** on 23 June 2005, 4:29 p.m.,*
in response to message #3 by Klaus

This evening I read the timeline on the 9825 site, and it is _just_ amazing. The author has put so much background information there that it's hard to believe he isn't an insider. Does anyone here know more about the author? Am I the only reader excited about this site?

Andreas

Re: Site dedicated to the 9825

*Message #5 Posted by **bill platt** on 24 June 2005, 9:24 a.m.,*
in response to message #4 by marais

The site is a gem for sure.

Re: Site dedicated to the 9825

*Message #6 Posted by **marais** on 24 June 2005, 5:13 p.m.,*
in response to message #5 by bill platt

Do you know if the author can be contacted? I found no email address on the site. So much inside knowledge...I still don't get it.

Re: Site dedicated to the 9825

*Message #7 Posted by **John Limpert** on 24 June 2005, 5:54 p.m.,*
in response to message #6 by marais

The domain is registered to a Steven Leibson, see http://www.networksolutions.com/en_US/whois/index.jhtml for his email address and additional information.

Re: Site dedicated to the 9825

*Message #8 Posted by **Vassilis Prevelakis** on 24 June 2005, 6:31 p.m.,*
in response to message #4 by marais

Steve Leibson (the author of the web site), was an HP employee involved in the design of HPL (the 9825 language).

He also authored a series of BYTE articles on I/O. HP reprinted these articles.

He was editor-in-chief of the Microprocessor Report, EDN Magazine, and the Embedded Developer's Journal.

Currently he is "Technology Evangelist" for Tensilica, a company making high-end embedded processors (e.g. for switches, graphics cards, etc).

**vp

Re: Site dedicated to the 9825

*Message #9 Posted by **Gordon Dyer** on 1 July 2005, 11:18 a.m.,*
in response to message #3 by Klaus

I used to use a 9825 for my research, controlling HP microwave test gear. Please finish your emulator!

9825B on eBay!

*Message #10 Posted by **Marcus von Cube** on 23 June 2005, 8:16 a.m.,*
in response to message #1 by Vassilis Prevelakis

Look here:

http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&category=1504&item=7525509204&rd=1

Re: Site dedicated to the 9825

*Message #11 Posted by **Steve Leibson** on 29 June 2005, 12:43 a.m.,*
in response to message #1 by Vassilis Prevelakis

Thanks for the kind words about my site. It's definitely not finished yet, although I've gone about 3 months without updating it. My next steps are to finish documenting generation 2 of HP's desktop calculators (9810/20/21/30) and then to move on to the actual meat of the site: the 9825. I joined HP's Calculator Products Division in Loveland, Colorado in 1975 because I was completely bowled over by the HP 9830. I spent my first 5 years as an engineer at HP in Colorado. It was great work. What you see on my site is a tribute to the people I worked for and with. You can also thank Bill Hicks and this site, for the inspitation it gave me to create my own site.

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Question

*Message #1 Posted by **Juan J** on 22 June 2005, 10:58 p.m.*

I have been busy lately, doing things here and there and traveling often. Thankfully, I've managed to lurk around the Forum.

After a while postponing, I finally moved from calculators to a PDA, namely an HP Jornada 690. A nice machine that avoids carrying a bulky laptop around. And the calculator collection can safely remain at home, away from wear and tear. It is even possible to dispense with the notebook, since the handy keyboard makes taking notes easy.

I like the built-in applications. There is even an RPN calculator. However, it is not as functional as a good old HP. Is there a good emulator, like V41, available for the Jornada 690?

Thanks in advance.

HP emulator for Jornada 690?

*Message #2 Posted by **John L. Shelton** on 23 June 2005, 1:14 a.m.,*
in response to message #1 by Juan J

I don't have an answer for you. But may I suggest that next time you post with a more informative subject line, such as this one. This would save time for others who cruise the site.

Good luck.

12345 to delete.

Re: Question

*Message #3 Posted by **Raymond Del Tondo** on 23 June 2005, 4:35 a.m.,*
in response to message #1 by Juan J

Hi,

please take a look at the 'Calculator Simulations' page:

http://www.hpmuseum.org/simulate/simulate.htm

Raymond

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